

Regulating Systemic Risk in Insurance

By Daniel Schwarcz and Steven L. Schwarcz[†]

Abstract: As exemplified by the dramatic failure of American International Group (AIG), insurance companies and their affiliates played a central role in the 2008 Global Financial Crisis. It is therefore not surprising that the Dodd-Frank Act – the United States’ primary legislative response to the crisis – contained an entire title dedicated to insurance regulation, which has traditionally been the responsibility of individual states. The most important of these insurance-focused reforms in Dodd-Frank empowered the Federal Reserve Bank to impose an additional layer of regulatory scrutiny on top of state insurance regulation for a small number of “systemically important” insurers, such as AIG. This Article argues, however, that in focusing on the risk that an individual insurer could become systemically significant, Dodd-Frank largely overlooked a second, and equally important, potential source of systemic risk in insurance: the prospect that correlations among individual insurance companies could contribute to or cause widespread financial instability. In fact, the Article argues that there are often substantial correlations among individual insurance companies with respect to both their interconnections with the larger financial system and their vulnerabilities to failure. As a result, the insurance industry as a whole can pose systemic risks that regulation should attempt to identify and manage. Traditional state-based insurance regulation, the Article contends, is poorly adapted at accomplishing this given the mismatch between state boundaries and systemic risks and states’ limited oversight of non-insurance financial markets. As such, the Article suggests enhancing the power of the Federal Insurance Office – a federal entity currently primarily charged with

[†] Daniel Schwarcz is an Associate Professor and Solly Robins Distinguished Research Fellow at the University of Minnesota Law School. Steven L. Schwarcz is the Stanley A. Star Professor of Law & Business, Duke University School of Law. We thank, for helpful comments, Richard Hsia, Claire Hill, Patricia McCoy, Brett McDonnell, Craig Merrill, Gregory Niehaus, Gabe Shawn Varges, Robert Weber, Steven Weisbart, participants in faculty workshops at London School of Economics, Duke University School of Law, University of California Berkeley School of Law, University of Alabama School of Law, and a Roundtable on Systemic Risk and the Future of Insurance Regulation at Queen Mary, University of London (sponsored by the University’s Centre for Commercial Law Studies). We also thank Seth Bloomfield, Bryan Coe, Jonathan E. Cote, Joan C. Kerecz, Ori Sharon, Paulina Stanfel, and Edward Tang for valuable research assistance. We also gratefully acknowledge financial support through a grant from the International Insolvency Institute Foundation and matching funds from the Duke Global Financial Markets Center.

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monitoring the insurance industry – to supplement or preempt state law when states have failed to satisfactorily address gaps or deficiencies in insurance regulation that could contribute to systemic risk.

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INTRODUCTION

Insurance companies played a central role in the 2008 Global Financial Crisis. Nowhere is this clearer than in the case of AIG, whose receipt of \$180 billion from the federal government amounts to the largest bailout of a private company in history.¹ Given AIG's prominence in the 2008 Financial Crisis, it is hardly surprising that the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank")² – the United States' primary legislative response to the crisis – directly addresses the risk that a non-bank financial company like AIG could become "too big to fail."³ In particular, the Act reforms insurance regulation by subjecting individual insurers deemed systemically significant to enhanced regulation by the Federal Reserve Bank ("Fed").⁴ To date, two insurers – including, of course, AIG – have been designated as systemically risky.⁵

AIG, however, was not the only insurer that played a role in the financial crisis. An entire segment of the insurance industry – consisting of financial guarantee insurers – dramatically destabilized financial markets as it became clear that they would be unable to pay claims on policies they issued insuring against the default of mortgage-backed

¹ William K. Sjostrom, Jr, *The AIG Bailout*, 66 WASH. & LEE L. REV. 943 (2009). As discussed in Section I.B., *infra*, although the Financial Products division of AIG that is most often identified as the cause of the company's failure was not itself an insurance company. See Jeffrey E. Thomas, *Insurance Perspectives on Federal Financial Regulatory Reform, Addressing Misunderstandings And Providing A View From A Different Paradigm*, 55 VILL. L. REV. 773, 774-77 (2010) (arguing that "insurance was not involved in the last crisis" because "AIG's collapse was not an insurance failure"). However, AIG Financial Products was only able to amass the risk it did by leveraging the financial strength of the AIG holding company And by doing so, it directly imperiled AIG's many insurance companies. Moreover, a central cause of AIG's failure was a securities lending program that lent out AIG insurers' safe securities and replaced them with mortgage-backed securities.

² Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified as amended in scattered sections of the U.S. Code) (hereinafter Dodd-Frank).

³ See generally SIMON JOHNSON & JAMES KWAK, 13 BANKERS: THE WALL STREET TAKEOVER AND THE NEXT FINANCIAL MELTDOWN (2010).

⁴ See Dodd-Frank § 113.

⁵ See Fitch: Non-Bank SIFI Status Neutral to Insurance Ratings, MarketWatch, (June 4, 2013), available at <http://www.marketwatch.com/story/fitch-non-bank-sifi-status-neutral-to-insurance-ratings-2013-06-04>. A third insurer may soon be designated systematically risky. See Statement by MetLife on Reaching "Stage 3" of FSOC's SIFI Designation Process, MetLife (July 16, 2013) available at <https://www.metlife.com/about/press-room/index.html?compID=104320>

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securities.⁶ Meanwhile, various large life insurance companies other than AIG experienced substantial decreases in capital during the crisis due to losses in their investment portfolios coupled with long-term guarantees to policyholders.⁷ Two of these companies received federal bailout funds through the TARP program, several more applied for bailouts, and many more were the beneficiaries of “capital relief” through ad hoc changes in accounting rules by the National Association of Insurance Commissioners (NAIC).⁸

Unlike AIG, none of the individual financial guarantee insurers and virtually none of the life insurers that were implicated in the financial crisis were “too big to fail.” Instead, these insurers were caught up in the crisis because of commonalities in their risk exposures and interconnections to the larger financial system. In the case of the financial guarantee insurers, these commonalities involved an industry-wide trend towards insuring payment on complex, and risky, mortgage-backed securities.⁹ And in the case of life insurers, these commonalities involved guarantees on annuity products and investments in mortgage-backed securities.¹⁰ In each case, the result was that a number of insurance companies that were not individually too big to fail on their own were collectively able to pose a material risk to the larger financial system.¹¹

In contrast to its enhanced regulation of “too-big-to-fail” insurers such as AIG, Dodd-Frank did relatively little to address the prospect that clusters of insurance companies or entire segments of the insurance industry could collectively pose systemic risks because of commonalities in their risk exposures or interconnections with the larger financial system.¹² Instead, Dodd-Frank left largely unchanged the traditional system of state-based insurance regulation for all but the couple of insurers that are individually deemed systemically significant.¹³ As a

⁶ See generally Robert P. Bartlett, *Inefficiencies in the Information Thicket: A Case Study of Derivative Disclosures During the Financial Crisis*, 36 J. CORP. L. 1, 4 (2010). See *infra*, Section I, B.

⁷ See GOVERNMENT ACCOUNTABILITY OFFICE, INSURANCE MARKETS: IMPACTS OF AND REGULATORY RESPONSE TO THE 2007-2009 FINANCIAL CRISIS (June, 2013) (hereinafter “GAO Report”).

⁸ See Scott Harrington, *The Financial Crisis, Systemic Risk, and the Future of Insurance Regulation*, 76 J. OF RISK & INS. 785, 788 (2009).

⁹ See Bartlett, *supra* note 6, at 4.

¹⁰ GAO Report, *supra* note 7, at 28.

¹¹ On the possibility that correlations among individual firms could result in systemic risk, see generally Josh Mitts & Ian Aires, *Anti-Herding Regulation*, available at <http://islandia.law.yale.edu/ayres/Anti-Herding%20Regulation.pdf>.

¹² See Part I.C, *infra*.

¹³ See Scott Harrington, *Insurance Regulation and the Dodd-Frank Act*, Policy Brief, Networks Financial Institute, available at <http://ssrn.com/abstract=1783904>.

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result, the vast majority of (non-health) insurers continue to be regulated solely by individual states rather than the federal government.¹⁴

This Article argues that Dodd-Frank's failure to address the prospect that systemic risk in insurance could arise outside of individual, too-big-to-fail institutions represents a substantial flaw in US financial regulation.¹⁵ It suggests that correlations among insurance companies – involving their products, investment strategies, or risk-management techniques, among others – can themselves contribute to systemic instability.¹⁶ Such correlations can arise from numerous sources, including competition, insurance regulatory restrictions that apply equally to all insurers,¹⁷ shared suppositions and strategies embedded within the insurance industry,¹⁸ and rational herding among insurance companies and executives.¹⁹ But whatever their source, we argue that these correlations can contribute to systemic risk by producing substantial interconnections between entire segments of the insurance industry and the rest of the financial system or the risk of mass-instability within the insurance industry itself.

In advancing the claim that the business of insurance can indeed be systemically risky, we part ways with much of the extant academic literature on the topic.²⁰ Broadly speaking, this literature has been

¹⁴ See David Zaring, *It Is Time to Rethink Insurance Regulation*, N.Y. TIMES DEALBOOK (Jan 22, 2014), available at <http://dealbook.nytimes.com/2014/01/22/it-is-time-to-rethink-insurance>

regulation/?_php=true&_type=blogs&_php=true&_type=blogs&_r=1

¹⁵ See Part III, *infra*.

¹⁶ See Part II, *infra*.

¹⁷ See generally Charles Whitehead, *Destructive Regulatory Coordination*, 96 CORNELL L. REV. 323 (2011); Roberta Romano, *For Diversity in the International Regulation of Financial Institutions: Critiquing and Recalibrating the Basel Architecture* (March 11, 2013). Yale Law & Economics Research Paper No. 452; ECGI - Law Working Paper, Forthcoming, available at SSRN: <http://ssrn.com/abstract=2127749> or <http://dx.doi.org/10.2139/ssrn.2127749>.

¹⁸ See Geoffrey P. Miller & Gerald Rosenfeld, *Intellectual Hazard: How Conceptual Biases in Complex Organizations Contributed to the Crisis of 2008*, 33 HARV. J.L. & PUB. POL'Y 807, 825–28 (2009).

¹⁹ See generally ERIK GERDING, *LAW, BUBBLES, & FINANCIAL REGULATION* (2013).

²⁰ For analyses largely dismissing the possibility that insurance industry is systemically risky outside of certain limited “non-traditional” activities, see, e.g., Richard Herring & Til Schuermann, *Capital Regulation for Position Risk in Banks, Securities Firms, and Insurance Companies*, in CAPITAL ADEQUACY BEYOND BASEL: BANKING, SECURITIES, AND INSURANCE 23–24 (Hal S. Scott ed., 2005); Robert W. Klein, *The Insurance Industry and Its Regulation: An Overview*, in THE FUTURE OF INSURANCE REGULATION IN THE UNITED STATES 28 (Martin F. Grace & Robert W. Klein eds., 2009) (observing that, with certain exceptions, “it is not clear that the insurance industry poses the kind of systemic risk to other markets as that posed by banks or other financial institutions”); Scott E. Harrington, *The Financial Crisis, Systemic Risk, and the Future of Insurance Regulation*, Issue Analysis 2 (Sep. 2009 Public Policy Paper of the National Association of Mutual Insurance Companies); Mary A. Weiss, *Systemic*

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spearheaded by economists who argue that the only real systemic risks associated with insurance involve “non-traditional” insurance activities. Within this abstract category is usually included only the specific insurer activities that were most clearly implicated in the 2008 crisis, particularly writing derivatives and financial guarantee insurance. These analyses often dismiss alternative potential sources of systemic risk because of the perceived lack of historical precedents. They also emphasize that the magnitude of insurers’ potential interconnections with one another or the larger financial system is not large enough to be systemically significant and that insurers’ liabilities have historically been long-term, limiting the risk of a “run” on an insurer.²¹ For these reasons, they tend to conclude or suggest that even the limited insurance-oriented reforms embedded within Dodd-Frank are excessive.

By contrast, we reject this historically-bound methodology for assessing systemic risk in insurance. This approach, if conducted in 2004, would have concluded that AIG’s portfolio of credit default swaps (CDS) could not be systemically risky due to its relatively small size at the time. It would have ignored as empirically unsupported the risk that the structure of AIG’s CDS business – which allowed the company to write insurance-like products and book the premiums as pure profit, while relying on complex and opaque internal risk models that concluded these guarantees would never be triggered – could produce systemic consequences.

Unlike this literature, we approach the regulation of systemic risk in insurance with a deep appreciation that systemic risk can crop up in new and distinctive guises due to the massive complexity and interconnections that have evolved within our financial system.²² For these reasons, the

Risk and the U.S. Insurance Sector 2 (Feb. 23, 2010 unpublished draft), available at http://www.naic.org/documents/cipr_weiss_systemic_risk_100223.pdf; J. David Cummins & Mary A. Weiss, *Systemic Risk and the U.S. Insurance Sector* (2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1725512. In another article, one of us has also briefly endorsed this view. See Daniel Schwarcz, *Regulating Insurance Sales or Selling Insurance Regulation?: Against Regulatory Competition in Insurance*, 94 MINN. L. REV. 1707, 1753-54 (2010) (arguing that insurance “generally does not create substantial systemic risks [because] the availability and proper functioning of insurance is not a prerequisite to most systemically important economic activities”);

²¹ This literature is reviewed more thoroughly in Part IA and IC, *infra*.

²² See Testimony of Daniel Schwarcz, House Subcommittee on Insurance, Housing and Community Opportunity regarding “Insurance Oversight and Legislative Proposals,” November 16, 2011:

“The proposed legislation seems to ignore one of the central lessons of the 2008 Global Financial Crisis: that we do not always know what we do not know when it comes to systemic risk.... it ensconces the traditional view that insurance activities pose limited systemic risk and restricts the capacity of federal regulators to learn as they

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need for regulation of systemic risk in insurance must be determined in part by attempting to proactively anticipate new potential sources of systemic risk based on *structural* interconnections between the insurance industry and the rest of the financial system and *structural* vulnerabilities of the insurance industry. Although that analysis must obviously be deeply informed by the available empirical evidence, it should not assume—unlike most of the extant economics literature—that that future will resemble the past or present.

To illustrate these points, we review emerging evidence suggesting that insurers were partially responsible both for inflating the value of mortgage-backed securities prior to the crisis and disrupting markets in these securities in the midst of the crisis.²³ These effects were not the result of a single insurer's investment strategy, but were instead a product of numerous life insurers pursuing similar investment strategies in order to exploit regulatory restrictions and respond to common losses resulting from their issuances of annuity products containing embedded interest-rate guarantees.²⁴ Although the magnitudes of these effects are unclear and contested, we focus our analysis on the structural connections they reveal between the insurance industry and the rest of the financial system. In particular, they demonstrate that insurers' massive role as investors and as a source of funding in the U.S. real estate and corporate sectors creates the risk that instability in insurance markets could trigger much broader financial consequences.

These and similar potential systemic risks suggest a need for a regulatory structure that is designed to proactively identify, assess, and manage new potential sources of systemic risk in insurance that are not localized within an individual company. Traditional state-based insurance regulation, the Article argues, is ill-suited to meet these objectives.²⁵ Like insurers themselves, individual states are likely to experience only a small amount of the harm that systemic events can produce for the economy writ

go and adapt to evolving research and knowledge. It does this by effectively exempting insurers from the heightened prudential standards that ought to apply to systemically risky firms, by limiting the tools available to federal agencies to investigate systemic risk within insurance companies, and by undermining the capacity of federal regulators to respond to facts on the ground that reveal the threat of systemic risk."

²³ See Craig B. Merrill, Taylor D. Nadauld, Rene M. Stulz, & Shane Sherlund, *Did Capital Requirements and Fair Value Accounting Spark Fire Sales in Distressed Mortgage-Backed Securities?*, NBER Working Paper No. 18270 (Aug. 2012), available at <http://www.nber.org/papers/w18270> ; Craig Merrill, Taylor D. Nadauld, & Philip Strahan, *Final Demand for Structured Securities*, available at <http://ssrn.com/abstract=2380859>. See Part II, *infra*.

²⁴ See Part II, *infra*.

²⁵ See Part III, *infra*.

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large.²⁶ States consequently have inadequate incentives to police against this risk, especially to the extent that doing so is in tension with their more traditional goals, be it consumer protection or premium-tax collection.²⁷ Even properly motivated state regulators and legislatures lack the perspective and expertise to manage systemic risk. States long ago lost most of their regulatory authority and expertise over the banking and securities industries,²⁸ meaning that they do not have a global or even national perspective on the financial system as a whole. In fact, the fragmented nature of state regulation often prevents state regulators from developing a larger perspective on risks in the insurance industry itself.²⁹

Although we conclude that Dodd-Frank's reforms of insurance regulation were insufficient to address systemic risk in insurance, we also argue that Dodd-Frank explicitly opened the door for one potentially effective solution to this shortcoming. The Act established within the Department of the Treasury the Federal Insurance Office ("FIO") to monitor the insurance industry and its regulation.³⁰ As it is constructed in Dodd-Frank, FIO has no regulatory authority over any insurers and a very narrow authority to preempt state laws that conflict with international commitments.³¹ Expanding the power of FIO to supplement or preempt state laws could help address the prospect that systemic risk in insurance could arise outside of individual systemically significant firms.³² Unlike the states, FIO is reasonably well suited to identify and respond to emerging systemic risks in the insurance system given its global perspective and accountability to a national constituency. To limit the prospect that FIO might be too aggressive in exercising this authority and aggrandizing its own power, FIO's proposals to supplement or preempt state law might need to be approved by the Financial Stability Oversight Council (FSOC), the same entity that Dodd-Frank empowers to identify individual insurers who are systemically risky.³³

This Article proceeds as follows. Part I provides an overview of U.S. insurance regulation and the existing literature addressing the prospect that insurance can generate or contribute to systemic risk. It also describes the key structural changes to U.S. insurance regulation resulting from Dodd-Frank. Part II then argues that, as a result of common patterns

²⁶ *See id.*

²⁷ *See* Ekaterina Zhuravskaya, *Incentives to Produce Local Public Goods: Fiscal Federalism, Russian Style*, 76 J. PUB. ECON., 337-368 (2000); Richard B. Stewart, *Madison's Nightmare*, 57 THE U. CHI. L. REV., 335, 352 (1990) (arguing that national markets require national regulation).

²⁸ *See* Part III, *infra*.

²⁹ *See id.*

³⁰ *See* Dodd-Frank, 31 U.S.C. §§ 313-14.

³¹ *See* Part I, *infra*.

³² *See* Part III, *infra*.

³³ *See* Dodd-Frank, § 113.

in investment activities, product design, and risk-mitigation strategies, among others, entire segments of the insurance industry – in addition to individual “systemically important” insurers – can play an important part in causing or exacerbating systemic risk. Finally, Part III explores the regulatory implications of these conclusions. It argues that the current system of state-based insurance regulation is ill-suited to identify and manage systemic risk and consequently proposes empowering FIO to that end, to supplement or preempt state law.

I. An Overview of US Insurance Regulation and Systemic Risk

Prior to 2008, conventional wisdom in regulatory and policy circles was that the insurance industry posed no meaningful risk to broader financial stability in the economy.³⁴ Unlike the banking and securities sectors, the insurance industry had never been a primary, or even secondary, culprit in a broad financial panic. Insurers’ prominent role in the global crisis of 2008 seemingly undermined this conventional wisdom. But since 2008, the dominant interpretation of these events – domestically, if not internationally³⁵ – has been that they represent a narrowly confined exception to the preexisting conventional wisdom that insurance is not systemically risky. Thus, most academic and policy analyses of insurance and systemic risk in the United States argue that only a small category of “non-traditional” activities, such as those engaged in by AIG and the financial guarantee insurers, can contribute to systemic risk.³⁶ Similarly, the primary change in the regulatory architecture of insurance since 2008

³⁴ This Article does not purport to define what should be meant by the “insurance industry” and “insurance.” Instead, the Article’s normative analysis relies on how those terms are currently viewed. *Cf.* Lucian Arye Bebchuk, *A New Approach to Corporate Reorganizations*, 101 HARV. L. REV. 775, 776–77 (1988) (grafting a normative analysis onto a positive observation, in this case taking the existence of corporate reorganizations in bankruptcy law as a given to put forth a suggestion to improve the reorganization process).

³⁵ Globally, the regulatory response to systemic risk in insurance has been substantially more robust. Organizing through the International Association of Insurance Supervisors (IAIS) and the Financial Stability Board (FSB), global policymakers have begun to develop a coordinated and systematic framework for addressing the prospect of systemic risk in insurance. *See, e.g.*, INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS, COMFRAME, *available at* <http://www.iaisweb.org/Common-Framework--765>. As in the US, this project involves identifying potentially systemically risky insurers and subjecting them to enhanced prudential oversight. But unlike in the U.S., global actors have paired this effort with attempts to develop a new macro-prudential approach to insurance regulation that aims to identify and mitigate systemic risks in insurance that are not confined to individual institutions. *See* INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS IAIS, MACROPRUDENTIAL POLICY AND SURVEILLANCE IN INSURANCE, *available at* www.iaisweb.org/view/element_href.cfm?src=1/19149.pdf.

³⁶ *See* Part I.C *infra*.

only impacts a small handful of insurers that are deemed systemically significant.³⁷

This Part reviews these developments in insurance regulation and academic commentary on insurance and systemic risk since the crisis. Subpart A provides a brief overview of state-based insurance regulation and the related view that insurance does not pose systemic risk. Subpart B then describes the role of AIG, financial guarantee insurers, and life insurers in the global financial crisis. Finally, Subpart C reviews the regulatory and academic responses to these events.

A. Pre-Crisis U.S. Insurance Regulation: State-Based Consumer Protection Regulation

Historically, insurance regulation has been the sole responsibility of the individual states, rather than the federal government.³⁸ Prior to 1944, this division of responsibilities was understood to be embedded in the United States Constitution, as a result of an old Supreme Court case finding that insurance was not “commerce,” and hence could not be regulated by Congress under its Commerce Power.³⁹ But in 1944, the Supreme Court reversed this holding, declaring that insurance was indeed “commerce” under the US Constitution.⁴⁰ Shortly thereafter, largely as a result of state and industry lobbying, Congress passed the McCarran-Ferguson Act.⁴¹ The central provisions of that Act declared that the continued regulation of insurance by the states was in the public interest and that no federal law of general applicability should be interpreted to preempt states laws that regulate “the business of insurance.”⁴²

Since passage of the McCarran-Ferguson Act, state insurance regulation has grown substantially in its scope and sophistication. Although individual states regulate the business of insurance conducted within their geographic boundaries, they coordinate extensively through an organization known as the National Association of Insurance Commissioners (NAIC).⁴³ This coordination includes drafting model laws and regulations for adoption in the states, coordinating enforcement efforts, and monitoring one another to ensure the sufficiency of their

³⁷ See Part I.C *infra*.

³⁸ See generally Jonathan R. Macey & Geoffrey P. Miller, *The McCarran-Ferguson Act of 1945: Reconciling the Federal Role in Insurance Regulation*, 68 N.Y.U. L. REV. 13, 20–26 (1993); Susan Randall, *Insurance Regulation in the United States: Regulatory Federalism and the National Association of Insurance Commissioners*, 26 FLA. ST. U. L. REV. 625, 629–34 (1999).

³⁹ *Paul v. Virginia*, 75 U.S. (8 Wall) 168 (1869).

⁴⁰ *United States v. South-Eastern Underwriters Association*, 322 U.S. 533 (1944).

⁴¹ McCarran-Ferguson Act of 1945, 15 U.S.C. §§ 1011-1015.

⁴² See *id.* §§ 1011 & 1012.

⁴³ See generally Randall, *supra* note 38.

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regulatory authority and resources.⁴⁴ This latter form of coordination is particularly important, as it allows states to defer to one another where regulation of a single company by multiple states would be a waste of resources.⁴⁵

The central goal of state insurance regulation is to protect consumers from various risks involved with purchasing insurance coverage.⁴⁶ Accordingly, much state insurance regulation consists of standard consumer protection rules: licensing requirements for insurers and agents, product and rate standards, prohibitions against unfair or misleading claims paying and advertising, regulator-operated complaint hotlines, and disclosure-oriented rules.⁴⁷ Commentators occasionally distinguish these standard consumer protection insurance rules from “solvency regulation,” which attempts to safeguard the financial strength of individual insurers.⁴⁸ But the core goal of even that regulation has long been understood to be protecting consumers by ensuring that insurers have the financial capacity to pay policyholder claims when, and if, they become due.⁴⁹

By contrast, state insurance regulation in general, and state solvency regulation in particular, is much less commonly justified based on a perceived need to ensure financial stability. The reason is that it has long been believed that the business of insurance is not systemically risky.⁵⁰ In other words, according to conventional wisdom, there is little to no prospect that a shock to the insurance industry or an individual insurer could trigger a loss of economic value or confidence in a substantial segment of the financial system that is serious enough to have significant adverse effects on the real economy.⁵¹ There are several traditional explanations for this view.

⁴⁴ See KENNETH ABRAHAM & DANIEL SCHWARCZ, *INSURANCE LAW AND REGULATION* (6th Ed.)

⁴⁵ See *id.* (describing the NAIC’s process of accreditation, which allows insurance regulators to differ to the solvency regulation of an insurer’s state of domicile).

⁴⁶ See Schwarcz, *Regulating Insurance Sales*, *supra* note 20; Sharon Tennyson, *Rethinking Consumer Protection Regulation in Insurance Markets*, Networks Financial Brief, (2010), available at <http://ssrn.com/abstract=1676418>.

⁴⁷ See Abraham & Schwarcz, *supra* note 44.

⁴⁸ See, e.g., Tennyson, *supra* note 46, at 1.

⁴⁹ See Schwarcz, *Regulating Insurance Sales*, *supra* note 20, at 1736.

⁵⁰ See Sources Cited in Note 20, *supra*.

⁵¹ One of us has proposed a more specific definition of systemic risk, which is along the same lines. Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L. J. 193, 204 (2008) (defining systemic risk as “the risk that (i) an economic shock such as market or institutional failure triggers (through a panic or otherwise) either (x) the failure of a chain of markets or institutions or (y) a chain of significant losses to financial institutions, (ii) resulting in increases in the cost of capital or decreases in its availability, often evidenced by substantial financial-market price volatility.”).

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The first, and most important, rationale for the view that insurance is not systemically risky is that insurers have only limited interconnections with the larger financial system.⁵² The interconnectedness of financial institutions is one of the central criteria by which most regulators and analysts assess systemic risk.⁵³ In the insurance context, there are two ways to view interconnectedness. From one perspective, commentators view the insurance industry as unrelated to the banking industry and securities markets. Consistent with this view, insurance regulation traditionally has been completely separate from banking and securities regulation.⁵⁴ Thus, under this view, even the failure of an insurer should not impact the larger financial system.

Another perspective on interconnectedness focuses on maturity transformation: the asset-liability mismatch that results from the short-term funding of long-term projects.⁵⁵ This mismatch—which interlinks short-term lenders with long-term borrowers and creates a “liquidity risk” that borrowers will be unable to repay their lenders—was at the core of the financial crisis and is the central rationale for banking regulation.⁵⁶ Policymakers often assume that insurance is not systemically risky because, historically (and unlike banks and other financial institutions), insurers did not rely on maturity transformation for funding. Insurers’ funding has traditionally stemmed principally from policyholders’

⁵² THE GENEVA ASSOCIATION, CROSS INDUSTRY ANALYSIS, 28 G-SIBS VS. 28 INSURERS, COMPARISON OF SYSTEMIC RISK INDICATORS (Dec. 11, 2012) (arguing that insurers are “much less interconnected” to other financial services than banks). *But see* NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS, FINANCIAL INSTITUTIONS EXPOSURE OF U.S. INSURANCE COMPANY INVESTMENTS, *available at* http://www.naic.org/capital_markets_archive/110520.htm (commenting on connections between financial institutions and insurance companies through debt capital markets).

⁵³ It is one of three primary factors, along with size and substitutability, according to the FSB’s criteria. FINANCIAL STABILITY BOARD, GUIDANCE TO ASSESS THE SYSTEMIC IMPORTANCE OF FINANCIAL INSTITUTIONS, MARKETS AND INSTRUMENTS: INITIAL CONSIDERATIONS 2 (2009), *available at* <https://www.bis.org/publ/othp07.pdf>.

⁵⁴ The recent consolidation of insurance and other financial regulation in New York State is evidence that this view is beginning to change.

⁵⁵ *See, e.g.*, Huberto M. Ennis & Todd Keister, *Bank Runs and Institutions: The Perils of Intervention*, 99 AM. ECON. REV. 1588, 1590 (2009) (“Money market funds and other arrangements perform maturity transformation by investing in long-term assets while offering investors the ability to withdraw funds on demand.”).

⁵⁶ *See, e.g.*, Gary Gorton & Andrew Metrick, *Regulating the Shadow Banking System*, at 1 (2010), <http://ssrn.com/abstract=1676947> (discussing sale and repurchase (repo) agreements in the context of the financial crisis of 2007–2009); Daniel Covitz, Nellie Liang & Gustavo Suarez, *The Evolution of a Financial Crisis: Panic in the Asset-Backed Commercial Paper Market* 1 (Fed. Reserve Bd. Fin. and Discussion Series, Working Paper #2009-36, 2009), <http://www.federalreserve.gov/pubs/feds/2009/200936/200936pap.pdf> (arguing that maturity transformation “played a central role in transforming concerns about the credit quality of mortgage-related assets into a global financial crisis.”).

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payment of premiums⁵⁷; and that has been widely believed to be a long-term and stable funding source because policyholders are generally only free to withdraw their funding on the occurrence of contractually-specified events, such as property destruction or death.⁵⁸ Insurers have not historically depended substantially on other financial institutions to sustain, or even grow, their operations.⁵⁹ This contrasts sharply with banking, where the contractual ability of depositors to withdraw their funds at any time creates the prospect of a potentially contagious run on the banking system.⁶⁰

A second explanation for the view that insurance is not systemically risky derives from the “substitutability” of insurance, which is another criterion by which regulators and analysts assess systemic risk. Insurance is usually thought of as less uniquely essential to the operation of the macro-economy than other types of financial services, such as banking. In the life-insurance context, many types of insurance have ready substitutes because they primarily function as investment mechanisms.⁶¹ And although life insurance is unique in its capacity to provide financial guarantees, particularly in the event of death, such guarantees, it is generally claimed, are not fundamental to the operation of the larger economy.⁶² Similar arguments are often made with respect to property/casualty insurance: temporary disruptions in these markets, some suggest, may not noticeably impact the larger macro-economy.⁶³ Indeed, the value of property/casualty insurance to large publicly-owned companies is actually a matter of deep debate, with many arguing that those companies would be better off not purchasing such insurance.⁶⁴ In any event, commentators often claim that any disruptions that did occur would likely be quite temporary given limited barriers to entry in the

⁵⁷ See e.g., FEDERAL INSURANCE OFFICE, ANNUAL REPORT ON THE INSURANCE INDUSTRY 13 (noting that approximately 75% of Life and Health Insurance sector revenue is generated from premiums), available at <http://www.treasury.gov/initiatives/fio/reports-and-notices/Documents/FIO%20Annual%20Report%202013.pdf>.

⁵⁸ See Cummins & Weiss, *supra* note 20, at 24.

⁵⁹ See e.g. Kenneth A. Carow, *Citicorp-Travelers Group Merger: Challenging Barriers Between Banking and Insurance*, 25 J. BANKING & FIN., 1551, 1560 (2001); Kenneth A. Carow, *The Wealth Effects of Allowing Bank Entry into the Insurance Industry*, 68 J. RISK & INS., 129, 130 (2001).

⁶⁰ See generally RICHARD SCOTT CARNELL ET AL., *THE LAW OF BANKING AND FINANCIAL INSTITUTIONS* (4th ed. 2009).

⁶¹ See Cummins & Weiss, *supra* note 20, at 32.

⁶² *Id.*

⁶³ This is significant, as certain segments of the insurance system have indeed largely broken down in the past. The most notable examples are the so-called liability insurance crises of the last several decade. See TOM BAKER, *THE MEDICAL MALPRACTICE MYTH* (2005).

⁶⁴ Victor Goldberg, *The Devil Made Me Do It: The Corporate Purchase of Insurance*, 5 REV. OF LAW & ECON, 541, 542 (2009).

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industry and the past tendency of capital to migrate to insurance markets when they have become stressed.⁶⁵

Size, which is another criterion by which regulators and analysts assess systemic risk, constitutes the third basis for the view that insurance is not systemically risky. By most measures, insurance is simply not as large as other segments of the financial system, particularly the banking system. Thus, insurers in the United States had about \$7.3 trillion of assets on their books in 2012, whereas banks have \$14.5 trillion.⁶⁶ Globally, insurers had about \$22.6 trillion of assets in 2009.⁶⁷ A substantial percentage of these assets is attributable to the life-insurance industry, which serves the dual roles of protecting policyholders against risk and helping policyholders save and invest their assets.⁶⁸

B. The Global Financial Crisis and Insurance

The financial crisis of 2008 poses obvious difficulties for the view that insurance is not systemically risky. This is most visible with respect to the dramatic and massive failure of AIG. AIG was a holding company with numerous different subsidiaries engaging in a wide range of financial services operations.⁶⁹ Although many of these subsidiaries were indeed traditional insurance companies, the core source of AIG's problems stemmed from the activities of a company that was not licensed as an insurance company, AIG Financial Products.⁷⁰

This AIG subsidiary issued an immense number of credit default swaps (CDSs) to numerous financial companies. These CDSs act much like insurance from an economic perspective: in exchange for a premium payment, the protection seller promises to pay the purchaser in the event of a default or other credit event on an underlying instrument.⁷¹ If, during the term of the CDS, a credit event or default becomes more likely to occur, then the protection seller is typically required to post additional

⁶⁵ Cummins & Weiss, *supra* note 20, at 11.

⁶⁶ See FEDERAL INSURANCE OFFICE, *supra* note 57, at 1.

⁶⁷ BANK FOR INTERNATIONAL SETTLEMENTS, FIXED INCOME STRATEGIES OF INSURANCE COMPANIES AND PENSION FUNDS 5 (2011), available at <https://www.bis.org/publ/cgfs44.pdf>.

⁶⁸ *Id.*

⁶⁹ Sjostrum, *supra* note 1, at 945.

⁷⁰ *Id.* at 952.

⁷¹ STEVEN L. SCHWARCZ, STRUCTURED FINANCE, A GUIDE TO THE PRINCIPLES OF ASSET SECURITIZATION § 10:3.1, at 10–16 (3d ed. 2002 & Supp. 2006) [hereinafter SCHWARCZ, STRUCTURED FINANCE]; *To Review the Role of Credit Derivatives in the U.S. Economy: Hearing Before the H. Comm. on Agriculture*, 110th Cong.2 (2008) (written testimony of Erik Sirri, Director, Division of Trading and Markets, U.S. Securities and Exchange Commission) (hereinafter Sirri Testimony), available at www.sec.gov/news/testimony/2008/ts101508ers.htm.

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collateral.⁷² Unlike traditional insurance, however, there is no need for the purchaser of a CDS to have an insurable interest in the underlying risk: a company could purchase a CDS on an underlying instrument even if it did not own that instrument.⁷³

In the years leading up to 2008, AIG Financial Products wrote a tremendous amount of CDSs on mortgage-backed securities and similar financial instruments that were ultimately linked to homeowners' mortgage payments.⁷⁴ For years, this subsidiary produced massive profits for AIG.⁷⁵ But in the financial crisis, as markets started to indicate an increased risk of default on mortgage-backed securities and related financial instruments, AIG was forced to post increasing amounts of collateral and ultimately amassed staggering debts to its various counterparties.⁷⁶ Concerned that AIG's failure to pay these debts to their counterparties could cause those counterparties to fail and trigger larger financial panic, the U.S. government bailed out AIG by infusing capital into the company that was used to pay off AIG's CDS counterparties in full.⁷⁷

Although AIG's largest problems stemmed from its CDS business, it also experienced major stresses related to its securities lending program, which more directly involved its insurance entities. Coordinating through a non-insurer AIG affiliate, AIG's insurers lent their securities to other

⁷² Sjostrum, *supra* note 1, at 951.

⁷³ See Arthur Kimball-Stanley, *Insurance and Credit Default Swaps: Should Like Things Be Treated Alike?*, 15 CONN. INS. L. J. 241, 246-49 (2008) (discussing the scholarship supporting the argument that CDS is not insurance including: 1) that CDSs lack an insurable interest requirement and indemnity requirement; 2) that the differing objectives of CDSs and insurance contracts justify differential treatment; and 3) that "CDSs are capital market products and not insurance").

⁷⁴ At year-end 2007, AIGFP's CDO exposure was \$533 billion (net notional value). Harrington, *supra* note 20, at 9. Of this, \$78 billion (net notional value) were in multi-sector CDSs. AIGFP's multi-sector CDOs were written on "super senior" tranches of asset-backed securities, which included pools of assets of residential-mortgage backed securities, commercial mortgage-backed securities, and collateralized debt obligations. Of the \$78 billion, \$61 billion were exposed to subprime mortgages. *Id.* at 10; Sjostrum, *supra* note 1, at 959.

⁷⁵ A senior executive "characterized writing CDS as 'gold' and 'free money' because AIGFP's risk models indicated that the underlying securities would never go into default." Sjostrum, *supra* note 1, at 957.

⁷⁶ As a consequence of the housing market collapse, AIGFP ceased writing new multi-sector CDSs in 2005 and in 2007 and 2008 AIGFP was required to post, in compliance with its multi-sector CDO contracts, additional collateral. Harrington, *supra* note 20, at 10; Sjostrum, *supra* note 1, at 960. By the end of August 2008, AIGFP posted about \$20 billion of additional collateral for its CDS portfolio. Harrington, *supra* note 20, at 9. During the summer of 2008, for example, AIG Financial Products was required to post \$6 billion in additional collateral; equivalent to 34 percent of the cash and cash equivalents that AIG had available to meet the cash needs of its operations. Sjostrum, *supra* note 1, at 960-61.

⁷⁷ Sjostrum, *supra* note 1, at 963-975.

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firms on a short-term basis in exchange for fees.⁷⁸ Borrowers of those securities were required to post cash collateral, but they were entitled to have that collateral returned to them if they returned the borrowed securities.⁷⁹ As AIG began to experience financial turmoil, borrowers of the firm's securities availed themselves of this substitution option en masse, worried about their cash collateral not being returned by AIG.⁸⁰ This, in turn, created dramatic and unanticipated liquidity needs AIG, which had invested about 60% of the cash collateral it had received from securities borrowers in the very mortgage-backed securities whose value was precipitously declining.⁸¹

AIG's bailout was not the only way in which insurers contributed to the 2008 financial crisis. In fact, financial guarantee insurers also played a substantial role in the financial crisis. Financial guarantee insurers are one type of monoline insurer: their business is in a single (*i.e.*, mono) line of insurance precisely because it is different in kind, and riskier, than other types of insurance.⁸² Originally, monoline financial guarantee insurance covered the risk that municipal bonds would default.⁸³ But in recent decades, financial guarantee insurers expanded this coverage to the then-rapidly growing securitization markets,⁸⁴ which offered numerous transactions to insure.⁸⁵ Such coverage was generally purchased by the issuer of a covered security, which helped increase investor appetite for these instruments by limiting the financial consequences of default to the investor.⁸⁶ In fact, financial guarantee insurance supported much of the

⁷⁸ NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS, SECURITIES LENDING IN THE INSURANCE INDUSTRY, *available at* http://www.naic.org/capital_markets_archive/110708.htm; Harrington, *supra* note 8, at 791-93.

⁷⁹ Harrington, *supra* note 8, at 791.

⁸⁰ *See id.* at 792.

⁸¹ *See* Eric Dinallo, Testimony to the United State Senate Committee on Banking, Housing, and Urban Affairs, Hearing on "American International Group: Examining What Went Wrong, Government Intervention, and Implications for Future Regulation" March 5, 2009. (hereinafter "Dinallo Testimony").

⁸² *See generally*, Dwight Jaffee, *Monoline Restrictions, with Applications to Mortgage Insurance and Title Insurance*, 28 REV. INDUSTRIAL ORG. 83 (2006).

⁸³ *See e.g.*, WELLS FARGO BANK, DETERIORATION OF MONOLINE INSURANCE COMPANIES AND THE REPERCUSSIONS FOR MUNICIPAL BONDS 2 (2008), *available at* http://www.wellsfargoadvantagefunds.com/pdf/whitepapers/monoline_insurance_muni_bonds.pdf.

⁸⁴ National Credit Research, *Monolines Deserve a Good Wrap* (April 2001), at 3 (explaining that Financial guarantee insurance policies issued by monolines "irrevocably and unconditionally guarantee" the timely payment (according to their original maturities) of principal and interest to investors holding insured securities issued (usually) by special purpose vehicles ("SPV"s).).

⁸⁵ Wells Fargo Bank, *supra* note 83, at 5 ("For the monolines, the lure of the [securitization] market was too great to ignore").

⁸⁶ National Credit Research, *supra* note 84, at 13 ("Monolines adhere strictly to a no-loss underwriting strategy The no-loss underwriting indicates that every deal

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\$330 billion market for auction-rate securities, (ARS), which are long-term debt securities with short-term resetting interest rates issued by municipalities, museums, schools, and similar entities.⁸⁷ In February 2008, the ARS market came to a halt because investors feared that monolines could not be counted on to pay their insurance. As the fear became contagious, investors started avoiding all ARS, even those of strong issuers.⁸⁸

Like AIG, then, financial guarantee insurers “insured” policyholders against the risk that financial instruments linked to the housing market would default. Unlike AIG, however, the companies that issued these products were explicitly regulated as insurers.⁸⁹ At the same time, one of the primary reasons that financial guarantee insurers are required to be monolines is that state regulators have long understood that this type of insurance is inherently riskier than other forms of insurance.⁹⁰ By forcing insurers that sold this type of coverage to refrain from expanding into more traditional forms of insurance, state regulators may have limited the exposure of most of the insurance industry to this risk.⁹¹

Yet many traditional insurers – particularly life insurers – did indeed experience substantial capital deterioration during the financial crisis.⁹² This resulted both from sharp decreases in net income and dramatic increases in unrealized losses on investment assets in 2008.⁹³

needs to demonstrate full collectivity before the monoline will even consider wrapping the deal. As such the monolines implement stringent internal credit criteria. The no-loss underwriting strategy embraced by the monolines is tested against worst-case stress scenarios which help insure a zero rate of expected portfolio losses.”); Standard & Poor’s, *Global Bond Insurance 2006* at 10 (discussing the importance of the monolines’ underwriting quality).

⁸⁷ SIFMA Research Report, Vol. III, No. 4, at 16 (Apr. 16, 2008); *The State of the Bond Insurance Industry: Hearing Before the H. Subcomm. on Capital Mkts., Ins., and Gov’t Sponsored Enters. of the H. Comm. on Fin. Servs.*, 110th Cong. 39 (2008) (statement of Erik R. Sirri, Director, Division of Trading and Markets, U.S. Securities and Exchange Commission); Liz Rappaport & Kara Scannell, *Auction-Rate Turmoil Draws Watchdogs’ Scrutiny*, WALL ST. J., Feb. 22, 2008, at C2.

⁸⁸ See, e.g., Ted Phillips, *Moody’s Warns of Negative Impacts from Auction-Rate Securities*, THE BOND BUYER, Feb. 21, 2008, at 4 (observing that failed auctions are “occurring in spite of the fact that the underlying credit quality of issuers remains strong”).

⁸⁹ See Dwight M. Jaffee, *Monoline Regulations to Control the Systemic Risk Created by Investment Banks and GSEs*, 9 B.E. J. OF ECON. ANAL. & POL’Y 10, 11 (2009).

⁹⁰ See *id.*

⁹¹ See *id.*

⁹² GAO Report, *supra* note 7, at 10-17.

⁹³ *Id.* at 10 (noting that life insurers’ net income decreased from \$31.9 billion in 2007 to a loss of \$52.2 billion in 2008); *Id.* at 11 (noting that total unrealized losses amounted to \$63.8 billion in 2008 And as a result, total capital declined 6 percent in the life insurance industry in 2008).

These capital shortfalls led insurers to apply for federal bailout funds,⁹⁴ to seek changes to accounting rules to provide “capital relief,”⁹⁵ to sell insurance policies for less than their actual economic cost,⁹⁶ and to receive capital infusions from their affiliate non-insurance companies.⁹⁷ Life insurers with large portfolios of variable annuities with guaranteed lifetime benefits were particularly hard hit, as they had to increase their reserves in response to declines in equity markets.⁹⁸

Ultimately, as emphasized by a recent GAO report, both life insurers’ capital cushions and their income rebounded quickly. By 2009 their capital levels and income had improved significantly, and by 2011 their investment portfolios had also largely rebounded.⁹⁹ Moreover, throughout the time period of the financial crisis, very few life insurers failed: consistent with historical trends, six life insurers were placed in receivership in 2008 and three insurers were liquidated in 2008.¹⁰⁰ Although 2009 saw small increases in these numbers, 2010 saw a return to historical rates of insurer failures.¹⁰¹

C. The Post-Crisis Regulatory Landscape: Federal Regulation of “Systemically Important” Insurers

In 2010, the United States passed the Dodd-Frank to reform financial regulation in light of the financial crisis.¹⁰² Not surprisingly, Dodd-Frank contained some reforms of state insurance regulation. The most important of these creates and empowers FSOC to designate specific insurers, as well as other non-bank financial companies, as “systemically important financial institutions” (“SIFIs”). Such a designation subjects the SIFI to an additional layer of prudential supervision by the Federal Reserve Board (Fed), including enhanced capital requirements, regular stress testing and various reporting and governance requirements.¹⁰³

⁹⁴ *Id.*

⁹⁵ See John Patrick Hunt, *Credit Ratings in Insurance Regulation: The Missing Piece of Financial Reform*, 68 WASH. & LEE L. REV. 1667, 1689-94 (2011).

⁹⁶ See Ralph S. J. Koijen & Motohiro Yogo, *The Cost of Financial Frictions for Life Insurers* (2013). Chicago Booth Research Paper No. 12-30, Fama-Miller Working Paper, available at <http://ssrn.com/abstract=2031993>.

⁹⁷ Gregory Niehaus, *Managing Capital and Insolvency Risk via Internal Capital Market Transactions: The Case of Life Insurers* (Dec. 2013).

⁹⁸ GAO Report, *supra* note 7, at 28-29.

⁹⁹ *Id.* at 12 (noting that life insurers’ capital increased by 15% from 2008 to 2009).

¹⁰⁰ *Id.* at 17.

¹⁰¹ *Id.*

¹⁰² Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified in scattered sections of the U.S.C.A. (West Supp. 2011)).

¹⁰³ *Id.* § 5323(a)(2) (setting criteria for when nonbank firms, including insurers, should be designated SIFIs).

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FSOC has released complex regulations detailing its methodology for identifying non-bank companies as SIFIs. These rules establish an initial group of potential SIFIs by starting with firms with more than \$50 billion in total worldwide consolidated assets that also meet one of five quantitative tests relating to derivative activities, aggregate debt, leverage, and reliance on short term debt.¹⁰⁴ To date, FSOC has designated only two insurers – AIG and Prudential – as SIFIs.¹⁰⁵ Although AIG accepted this designation, Prudential vigorously opposed it, arguing that, despite its size, it does not engage in any of the “non-traditional” insurance activities that create systemic risk.¹⁰⁶ Prudential ultimately lost this appeal to FSOC, with each of the members of the council with expertise in insurance dissenting from this determination,¹⁰⁷ and did not seek judicial review of the decision.¹⁰⁸

In addition to subjecting certain SIFI insurers to federal regulation, Dodd-Frank created FIO¹⁰⁹ within the Treasury Department. FIO has no regulatory authority over the insurance industry, and has only a very limited power to preempt state law when it determines those laws conflict with international legal agreements.¹¹⁰ Instead, FIO’s principal role is to serve as a federal monitor of the insurance industry and state regulation and “coordinate Federal efforts and develop Federal policy on prudential aspects of international insurance matters.”¹¹¹ Dodd-Frank directs FIO to “[m]onitor all aspects of the insurance industry, including identifying issues or gaps in the regulation of insurers that could contribute to a systemic crisis in the insurance industry or the United States financial system.”¹¹² It also directs FIO to “conduct a study and submit a report to Congress on how to modernize and improve the system of insurance regulation in the United States.”¹¹³ In December, 2013, FIO released this report, concluding that state insurance regulation must occasionally be

¹⁰⁴ See Financial Stability Oversight Council, Authority to Require Supervision and Regulation of Certain Nonbank Financial Companies 77 Fed. Reg. 21637 (Apr. 11, 2012).

¹⁰⁵ See note 5, *supra*.

¹⁰⁶ See Leslie Scism, *Prudential Hits Back on Risk Status*, WALL STREET JOURNAL (07/22/13).

¹⁰⁷ Zachary Tracer & Ian Katz, *Prudential Financial Got Systemic Risk Label in 7-2 Vote*, BLOOMBERG PERSONAL FINANCE (September 20, 2013) available at <http://www.bloomberg.com/news/2013-09-20/prudential-financial-got-u-s-systemic-risk-label-in-7-2-vote.html>.

¹⁰⁸ Sarah N. Lynch, *Prudential says it will not appeal U.S. council's Systemic Tag*, REUTERS (October 18, 2013), available at <http://www.reuters.com/article/2013/10/18/us-prudential-fsoc-idUSBRE99H11620131018>

¹⁰⁹ See *supra* notes 31-32 and accompanying text.

¹¹⁰ Dodd-Frank, § 502.

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.*

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supplemented by federal intervention in specific areas where state regulation proves unduly ineffective or inefficient.¹¹⁴

Although important, these reforms of insurance law and regulation leave the state-based system of insurance regulation essentially unchanged for all but the couple of insurers that FSOC does not deem systemically significant. Defenders of state insurance regulation argue that this is appropriate, emphasizing that AIG Financial Products would never have been allowed to write the CDSs it did if it had been regulated as an insurance company.¹¹⁵ Indeed, it was a federal statute – the Commodity Futures Modernization Act¹¹⁶ – that explicitly exempted derivatives such as CDSs from insurance regulation in the first place.¹¹⁷ And, it was a federal agency – the Office of Thrift Supervision – that was the overarching regulator of AIG as a holding company.¹¹⁸ Moreover, while most now acknowledge that regulation of financial guarantee insurance was indeed flawed,¹¹⁹ they emphasize that the very fact that these insurers were required to be monolines limited the resulting damage.¹²⁰ Finally, as described earlier, while many life insurers did indeed experience substantial capital shortfalls in the midst of the crisis, remarkably few insurers actually failed as a result.¹²¹

Closely related to these defenses of state insurance regulation in the midst of the crisis are various industry and academic assessments

¹¹⁴ FEDERAL INSURANCE OFFICE, *supra* note 57.

¹¹⁵ *See, e.g.*, Dinallo Testimony, *supra* note 81.

¹¹⁶ Consolidated Appropriations-FY 2001, Pub. L. No. 106-554, 114 Stat. 2763 (2000).

¹¹⁷ *See* Saule Omarova, *The Quiet Metamorphosis: How Derivatives Changed the Business of Banking*, 63 U. MIAMI L. REV. 1041-1110 (2009).

¹¹⁸ Dinallo Testimony, *supra* note 81 (emphasizing that AIG as a holding company was regulated by OTS); Thomas Leonardi, Hearing: “The Federal Insurance Office’s Report on Modernizing Insurance Regulation,” Subcommittee on Housing and Insurance (Committee on Financial Services) (February 4, 2014) (emphasizing that simply federalizing regulation does not improve matters, as federal regulators were responsible for failures in the 2008 crisis).

¹¹⁹ *See e.g.*, INTERNATIONAL MONETARY FUND, THE PERIMETER OF FINANCIAL REGULATION 4 (2009), available at <https://www.imf.org/external/pubs/ft/spn/2009/spn0907.pdf>.

¹²⁰ *See* Harrington, *supra* note 8 at 8; Jaffee, *supra* note 82; Jaffee, *supra* note 89.

¹²¹ *See e.g.*, INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS, INSURANCE AND FINANCIAL STABILITY (2011), available at http://www.iaisweb.org/_temp/Insurance_and_financial_stability.pdf (“The financial crisis of 2008/09 has shown that, in general, the insurance business model enabled the majority of insurers to withstand the financial crisis better than other financial institutions”); STANDARD & POOR’S, WHAT MAY CAUSE INSURANCE COMPANIES TO FAIL-AND HOW THIS INFLUENCES OUR CRITERIA 4 (2013) (“Perhaps surprisingly, the global financial crisis that began in 2007 failed to trigger a wave of life and non-life insurer defaults among rated companies”), available at http://www.standardandpoors.com/spf/upload/Ratings_EMEA/2013-06-13_WhatMayCauseInsuranceCompaniesToFail.pdf.

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concluding that “traditional” insurance activities are not systemically risky, for many of the basic reasons outlined above.¹²² But even proponents of the view that insurance is not generally systemically risky admit that this conclusion does not apply to “non-traditional” insurance activities.¹²³ It is precisely such non-traditional activities, they claim, that characterize the roles of AIG and financial guarantee insurers in the crisis. Both credit default swaps and financial guarantee insurance for exotic structured securities are non-traditional insurance products because they directly insure financial market activities, instead of property, mortality, longevity, or casualty risks.¹²⁴ Securities lending operations, such as those engaged in by AIG, are often also described as non-traditional.

Even after the crisis, insurers and their affiliates do, in fact, continue to participate in this set of non-traditional activities.¹²⁵ For instance, insurers and their affiliates have continued writing substantial amounts of CDSs even after the crisis. One recent analysis concludes that insurers held approximately \$270 billion in outstanding CDSs globally in 2010.¹²⁶ Domestically, the notional value of CDSs held by the insurance industry as of year-end 2011 was \$45.1 billion—a 6.8 percent increase from year-end 2010.¹²⁷ It is unclear whether these numbers include the CDS activities of insurance entities’ affiliates. According to at least one source, CDSs are written more often by insurer affiliates – as in the case of AIG – than by insurers directly.¹²⁸ Life insurers also continue to be active lenders of securities. As of 2011, for instance, the insurance industry had lent out \$56 billion under securities lending agreements, with life insurers accounting for about 83% of this activity.¹²⁹ By contrast, the market for financial guarantee insurance has largely dissipated since the crisis.¹³⁰

Additionally, new quantitative approaches that attempt to measure the systemic risk associated with particular segments of the economy

¹²² See Part I.A., *supra*.

¹²³ See *e.g.*, Harrington, *supra* note 8, at 2; GENEVA ASSOCIATION, SYSTEMIC RISK IN INSURANCE: AN ANALYSIS OF INSURANCE AND FINANCIAL STABILITY 3 (2010), available at https://www.genevaassociation.org/media/99228/ga2010systemic_risk_in_insurance.pdf.

¹²⁴ See GENEVA ASSOCIATION, *supra* note 123, at 58.

¹²⁵ See Weiss and Cummins at 33.

¹²⁶ See *id.*

¹²⁷ *Id.*

¹²⁸ *But cf.* Nadege Jassaud & Sebastian Schich, *Credit Default Swaps: Towards Tighter Regulation of the ‘Shadow Insurance Sector,’* in THE FUTURE OF INSURANCE REGULATION AND SUPERVISION: A GLOBAL PERSPECTIVE 171 (Patrick M. Liedtke & Jan Monkiewicz, eds. 2011) (observing that insurance-company affiliates are much more likely than insurers to sell protection under CDSs).

¹²⁹ http://www.naic.org/capital_markets_archive/110708.htm

¹³⁰ SLS to expand.

suggest important interconnections between the insurance industry and the rest of the financial system.¹³¹ Some of the most helpful such approaches attempt to identify correlations among historical stock prices or failure rates between the identified sector and other financial firms.¹³² Although the studies have produced mixed findings regarding the systemic risk associated with the insurance industry, many do find substantial interconnections between insurers and other types of financial institutions.¹³³ But interpretation of these results has tended to depend on commentators' preexisting assessments of systemic risk in insurance. Thus, those who view traditional insurance activities as not being systemically risky attribute these results to insurers engaging in "non-traditional" activities, particularly the issuance of credit default swaps.¹³⁴

II. Systemic Risk In Insurance Resulting From Correlations Among Firms

As Part I suggests, there is an emerging consensus that certain non-traditional forms of insurance, such as derivatives activities and financial guarantee insurance, can contribute to systemic risk. In this Part, we argue that this is hardly the whole story. Instead, we suggest that the connections between the insurance industry and the larger financial system are deep, pervasive, and most importantly, constantly evolving. At the same time, we argue that the insurance industry itself is susceptible to tail-end, catastrophic risk. Both of these potential precursors to systemic risk, we emphasize, can span individual companies and industry segments due to correlations in companies' products, risk-management techniques, investment strategies, and counterparties. As a result, systemic risk in the insurance industry can arise outside of an individual "too-big-to-fail" firm.

¹³¹ For an overview of this literature, see Bisias, Flood, Lo, & Valavanis, *A Survey of Systemic Risk Analytics* (2012), Office of Financial Research, available at http://www.treasury.gov/initiatives/wsr/ofr/Documents/OFRwp0001_BisiasFloodLoValavanis_ASurveyOfSystemicRiskAnalytics.pdf.

¹³² See e.g., Viral Acharya, Lasse Heje Pedersen, Thomas Philippon, Matthew P. Richardson, *Measuring Systemic Risk* (2010), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1573171 (developing Marginal Expected Shortfall as an econometric measure based on "the average return of each firm during the 5% worst days for the market").

¹³³ Monica Billioa, Mila Getmanskyb, Andrew W. Loc, & Loriana Pelizzona, *Econometric Measures of Connectedness and Systemic Risk in the Finance and Insurance Sectors* 104 J FIN. ECON. 535 (2012) (finding increasing interconnectedness between financial institutions, including insurers, between 2001 and 2008 based on Principal-Components Analysis and Granger-Causality Networks); Faisal Balucha, Stanley Mutengab & Chris Parsons Baluch, *Insurance, Systemic Risk and the Financial Crisis*, 36 THE GENEVA PAPERS 126 (2011) (finding significant correlation between banking and insurance that increases during crisis, at least in Europe). Acharaya, *supra* note 133, at Appendix C (finding several insurers have high Marginal Expected Shortfall).

¹³⁴ See e.g., Billioa et al., *supra* note 133, at 536.

Although certain of these correlations are shown to result, directly or indirectly, from government regulation, that does not make the correlations any less important or real, nor does it mean that less regulation is inherently better. Insurance is a critical financial industry that closely impacts consumers as policyholders. Appropriate regulation is therefore necessary. Some of that regulation, inadvertently, can cause correlations in insurer behavior that can trigger systemic risk, but that should not be unexpected. There are numerous connections generally between microprudential regulation (currently the primary form of insurance regulation), which is intended to correct market failures within the individual components of the financial system, and systemic risk.¹³⁵ Therefore the job of macroprudential regulation, which is intended to help protect the financial system as a system, should include designing better microprudential regulation to minimize systemically risky correlations and addressing how to mitigate the systemic impact of the correlations that inevitably remain.

A. Interconnections Between Insurers and the Larger Financial System

As described above, most commentators agree that the insurance industry can indeed have important linkages with the rest of the financial system to the extent it engages in “non-traditional activities.”¹³⁶ These are generally described to include the provision of financial guarantee insurance, participation in derivatives markets, particularly as writers of credit default swaps, and, in some cases, securities lending operations. At least in the latter two instances, the involvement of insurers and their affiliates in these “non-traditional” activities appears to continue to be significant.¹³⁷ This Sub-part, however, shows that this narrow set of non-traditional activities, which most clearly contributed to the last crisis, hardly exhausts the list of actual or potential interconnections between the insurance industry and the rest of the financial system.

1. The Central Connection Between Insurers and the Rest of the Financial System: Insurers as Owners of Financial Assets

Most discussions of systemic risk in insurance overlook or downplay the most important linkage between the insurance sector and the

¹³⁵ Whitehead, *Destructive Regulatory Coordination*, *supra* note 17. See also Steven L. Schwarcz, *Macroprudential Regulation: Regulating the Financial System as a ‘System’* (work-in-progress, analyzing how macroprudential regulation should be designed and discussing the relationship between microprudential and macroprudential regulation).

¹³⁶ See Part I.C, *supra*.

¹³⁷ See *id*.

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rest of the financial system when it comes to assessing systemic risk.¹³⁸ This linkage involves the industry's position as a major owner of financial assets.¹³⁹ The business of insurance requires taking in policyholder premiums and, at some later point in time, paying those premiums back to policyholders if an insured event occurs. As a result, insurers—and life insurers, in particular—are among the most important investors in financial securities in the entire financial system.¹⁴⁰ In fact, insurance companies are the largest institutional investors in debt securities—a market that not only is much larger than the market for equity securities but also the primary source of corporate financing.¹⁴¹ One recent analysis concluded that insurers own approximately one-third of all investment-grade bonds¹⁴² and, collectively, own almost twice as much in foreign, corporate, and municipal bonds than do banks.¹⁴³ Their holdings of corporate and foreign bonds exceed those of mutual funds and pension funds combined.¹⁴⁴

Insurers' collective role as primary purchasers of financial securities might not be systemically noteworthy were it not for the fact that their investment decisions – including what types of securities to invest in and when to offload securities from their books – are, in many

¹³⁸ See generally GENEVA ASSOCIATION, *supra* note 123, at 63 (concluding that typical insurance activities do not pose systemic risk); Cummins & Weiss, *supra* note 20, at 31–39. But see Viral V. Acharya, John Biggs, Matthew Richardson & Stephen Ryan, *On the Financial Regulation of Insurance Companies* (NYU Stern School of Business, Working Paper, 2009), available at <http://web-docs.stern.nyu.edu/salomon/docs/whitepaper.pdf> (arguing that insurance may be more systemically risky than commercial banks; because it is such a large part of investments, insurer downgrades can, and have, caused systemic harm); Robert F. Weber, *Combating the Teleological Drift of Life Insurance Solvency Regulation*, 8 BERKELEY BUS. L. J. 35, 53 (2011) (noting that the failure of a life insurer can trigger an asset fire sale, which can, in turn, “contribute to other fire sales in other corners of the market, in which case the effects of an insolvent insurer’s sell-off are likely to be unpredictable.”).

¹³⁹ Acharya et al, *supra* note 138, at 11; NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS, UPDATE ON INSURANCE INDUSTRY INVESTMENT PORTFOLIO MIXES (2013), available at http://www.naic.org/capital_markets_archive/130924.htm (describing insurance company asset ownership of over five trillion dollars).

¹⁴⁰ This role is particularly central for life insurance companies, because the time period between policyholders' payment of premiums and their payout by carriers is often quite long. See NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS, *supra* note 139, at Table 1 (showing that life insurers hold over 60% of the assets of the insurance industry).

¹⁴¹ [cite coming from Prof. Robert Bartlett]

¹⁴² Paul Schultz, *Corporate Bond Trading Costs: A Peek Behind the Curtain*, 56(2) J. FIN. 677–698 (2001).

¹⁴³ John Patrick Hunt, *Credit Ratings in Insurance Regulation: The Missing Piece of Financial Reform*, 68 WASH. & LEE L. REV. 1667 (2011).

¹⁴⁴ FEDERAL RESERVE, UNITED STATES FLOW OF FUNDS ACCOUNTS (2013).

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cases, deeply correlated with one another.¹⁴⁵ There are several explanations for these correlations. First, the business models of many insurers tend to favor certain types of securities. For instance, because life insurers' liabilities are very long term, such insurers tend to invest heavily in long-term assets to attempt to limit asset/liability mismatch.¹⁴⁶ Second, insurers generally face a complex array of regulatory rules that impact their investment strategies, including risk-based capital rules, and investment restrictions.¹⁴⁷ Although these rules are designed to ensure that insurers are able to pay their obligations as they come due, they have the side effect of producing similarities in insurers' investment portfolios and decisions.¹⁴⁸ This is particularly true because these regulations often incorporate the ratings of private rating agencies, even after Dodd-Frank.¹⁴⁹ Third, insurers carefully safeguard their own financial strength ratings, which are produced by a small handful of rating agencies that use similar techniques for assessing financial strength.¹⁵⁰ These rating agencies themselves piggy-back off of state RBC rules, generally expecting carriers to maintain about 350% of required RBC.¹⁵¹

¹⁴⁵ FSOC's decision designating Prudential as a SIFI acknowledged this very point, noting that "[t]he severity of the disruption cause by a forced liquidation of Prudential's assets could be amplified by the fact that the investment portfolios of many large insurance companies are composed of similar assets." FSOC, BASIS FOR THE FINANCIAL STABILITY OVERSIGHT COUNCIL'S FINAL DETERMINATION REGARDING PRUDENTIAL FINANCIAL INC, 3. (Sept. 19, 2013).

¹⁴⁶ See generally ANTHONY SAUNDERS & MARCIA CORNETT, FINANCIAL INSTITUTIONS MANAGEMENT: A RISK MANAGEMENT APPROACH, (2010)

¹⁴⁷ See generally ROBERT KLEIN, A REGULATOR'S INTRODUCTION TO THE INSURANCE INDUSTRY 142-44 (1999).

¹⁴⁸ See Whitehead, *supra* note 18, at 346; Josh Mitts & Ian Aires, *Anti-Herding Regulation*, (Yale Law School, Working Paper), available at <http://islandia.law.yale.edu/ayres/Anti-Herding%20Regulation.pdf> (warning of the potential dangers of investment similarities).

¹⁴⁹ Hunt, *supra* note 143, at 1674-75 (discussing setting capital requirements based on asset credit rating). As John Hunt has rightfully emphasized, Dodd-Frank failed to alter the dependence of state insurance regulation on private credit rating agencies. Under the law of virtually every state, insurers are free to rely on ratings given by rating agencies for any bonds or preferred stocks in their portfolio. For approximately 80% of their portfolio, insurers choose to do just that, rather than seeking a rating from the NAIC's Securities Valuation Office. Because insurers are such large investors, rating agencies therefore continue to enjoy what amounts to a special regulatory privilege, which arguably blunts their incentive to provide accurate ratings and may, in turn, increase systemic risk in a manner similar to that which played out in 2008. See *id.* at 1675.

¹⁵⁰ See generally Steven W. Potter & David W. Summers, *Property-Liability Insurer Financial Strength Ratings: Differences Across Rating Agencies*, 66 J. RISK & INS. 621 (1999) (describing that while ratings agencies use distinct models for rating insurance agencies, they tend to focus on the insurer's insolvency risk).

¹⁵¹ See Letter from H. Rodgin Cohen to Ricardo Anzaldúa, Executive Vice President and General Counsel of MetLife Inc. 2 fn.5, (May 20, 2013), available at http://www.federalreserve.gov/SECRS/2013/May/20130523/R-1438/R-1438_052313_111291_554506713029_1.pdf; Letter from Members of Congress to

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Insurers' coordination of their investment strategies, when combined with their massive collective role as investors, can have potentially destructive consequences from a systemic risk perspective.¹⁵² These potential systemic consequences can be divided into two broad categories: (a) market distortions associated with insurers' purchasing and demand for securities and (b) market distortions associated with insurers' sale and/or sudden decreased demand for securities.

(a) Market Distortions From Insurers' Buying Patterns

Insurers' coordinated investment activity can pose systemic risks by inflating asset bubbles and misallocating capital.¹⁵³ In fact, emerging evidence suggests that life insurers played an important role in fueling the pre-crisis bubble in structured finance securities linked to the housing market.¹⁵⁴ By any measure, insurers are important purchasers of mortgage-backed securities: by 2007, life insurers held approximately \$470 billion in these securities.¹⁵⁵ Their current holdings of these mortgage-backed securities amount to almost \$500 billion.¹⁵⁶

Not only are insurers major investors in structured securities linked to the housing market, but their demand for these securities increased about 55% in the four years preceding the crisis. Life insurers' increased demand for these instruments was driven primarily by a subset of carriers that had issued products with embedded interest-rate guarantees – mostly guaranteed annuity products. These carriers faced substantial unrealized losses during this period due to the unexpectedly low interest rate environment.¹⁵⁷ Seeking to offset these potential losses, these life insurers increased their holdings in mortgage-backed securities that offered higher returns than the high-grade corporate bonds that they generally displaced in insurers' portfolios. Because regulators and rating agencies treated these investments as largely riskless, insurers were able to increase their

Ben Bernanke, Chairman of the Board of Governors of the Federal Reserve System (Dec. 11, 2012).

¹⁵² See generally Whitehead, *supra* note 17, at 347–52.

¹⁵³ *Id.*, at 327.

¹⁵⁴ Craig Merrill, Taylor D. Nadauld, & Philip Strahan, *Final Demand for Structured Finance Securities*, 18–19, (Working Paper, January 17, 2014) available at <http://ssrn.com/abstract=2380859>.

¹⁵⁵ *Id.* at 2, 19. Merrill, Nadauld, and Strahan report that this amounts to about 25% of the total market. But our own estimates suggest that this was more likely to represent approximately 5%, not 25%, of the total market. Nonetheless, \$470 billion is such a large amount of mortgage-backed securities that a coordinated sale by insurers could well trigger the beginning of a market-price collapse.

¹⁵⁶ Chicago Fed Letter, What do Insurers invest in?

¹⁵⁷ Between 2003 to 2007, life insurer's investments in structured finance vehicles increased 55%.

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return while facing no consequences in terms of their risk-based capital requirements or ratings.¹⁵⁸

Life insurers in general, and particularly life insurers with heavy unrealized losses stemming from guaranteed annuities, were thus partially responsible for fueling the demand for structured finance securities.¹⁵⁹ In doing so, they played an important role in the 2008 global financial crisis. The explosion in structured finance securities linked to the housing market has been blamed for indirectly helping to stoke the pre-crisis housing bubble. Facing substantial demand to originate mortgages so that they could be packaged together and securitized, banks and other mortgages originators increasingly loosened credit standards, allowing more and more people to buy houses with loans they ultimately could not afford. The resulting collapse in the housing market was the key trigger of the financial crisis writ large.¹⁶⁰

Although insurers' role in inflating a bubble in mortgage-backed securities is clearly directly linked to the 2008 crisis, insurers' investments in corporate debt markets raise potentially bigger systemic risks of capital market distortions. As with mortgage-backed securities, insurers in general, and particularly those that are capital constrained, appear to consistently "reach for yield" in their investments in corporate bonds. In other words, they invest in the riskiest – and highest yielding – corporate debt within the categories of these securities that regulators and rating agencies define to be relatively low-risk.¹⁶¹ The result is a broad distortion in the allocation of capital to the private sector, with corporations tending to issue riskier assets when insurance companies reach for yield.

Such distortions in capital market funding can directly amplify systemic risk by contributing to pro-cyclical build-ups in the holding of high-yield, risky assets. Indeed, according to Fed Chairwoman Janet Yellen, reaching-for-yield was a core factor contributing to the buildup of highly leveraged forms of mortgage-backed securities that preceded the

¹⁵⁸ *Id.* at 30. This is most evident by the fact that the life insurers who increased their exposures to these instruments were also the ones who were most capital constrained. *See id.*

¹⁵⁹ *See id.* ("Together with the existing literature, our study suggests that the structured finance market was fueled both by supply-side distortions encouraging financial institutions to sell assets and demand-side distortions encouraging other financial institutions to buy those assets."). *See id.* at 29-30 ("Although issuance of ABS generated substantial fees for the banks, it is unlikely that issuance could have occurred at the rates observed without strong demand from final investors.").

¹⁶⁰ See, e.g., NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES, THE FINANCIAL CRISIS INQUIRY REPORT 113–15, 233–42 (2011) [hereinafter FINANCIAL CRISIS INQUIRY REPORT].

¹⁶¹ Bo Becker, & Victoria Ivashina, *Reaching for Yield in the Bond Market*, JOURNAL OF FINANCE, (forthcoming, 2013).

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2008 financial crisis.¹⁶² More generally, she has observed, the reaching-for-yield “dynamic . . . has the potential to facilitate the emergence of financial imbalances [such as] investors holding assets which entail exposure to greater credit risk [but] not fully appreciat[ing], or demand[ing] proper compensation for, potential losses.”¹⁶³ As a result, reaching for yield has significant potential to increase investment losses during a subsequent downturn.¹⁶⁴ This includes not only straight losses on mispriced investments; more significantly, investors dumping these risky assets contemporaneously can ignite fire-sale losses, which can lead to a systemic market collapse.¹⁶⁵

Insurers, in sum, play a crucial role in financial markets by virtue of the assets they choose to purchase. These decisions are impacted by factors that often affect wide swaths of the industry, including regulatory capital rules, assessments of rating agencies, losses in commonly sold products, and perceived or actual constraints in available capital. And, collectively, these demand-side decisions can have systemic consequences by inflating asset bubbles and misallocating credit in crucial financial markets.

A crucial, and largely overlooked, point regarding these interconnections between insurers and the rest of the financial system is that insurers’ potential to stoke systemic risk through their demand for securities need not involve mass failures or near-failures of numerous insurers. A dominant narrative in the debates regarding insurance and systemic risk argues that insurers other than AIG and the financial guarantee carriers are not systemically risky because remarkably few insurers ultimately failed in connection with the global financial crisis.¹⁶⁶ But as illustrated by life insurers’ responses to unrealized losses on their guaranteed annuity products, even non-catastrophic losses to insurers can have systemically important consequences for other sectors of the financial system.

(b) Market Distortions From Insurers’ Selling Patterns

Insurers’ coordinated investment activities can also have potential systemic consequences due to sudden decreases in insurers’ demand for certain securities or assets. For instance, insurers’ coordinated investment

¹⁶² *Id.* (Citing Janet Yellen, Remarks at the International Conference: Real and Financial Linkage and Monetary Policy, Bank of Japan, (2011), *available at* <http://www.federalreserve.gov/newsevents/speech/yellen20110601a.htm>, and RAGHURAM RAJAN, *FAULT LINES* (2010 Princeton U. Press)).

¹⁶³ Yellen, *supra* note 162.

¹⁶⁴ Becker & Ivashina, *supra* note 161, at 30 (observing that “reaching for yield is not innocuous in terms of the ultimate risks taken on by insurance companies”).

¹⁶⁵ See *infra* notes 167-172 and accompanying text.

¹⁶⁶ See, e.g., GOVERNMENT ACCOUNTABILITY OFFICE, *supra* note 7, AT 17.

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activities can potentially ignite or exacerbate fire sales of assets, in which those assets sell well below their fundamental value.¹⁶⁷ Such fire sales can play key roles in systemic crises by limiting firms' liquidity and creating uncertainty about firms' financial strength.¹⁶⁸ Indeed, the inability of banks to offload or price such "toxic assets" was the key reason for the failure or near failure of numerous investment banks, including Lehman Brothers.¹⁶⁹ Alternatively, insurers' coordinated investment activities can conceivably result in sudden shortfalls in expected funding sources, producing costly and potentially systemically significant substitution effects among players in financial markets.

Consider first emerging evidence that a subset of insurers were involved in the fire-sale of mortgage backed securities in 2008. As described above, insurers are substantial owners of mortgage-backed securities, and they had aggressively increased their holdings of these instruments in the years leading up to the crisis. In 2008, a subset of insurers that became capital constrained faced substantial pressures to offload these securities because they were subject to accounting rules requiring marking these assets to market value.¹⁷⁰ In response, these carriers sold RMBS at substantially lower prices during this time period than did insurers not facing regulatory constraints.¹⁷¹ Moreover, the RMBS that experienced the largest decline in credit quality during this period also sold for the largest discount from their fundamental value.¹⁷²

¹⁶⁷ In a fire sale, the price of an asset is temporarily depressed below its fundamental value. This is because the assets must be purchased by buyers with less familiarity with and demand for those assets. Andrei Shleifer & Robert W. Vishny, *Liquidation Values and Debt Capacity: A Market Equilibrium Approach*, 47 J. FIN. 1343 (1992). Indeed, the financial industry and members of Congress have blamed fire-sales of mortgage-backed securities for contributing to the severity of the financial crisis. Iman Anabtawi & Steven L. Schwarcz, *Regulating Systemic Risk: Towards an Analytical Framework*, 86 NOTRE DAME L. REV. 1349, 1372-73, 1372 n. 92 (2011).

¹⁶⁸ See Anabtawi & Schwarcz, *supra* note 167, at 1372-73, 1372 n. 92 (observing that fire sales are often key contributors to systemic risk).

¹⁶⁹ FINANCIAL CRISIS INQUIRY REPORT, *supra* note 160, at 324-25.

¹⁷⁰ See Merrill, *supra* note 23, at 18.

¹⁷¹ *Id.* at 22-23.

¹⁷² *Id.* (finding that insurers subject to rules requiring mark-to-market accounting for RMBS—property/casualty insurers, but not life insurers, until 2009—were more likely to sell RMBS during the financial crisis). Mark-to-market accounting rules remove the disincentive firms would otherwise face from selling assets at a time when the firm believes the market price does not reflect true asset value. The importance of mark-to-market accounting in contributing to fire sales by insurers is also supported by a second paper, by the same authors who studied fire sales in the corporate bond market and the importance of capital constraints.. See Andrew Ellul, et al., *Is Historical Cost Accounting a Panacea? Market Stress, Incentives Distortions, and Gains Trading* (NYU Working Paper, 2012). Cf. Steven L. Schwarcz, *Regulating Complexity in Financial Markets*, 87 WASH. U. L. REV. 211, 232-33 (2008) (discussing how regulation-motivated coordinated investor selling of securities can cause market collapses).

Although the evidence suggests that only a subset of insurers played a role in this fire sale, insurers likely would have played a much larger role if it were not for two idiosyncratic facts. First, throughout much of the crisis, many insurers were not required to use mark-to-market accounting for their portfolio of RMBS, diminishing their incentive to sell these instruments.¹⁷³ Second, in the midst of the crisis, the NAIC suddenly adopted a change in its risk-based capital rules that substantially reduced the capital charges associated with RMBS.¹⁷⁴ Had either of these facts been different, insurers likely would have substantially exacerbated the fire sales in RMBS, and prolonged the severity of the crisis.

Insurers' capacity to trigger fire sales in capital markets is likely much stronger in corporate bond markets, where insurers are the dominant investors among all financial institutions. Thus, one recent study found compelling evidence that the downgrading of corporate bonds can prompt large numbers of insurers to sell the downgraded (or about-to-be downgraded) bonds in a coordinated fashion, in order to avoid adverse regulatory or rating agency consequences.¹⁷⁵ Studying insurer behavior between 2001 and 2005, the paper found evidence that insurers facing comparatively large regulatory constraints were more likely than other insurers to immediately sell bonds that were downgraded from investment-grade status.¹⁷⁶ This process of forced-selling by regulatory-constrained firms caused the price of downgraded bonds to temporarily fall below their fundamental value.¹⁷⁷ In particular, the study found evidence that the prices of bonds were more likely to depart from their fundamental value if they were disproportionately held by regulatory-constrained firms.¹⁷⁸

Some commentators have downplayed the prospect that insurers could trigger fire sales that could produce systemic consequences on the basis that there are low cross-holdings between insurers' and US banks' investment portfolios.¹⁷⁹ But there are several problems with this view. First, as the crisis illustrated, insurers' coordinated actions with respect to even a relatively small component of their overall portfolio can disrupt markets. Second, even a fire sale of investment securities that were not directly held by banks could indirectly impact the value of banks'

¹⁷³ Merrill.

¹⁷⁴ Hunt.

¹⁷⁵ See Andrew Ellul, Chotibhak Jotikasthira, & Christian T. Lundblad, *Regulatory Pressure and Fire Sales in the Corporate Bond Market*, 101 J. FINANCIAL ECON. 596 (2011).

¹⁷⁶ *Id.* at 605.

¹⁷⁷ *Id.* at 608. See Anabtawi & Schwarcz, *supra* note 167, at 1353–56 (explaining how a market economic shock can become systemic).

¹⁷⁸ Ellul, Jotikasthira, & Lundblad, *supra* note 175, at 605.

¹⁷⁹ Cummins & Weiss. *supra* note 20, at 31–32.

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securities, such as by depressing larger segments of the securities markets.¹⁸⁰ Third, one substantial source of this lack of overlap is attributable to privately-placed bonds.¹⁸¹ Because no established secondary market for these types of securities exists, life insurers facing substantial liquidity needs would need to look to other asset categories. Fourth—and most importantly—the lack of substantial overlap between the portfolios of insurers and banks in the past does not mean there will not be substantial overlap in the future. Indeed, European insurers and banks currently have high cross-holdings of securities in sovereign bonds.¹⁸² That suggests not only that the systemic risk of insurer fire sales may be greater in Europe but also that the (arguably) currently low U.S. cross-holdings may fluctuate and become greater.

Apart from the risk of fire sales, insurers' dominant role in financing U.S. corporations raises the important potential risk that a massive disruption in insurance markets could substantially impact corporate financing. Insurers are the major investors in corporate debt, with their holdings in these instruments exceeding \$1.5 trillion in 2011.¹⁸³ Given that corporations fund themselves much more through debt than equity, insurers are a crucial source of funding for US corporations.¹⁸⁴ If insurers were forced to liquidate a substantial percentage of these holdings and were unable to maintain their long-sustained investment appetite for corporate debt, the results could be catastrophic. U.S. corporations would have to either dramatically scale back their investments or find entirely new ways of funding their operations. This, in turn, could trigger new, and unpredictable, consequences in volatile financial markets.

As above, insurers' capacity to distort financial markets by selling securities need not involve the ultimate failure of numerous carriers. Indeed, a key feature of fire sales is that those who trigger these sales may end up safe because they sell their assets at only a small discount.¹⁸⁵ But just like the first people in line during a run on a bank, while the early participants in a fire sale may emerge relatively unscathed from a crisis, that does not mean that they were not instrumental in causing the crisis in the first place.

¹⁸⁰ See *id.* (“[B]anks and insurance companies are interconnected at least with respect to their susceptibility to common economic and financial shocks.”)

¹⁸¹ See *id.* at 16 (reporting that “total holdings of private placements represents 27.2% of life insurer bond portfolios...”).

¹⁸² *Id.* at 26

¹⁸³ Fed letter, what do insurers invest in.

¹⁸⁴

¹⁸⁵ This effect is potentially explained by the greater incentive of closely regulated insurance companies to monitor assets for likely downgrades and sell assets at early signs of trouble, in effect causing the fire sale conditions that drop asset prices for other entities. Ellul, Jotikasthira, & Lundblad, *supra* note 175, at 605

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Although insurers need not fail en masse in order for their role as investors to stoke systemic risk, the converse is not true: substantial failures of a series of insurers could well disrupt the financial system by causing insurers to liquidate their portfolios and/or suspend their future investments. In many cases, an insurance company's failure can result in an immediate need for the company or its receiver to liquidate much of its portfolio.¹⁸⁶ For instance, an insurance company could be required to quickly liquidate its portfolio if it failed due to a catastrophic event triggering unmanageable numbers of claims, due to a failure of a reinsurer, or due to a "run" on products that permitted policyholders to withdraw funds or take out loans against the policy.¹⁸⁷ If many insurers simultaneously experienced this type of distress – which is not unlikely given correlations in carriers' catastrophe exposures, product features, and reinsurance portfolios¹⁸⁸ – this could trigger, or exacerbate, the types of distortions in capital markets that were witnessed in 2008.

Ultimately, there is strong newly emerging evidence that numerous large life insurers played a major and under-appreciated role in the crisis of 2008 by virtue of their role as investors in mortgage-backed securities.¹⁸⁹ Of course, this evidence – like much about the financial crisis – is still uncertain and requires further research and assessment. But the point here is not just that insurers did, in fact, contribute to systemic risk in the most recent financial crisis through their role in stoking demand and contributing to fire sales in mortgage-backed securities. Rather, the larger point is that insurers, as massive investors who often act in a coordinated fashion with respect to their investment appetites and decisions, play an important role in the global financial system, and in the potential accumulation of risk in that system.

2. Other Potential Linkages Between Insurers and the Financial System

Insurers' existing – and potential – connections to financial markets are hardly exhausted by their roles as investors. Various additional linkages exist. In some cases, the magnitude of these interconnections is not currently sufficient to raise systemic risks. In other cases, it is hard to know how to even measure the systemic implications of these connections. But both of these statements could almost certainly have

¹⁸⁶ But see *Insurance Oversight and Legislative Proposals: Testimony Before H. Fin. Subcomm. on Ins., Hous. and Cmty. Opportunity*, 112th Cong. 9 (2011) (Statement of Peter Gallanis, National Organization of Life and Health Insurance Guaranty Associations) available at https://www.nolhga.com/pressroom/articles/HFSCnolhgaTestimonyNov15_2011.pdf.

¹⁸⁷ See Part II.B., *infra*.

¹⁸⁸ See *id.*

¹⁸⁹ Merrill et al., *supra* note 23, at 29.

been made about insurers' (and their affiliates') participation in credit default swaps ten years ago.

Insurance Companies within Complex Financial Services Groups. Insurance companies are increasingly part of financial services conglomerate groups that provide an array of financial services, including banking and broker/dealer services.¹⁹⁰ This creates the prospect that insurance company failures or distress could have serious consequences for non-insurance financial firms within the conglomerate group. Risks are much more likely to spread among corporate affiliates than among independent firms operating at arm's length.¹⁹¹ For instance, new empirical research shows that life insurers that are in financial distress tend to receive large capital contributions from other entities within their group and that this effect is concentrated in groups with a large number of affiliates.¹⁹² A related concern is that the holding company or other affiliates might be motivated to take risky actions, effectively supported by (and thus taking advantage of) government-backed guarantees of insurers. Although this concern is commonly cited in banking regulation,¹⁹³ it is also a concern in insurance, where explicit state-guarantee funds, and potentially implicit federal guarantees in the event that state-guarantee funds fail, would seem to create a similar type of moral hazard among affiliates.¹⁹⁴

¹⁹⁰ Aerdt Houben & Mark Teunissen, *The Systemicness of Insurance Companies: Cross-Border Aspects and Policy Implications*, in *THE FUTURE OF INSURANCE REGULATION AND SUPERVISION: A GLOBAL PERSPECTIVE* 254 & 258 (2011) (noting that euro area insurers' financial assets have almost doubled in the last decade and that many hedge funds and private equity groups are managing assets owned by insurers). In part, the rationale for the rise in conglomeration is to exploit synergies between financial services and parents' businesses and also to take advantage of economies of scale and scope. Some firms also hope that business diversification will reduce their earnings fluctuations. Gordon F. Boreham, *The Rise of Non-Bank Financial Conglomerates: A Major Trend*, 9(4) *SERVICE INDUSTRIES J.* 90, 95(1989).

¹⁹¹ See Richard J. Herring & Anthony M. Santomero, *The Corporate Structure of Financial Conglomerates*, 4 *J. FIN. SERV. RES.* 471, 477-480 (1990).

¹⁹² See Niehaus, *supra* note 97.

¹⁹³ See Herring & Santomero, *supra* note 191, at 480. U.S. bank regulation attempts to address this concern most directly through section 23A of the Federal Reserve Act, which restricts transactions, such as lending, between federally insured deposit-taking banks and their nonbank affiliates. See generally Saule T. Omarova, *From Gramm-Leach-Bliley to Dodd-Frank: The Unfulfilled Promise of Section 23A of the Federal Reserve Act*, 89 *N.C. L. REV.* 1683, 1686 (2011).

¹⁹⁴ To be sure, insurance regulations attempt to "ring-fence" insurance companies by requiring disclosure and approval of all material affiliated transactions. New state rules also attempt to enhance the power of regulators to demand information about insurers' affiliates and also attempt to enhance group supervision by requiring that an ORSA be completed at the holding company level. But it is an open question whether these changes will be enough to reverse the clearly inadequate appreciation that state regulators had pre-2008 of risk to insurers posed by their affiliates. Moreover, all of these approaches to ring-fencing are directed to protecting insurers from risks arising from their affiliates. None of them are

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Insurance-linked securities. Insurers increasingly rely on financial markets to take on catastrophe risk. The most prominent example of this is catastrophe bonds, issued by insurers.¹⁹⁵ Catastrophe bonds pay principal and interest to investors after a contractually specified term; but, unlike ordinary bonds, the issuer's obligation to repay principal or interest on a catastrophe bond is forgiven if contractually specified catastrophic events—usually non-financial events, such as a hurricane—occur within the bond's term. This makes catastrophe bonds unusually risky for investors, who are at substantial risk of losing their entire investment if a catastrophe occurs.¹⁹⁶ Investors are nonetheless willing to invest in catastrophe bonds because they assume that their returns provide investment diversification, displaying little or no correlation to the returns of shares and conventional bonds.¹⁹⁷ Thus, the probability of a hurricane hitting a major urban area is not impacted by the prospect of instability in financial markets.

Currently, investment in catastrophe bonds is not significant enough to be systemically risky, amounting to about seven billion dollars a year.¹⁹⁸ But analysts expect that the size of this market could increase substantially in upcoming years, and in recent years there already has been exponential growth in these types of financial instruments.¹⁹⁹ Moreover, catastrophe bonds could well create important linkages between insurance and other financial markets because financial market risk and insurance-

directed at the opposite threat: the prospect that distress might spread to an insurance affiliate from an insurer. Steven L. Schwarcz, *Ring-Fencing*, 87 S. CAL. L. REV. (Forthcoming Nov. 2013)

¹⁹⁵ See generally, J. David Cummins, *CAT Bonds and Other Risk-Linked Securities: State of the Market and Recent Developments*, 11 RISK MGMT. INS. REV. 23 (2008). There also appears to be growing investor interest in debt securities operating as reinsurance of other insurable risks, including mortality and terrorism. See, e.g., *EdF's Pylon Marks First European Corporate Cat Bond*, 834 EUROWEEK (Dec. 19, 2003); *Capital Markets Shield AXA from Extreme Mortality Risk*, 978 EUROWEEK (Nov. 3, 2006).

¹⁹⁶ Schwarcz, *Regulating Insurance Sales*, *supra* note 20, at 1785–86.

¹⁹⁷ *Id.* at 1786–87; Christopher M. Lewis & Peter O. Davis, *Capital Market Instruments for Financing Catastrophe Risk: New Directions?* 17 J. INS. REG. 110, 114 (1998); Angelika Schöchlin, *Where's the Cat Going? Some Observations on Catastrophe Bonds* 14 J. APPLIED CORP. FIN. 100, 102-03 (2002).

¹⁹⁸ See Samantha Mortimer, *Cat Bond Sales Finish 2012 Near Record High*, PROPERTY CASUALTY 360 (Jan. 2, 2013) <http://www.propertycasualty360.com/2013/01/02/cat-bond-sales-finish-2012-near-record-high>

¹⁹⁹ Rodd Zolkos, *Catastrophe Bond Market Poised for Record Issuance in 2013*, Report, BUSINESS INSURANCE (May 9, 2013). See also, Artemis, *Catastrophe Bond Risk Premiums Slid Further by End of 2013*, ARTEMIS BLOG (Feb. 28, 2014) <http://www.artemis.bm/blog/2014/02/28/catastrophe-bond-risk-premiums-slid-further-by-end-of-2013/> (explaining that 2013 saw record sales of catastrophe bonds and that premiums fell not because of a lack of demand or investor risk aversion, but because of increased competition by insurers).

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underwriting risks are not always uncorrelated, as most assume. Various types of events could conceivably simultaneously trigger instability in financial markets and insurance markets. Consider, for instance, a global pandemic. Such an event would trigger payment on unprecedented numbers of life insurance policies. But it could also trigger financial panic by, for instance, triggering mass withdrawals of deposits or a collapse in stock markets due to sharp reductions in consumer consumption. And even otherwise uncorrelated financial and underwriting risks might, over a large period of time, simultaneously occur simply as a matter of chance.

Another type of insurance-linked security that could potentially create important interlinkages between insurance markets and other financial markets are life insurance and annuity-backed securities. Financial firms have recently been purchasing rights under life insurance policies and annuities from policyholders.²⁰⁰ In some (and perhaps many) cases, policyholders have actually purchased life insurance or annuities after being contacted by a firm that has offered to fund this insurance purchase.²⁰¹ However these rights are acquired, financial firms repackage the rights into securities that are then sold to investors.²⁰² Just as with mortgage-backed securities in the financial crisis, there are various conceivable channels through which securities backed by these insurance rights could trigger systemic risk. For instance, widespread devaluation of these securities through insurer insolvencies or unanticipated and substantial changes in mortality rates could expose investors in these securities, as well as the financial firms that acquire, repackage, and sell the securities, to serious losses.²⁰³

²⁰⁰ Jenny Anderson, *Wall Street Pursues Profit Bundles of Life Insurance*, N.Y. TIMES, Sept. 5, 2009 at A1.

The bankers plan to buy “life settlements,” life insurance policies that ill and elderly people sell for cash — \$400,000 for a \$1 million policy, say, depending on the life expectancy of the insured person. Then they plan to “securitize” these policies, in Wall Street jargon, by packaging hundreds or thousands together into bonds. They will then resell those bonds to investors, like big pension funds, who will receive the payouts when people with the insurance die. . . some in the industry predict the market could reach \$500 billion. . . Goldman Sachs has developed a tradable index of life settlements, enabling investors to bet on whether people will live longer than expected or die sooner than planned.”

²⁰¹ See James J. Avery, Jr & Prudential Financial., *Securities Backed by Life Settlements: Considerations for Institutional Investors 2* (2011) available at https://www.prudential.com/media/managed/Life_Settlements_Investing.pdf

²⁰² Anderson, *supra* note 200. As above, one of the draws of this type of financial product to investors is the perception that the risk of non-payment is not substantially correlated with other forms of market-wide risk. *Id.* (“These assets do not have risks that are difficult to estimate and they are not, for the most part, exposed to broader economic risks” (quoting Joshua Coval, professor of finance at the Harvard Business School))

²⁰³ See Avery & Prudential Financial, *supra* note 201, at 4–5.

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Insurance as a Prerequisite to Credit. Insurance plays a crucial role in secured lending of all types. When lenders take a security interest or mortgage in collateral, they generally require the borrower to maintain insurance on the property throughout the duration of the loan.²⁰⁴ On a superficial level, the reason that lenders require such insurance is obvious: they want their collateral protected so that, in the event of default, they can look to that collateral for repayment. An important component of this explanation is that insurers are comparatively well-situated relative to investors to measure and manage the risks associated with the prospect of damage to property.²⁰⁵ Indeed, this is the core business of property insurers.

If disruptions in property-insurance markets suddenly made unavailable property insurance of various types – such as homeowners, commercial property, auto collision and comprehensive, or commercial auto – the result could be substantial disruptions in the credit markets that rely on these forms of property to extend credit.²⁰⁶ Financial institutions that specialize in evaluating credit risk would not be equipped to merely lend without insurance on the collateral, as it would be nearly impossible for them to appropriately price this risk and manage the prospect of moral hazard. Using the vernacular of general frameworks on systemic risk, property insurance enjoys limited substitutability.²⁰⁷

Banks as Guarantors of Insurers: Another linkage between insurers and the larger financial system is that banks are becoming guarantors of insurers. As later discussed, life insurers increasingly have been using captive insurance-company subsidiaries to minimize the cost of complying with certain regulatory rules.²⁰⁸ To the extent the captive reinsures the parent life insurer's risk, the captive—which usually has a

²⁰⁴ See, e.g., KEVIN MCKECHNIE, NAIC HEARING ON PRIVATE LENDER-PLACED INSURANCE: TESTIMONY SUBMITTED ON BEHALF OF THE AMERICAN BANKERS ASSOCIATION 2 (2012) available at http://www.naic.org/documents/committees_c_120809_public_hearing_lender_placed_insurance_testimony_mckechnie.pdf.

²⁰⁵ See OFFICE OF THE COMPTROLLER OF THE CURRENCY, RISK MANAGEMENT AND INSURANCE: NARRATIVE AND PROCEDURES 3 (1990) (cautioning that companies benefiting from collateral insurance should assess the insurer's financial strength to protect themselves from insurer insolvency).

²⁰⁶ Cummins and Weiss argue that small insurers would fill in gap and note that large corporations have many insurance substitutes. Cummins & Weiss, *supra* note 20, at 33. But this depends on how large of a disruption there was in the underlying insurance markets.

²⁰⁷ See Part I.A, *supra*.

²⁰⁸ See *infra* notes 286-291 and accompanying text (referring to this as shadow insurance).

lower regulatory cost than its parent—is required (in lieu of the parent) to maintain capital reserves against that risk.²⁰⁹

The linkage with the larger financial system is that many states require the captive’s reinsurance obligation to itself be financially supported. That support typically takes the form of a bank-issued letter of credit (“LOC”),²¹⁰ which is a type of guarantee.²¹¹ Thus, if a captive is unable to pay its reinsurance obligation, it will draw down on the LOC, thereby requiring the bank to make that payment.²¹² In this way, banks have effectively become guarantors of life insurers’ ability to pay their claims.²¹³

B. Vulnerabilities of the Insurance System to Tail-End Events

As noted above, insurers’ various existing and potential linkages to the broader financial system have the potential to generate systemic risk even in the absence of widespread instability within the insurance industry itself. But, of course, many of the linkages between insurers and the rest of the financial system described above create the prospect of systemic risk only to the extent that the insurance industry itself is subject to the prospect of widespread instability. In many cases, moreover, the prospect that the linkages described above could trigger systemic risk depend on the risk that the insurance industry might face an acute crisis demanding the immediate liquidation of a substantial portion of its assets or the sudden cessation of its funding.²¹⁴ We suggest below that the insurance industry is indeed subject to such tail-end risk and that, in many cases, these risks could create sudden and dramatic financial pressures on carriers.

²⁰⁹ *See id.*

²¹⁰ Shanique Hall, *Recent Developments in the Captive Insurance Industry*, CIPR Newsletter (Jan. 2012) (published by The Center for Insurance Policy and Research of the NAIC).

²¹¹ LOCs are agreements to make specified payments upon the presentation of documents that satisfy the negotiated conditions to payment. See Uniform Commercial Code § 5-102(a)(10) (defining a letter of credit).

²¹² Hall, *supra* note 210.

²¹³ Although banks may have the right to seek reimbursement in the event of an LOC draw, that right is likely to be of limited value. *Cf.* Captives and Special Purpose Vehicle (SPV) Use (E) Subgroup, *Captives and Special Purpose Vehicles*, National Association of Insurance Companies 14 (Nov. 29, 2012) (discussing that right).

²¹⁴ To be sure, many insurer failures do indeed occur gradually, and the gradual unwinding of insurance companies is indeed the historical norm. *See Insurance Oversight and Legislative Proposals: Testimony Before H. Fin. Subcomm. on Ins., Hous. and Cmty. Opportunity*, 112th Cong. 9 (2011) (Statement of Peter Gallanis, National Organization of Life and Health Insurance Guaranty Associations) *available at* https://www.nolhga.com/pressroom/articles/HFSCnolhgaTestimonyNov15_2011.pdf; Weiss & Cummins *supra* note, at 13 (repeatedly emphasizing that the resolution of insolvent insurers is gradual and does not typically require the immediate sale of a substantial portion of the entity’s assets).

1. Catastrophe Risk

Catastrophe risk arises when individual policyholder losses are correlated, resulting in large numbers of policyholder claims being made within a short period of time.²¹⁵ Catastrophe risk is particularly relevant for systemic risk because it can result in a large percentage of an insurer's liabilities coming due immediately, producing very large liquidity needs. In many cases, insurers actively strive to limit their exposure to catastrophe risk precisely because they face substantial limitations in their ability to raise sufficient funds to pay unexpectedly large numbers of policyholder claims within a short period of time.²¹⁶ Some of the most important mechanisms by which they attempt this include excluding catastrophe risk exposure in their insurance policies, diversifying their exposure to catastrophes, and transferring some of their catastrophe risk to reinsurers.²¹⁷

Despite these efforts to manage catastrophe risk, insurers' exposures to catastrophe risk can conceivably be quite large.²¹⁸ Some insurers, for instance, do surprisingly little to mitigate catastrophe risks that have not occurred in the recent past, consistent with the commonly-understood behavioral bias, the availability heuristic.²¹⁹ Consider, for example, the risk of a global pandemic. In 1918, the Spanish Flu alone killed between 20 to 40 million people within a single year.²²⁰ Unlike property insurance policies, life insurance policies do not contain coverage exclusions for such a tail-end event. Such an event, or one even worse, could therefore result in massive additional claims against life insurers, who would owe immediate payment on their policies over and above their

²¹⁵ Dwight M. Jaffee & Thomas Russell, *Catastrophe Insurance, Capital Markets, and Uninsurable Risks*, 64 J. RISK AND INS. 205 (1997).

²¹⁶ See AMERICAN ACADEMY OF ACTUARIES CATASTROPHE MANAGEMENT WORK GROUP, CATASTROPHE EXPOSURE AND INSURANCE INDUSTRY CATASTROPHE MANAGEMENT Practices 7–15 (2001).

²¹⁷ See SAUNDERS & CORNETT, *supra* note 146, at 29.

²¹⁸ See AMERICAN ACADEMY OF ACTUARIES, *supra* note 216, at 7.

²¹⁹ See Amos Tversky & Daniel Kahneman, *Availability, A Heuristic for Judging Frequency and Probability*, 5(2) COGNITIVE PSYCHOLOGY 207, 228 (“In thinking of [rare] events we often construct scenarios. . . The plausibility of the scenarios that come to mind, or the difficulty in producing them then serve as a cue to the likelihood of the event”) ALBERT PHUNG, BEHAVIORAL FINANCE 15–17 (explaining overreactions in stock prices to new information as attributable to availability bias). Recent research suggests that insurers, as well as consumers, are subject to various heuristics and biases. See HOWARD C. KUNRUETHER ET AL., INSURANCE AND BEHAVIORAL ECONOMICS: IMPROVING DECISIONS IN THE MOST MISUNDERSTOOD INDUSTRY (2013).

²²⁰ Jeffery Taubenberger & David Morens, *1918 Influenza: The Mother of All Pandemics*, 12(1) EMERGING INFECTIOUS DISEASES J. 15, 15 (2006).

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actuarially expected payments.²²¹ Even if those claims don't imperil the insurers' own solvency, they could force insurers to have to simultaneously sell corporate bonds and other assets to raise cash, thereby triggering the type of fire sales or sudden contractions in corporate financing previously discussed.²²²

In other cases, insurers fail to properly limit their exposure to catastrophes because they do not even consider the possibility of the catastrophe occurring until it does.²²³ The best illustration of this point involves terrorism insurance. Prior to 9/11, commercial property insurance policies did not contain any explicit exclusions for terrorism insurance and insurers did not even include this risk in their calculations of premiums.²²⁴ After 9/11, insurers insisted that the terrorism risk was so large and incalculable that they could not provide coverage at all, at least without an explicit federal backstop.²²⁵ Although the massive losses that insurers incurred in connection with 9/11 did not substantially destabilize the industry, insurers' sudden and dramatic shift in their willingness to provide this coverage suggests that they might well have had events transpired differently. Moreover, although it is rarely framed as such, the resulting Terrorism Risk Insurance Act²²⁶ – which provided an immediate federal reinsurance backstop for terrorism risk – essentially amounted to a federal bailout of the insurance industry: without any charge to carriers, the federal government now reinsures most commercial terrorism risk.²²⁷

It is obviously difficult, if not impossible, to predict what future catastrophes might occur that the industry has failed to adequately anticipate or guard against. One potential example, though, involves the burgeoning market of cyber insurance, which protects firms against various risks associated with data breaches, network damage, and cyber extortion.²²⁸ Interestingly, these policies generally do not contain any

²²¹ See Andrea Stracke & Winfried Heinen, *Influenza Pandemic: The Impact on Insured Lives Life Insurance Portfolio*, SOCIETY OF ACTUARIES <http://www.soa.org/library/newsletters/the-actuary-magazine/2006/june/pub-influenza-the-impact-on-an-insured-lives-life-insurance-portfolio.aspx>.

²²² See *supra* notes 167-172 and accompanying text.

²²³ See Robert W. Klein, *Regulation of Catastrophe Insurance: An Initial Overview* 9 (1998) (explaining the lag of insurers to recognize the potential impact and likelihood of major environmental catastrophes).

²²⁴ See Michelle Boardman, *Known Unknowns: The Illusion of Terrorism Insurance*, 93 GEO. L. J. 783, 786 (2005).

²²⁵ See *id.* at 787-88.

²²⁶ Terrorism Risk Insurance Act of 2002, Pub. L. No. 107-297, 116 Stat. 2322 (2002) (codified as amended in scattered sections of 15 U.S.C.).

²²⁷ Boardman, *supra* note 224, at 788-89.

²²⁸ See generally Deirdre Fernandes, *More Firms Buying Insurance for Data Breaches: Companies Seek Added Protection*, BOSTON GLOBE (Feb. 17, 2014) available at <http://www.bostonglobe.com/business/2014/02/17/more-companies-buying->

exclusions for cyber terrorism or mass and widespread cyber-instability.²²⁹ Given the increasing and unpredictable threat of cyber terrorism, it is not difficult to imagine that this type of risk exposure could produce massive correlated losses for a large segment of the insurance industry. Notably, such an event would almost certainly independently and simultaneously trigger wider financial instability.

2. Reinsurance Opacity and Interconnectedness

Both property/casualty and life insurers rely extensively on reinsurance to mitigate their catastrophe risk.²³⁰ In 2011, for instance, U.S. insurers ceded slightly more than \$130 billion in premiums to unaffiliated reinsurers, and approximately \$110 billion in premiums to affiliated reinsurers.²³¹ These amounts, of course, roughly approximate the expected recoverable catastrophe cost to reinsurers in a single given year: the potential recovery from reinsurers in the event of a massive catastrophic event or series of such events is obviously much larger.

At the same time that reinsurance reduces catastrophe risk for insurers, it also exposes them to new risks. The most obvious is counter-party risk arising from the possibility that reinsurers will be unable to

insurance-against-hackers-and-privacy-breaches/9qYrvlHskcoPEs5b4ch3PP/story.html

²²⁹ See Howard B. Epstein & Theodore A. Keyes, *Insuring Against Cyber Risks: Coverage, Exclusions, and Considerations*, 249 N.Y. L. J. (describing that typical policy exceptions relate to intentionally tortious or illegal conduct in obtaining or handling cyber data).

²³⁰ AMERICAN ACADEMY OF ACTUARIES, *supra* note 216, at 15; Jaffee & Russell, *supra* note 215, at 215. Reinsurance can be structured in multiple different ways. For instance, it can apply to a particular risk or to a contractually-specified grouping of business (facultative or treaty), and it can shift risks to reinsurers on a proportional and non-proportional basis. Most commonly, reinsurers provide non-proportional treaty coverage, whereby the reinsurer agrees to bear the risk that losses will exceed a specified threshold on a grouping of business, up to a specified limit. One particularly important form of this type of reinsurance is excess of loss catastrophe cover, whereby a reinsurer agrees to pay, up to a limit, for any claims against an insurer above the specified threshold if those claims are the result of a specified type of catastrophe. These policies may cover multiple catastrophes that take place within the policy period, reinstating the stated limit after each event. See generally ABRAHAM & SCHWARCZ, *supra* note 44.

²³¹ Cummins & Weiss, *supra* note 20, at 13; Sojung Carol Park & Xiaoying Xie, *Reinsurance and Systemic Risk: The Impact of Reinsurer Downgrading on Property-Casualty Insurers* 7-8, 11 (citing the increase in the market share of the top ten reinsurers from 35 percent in 1991 to 79 percent in 2009). Unfortunately, it is very difficult to tell how much reinsurance business with affiliates presents significant counter-party risk. In the case of life insurance, much of the reinsurance described above is shadow insurance, which we discuss elsewhere. In the case of property/casualty insurance, many reinsurance arrangements with affiliates are a result of either inter-company pooling or mergers and acquisitions activity, neither of which operates economically in a manner similar to true reinsurance.

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follow through on their obligations.²³² As with catastrophe funds, this could produce sudden and unanticipated liquidity needs for a primary carrier. But reinsurer failure could also undermine the availability of reinsurance coverage in the future, thus limiting the ability of insurers to write primary coverage.²³³ Additionally, reinsurer failure could impact insurers who hold reinsurer-issued securities in their investment portfolio.²³⁴

Reinsurer counterparty risk exposes the insurance industry to substantial vulnerabilities that, in many ways, resemble the counterparty risk that banks were exposed to in 2008 as a result of their derivative activities. First, the concentration of the reinsurance industry creates deep and substantial interconnections, such that the failure of one or two major reinsurers could simultaneously impact a substantial segment of the insurance industry at once.²³⁵ The reinsurance industry is extremely concentrated in a few massive firms, such as Swiss Re, Munich Re, and Berkshire Hathaway.²³⁶ In 2009, for instance, five reinsurance groups provided approximately 60% of the world's reinsurance capacity.²³⁷ This concentration is particularly acute for life insurers, who place more than half of their non-affiliate, reinsured risk with a single reinsurer and more than 90% of this risk with the top four reinsurers.²³⁸ Concentration in the reinsurance industry, moreover, is only trending upwards due to mergers and acquisitions as well as organic growth.²³⁹

²³² See SAUNDERS & CORNETT, *supra* note 217 (describing counterparty risk associated with reinsurance); Cummins & Weiss, *supra* note 20, at 13.

²³³ Without reinsurance, insurers would face drastically reduced capacity to write coverage because various tax, regulatory, and accounting factors limit their ability to hold capital to pay large numbers of roughly contemporaneous claims. Jaffee, & Russell, *supra* note 215, at 209–13

²³⁴ *But see* GROUP OF THIRTY, REINSURANCE AND INTERNATIONAL MARKETS 5 (2006) (stating current life insurance exposure to reinsurance equities is too small to be significant in the event of a failure).

²³⁵ Cummins & Weiss, *supra* note 20, at 12 (“Reinsurance is the primary source of interconnectedness within the insurance industry.”); Acharya, et al., *supra* note 132, at 12, (“The reinsurance market increases the interconnectedness of the system exponentially and therefore might increase the systemic risk in the overall market” because of the “bilateral [relationship] in nature and [the lack of] adequate risk controls due to the opacity of bilateral markets”).

²³⁶ Although regulators have downplayed the risk posed by reinsurers, they admit that “high degrees of market concentration in the reinsurance sector could *everything else being equal* raise sector interconnectedness and limit the degree of substitutability . . . [and thus] potentially raise intra-industry concerns.” INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS, REINSURANCE AND FINANCIAL STABILITY 16 (July 2012) (emphasis in original).

²³⁷ Park & Xie, *supra* note 231, at 4.

²³⁸ See Cummins and Weiss, at 27

²³⁹ Park & Xie. at 7–8.

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In addition to generating substantial interconnections within the insurance industry, reinsurer counterparty risk is highly opaque – as were the derivative markets that contributed to the financial crisis.²⁴⁰ Because reinsurance is an international business – the largest companies are located in Europe and Bermuda – there is a lack of uniformity about the ways in which these companies are regulated.²⁴¹ This means not only that it is hard to know how much regulation directly limits default risk through tools such as reserve and capital requirements, but also that it is hard to acquire consistent financial data on different firms. As an important 2006 G-30 report explained, “[t]he risk information published by reinsurers varies significantly across firms in both frequency and scope” resulting in a “widespread perception that publicly available information about both the financial state and the risk profile of reinsurance companies is in many cases inadequate.”²⁴² As a result, private rating agencies are often understood to function as the “de facto” regulator of reinsurers.²⁴³

Complicating matters further is the fact that reinsurers are subject to a number of deeply complex risks. Because they rely extensively on catastrophe models to price coverage, reinsurers face a substantial amount of model risk.²⁴⁴ Yet the accuracy of catastrophe models is notoriously difficult to assess. As with all models, they rely on historical data to predict future risk, which (as reliance on historical housing data showed) is inherently risky.²⁴⁵ Additionally, reinsurers face their own form of counterparty risk due to their practice of purchasing reinsurance from other reinsurers (a process known as retrocession).²⁴⁶ This can result in “retrocession spirals,” wherein the failure of one reinsurer exposes other reinsurers to loss, potentially compromising their ability to pay as well.²⁴⁷

All of this makes it very difficult for anyone – including insurers, creditors of reinsurers, credit-rating agencies, regulators, and even

²⁴⁰ *Id.* at 5 (“There is a serious lack of transparency associated with the risk of reinsurance transactions due to the international nature of reinsurance companies and lack of standardized prudential supervision.”).

²⁴¹ Marie.-Louise. Rossi & Nicholas. Lowe, *Regulating Reinsurance in the Global Market*, 27 THE GENEVA PAPERS ON RISK AND INSURANCE – ISSUES AND PRACTICES 122 (2002).

²⁴² GROUP OF THIRTY, *supra* note 234, at 6.

²⁴³ INTERNATIONAL MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT: RISK TRANSFER AND THE INSURANCE INDUSTRY 102, (April 2014) available at <http://www.imf.org/external/pubs/ft/GFSR/2004/01/pdf/chp3.pdf>.

²⁴⁴ See, e.g., Schwarcz, *Regulating Complexity*, *supra* note 172, at 217 (discussing model risk).

²⁴⁵ See *id.*

²⁴⁶ Cummins & Weiss, *supra* note 20, at 12.

²⁴⁷ This possibility was vividly displayed in the 1990s when a chain of Lloyds syndicates failed as a result of having passed risk back and forth among them. *Id.*

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reinsurers themselves – to accurately gauge reinsurer default risk.²⁴⁸ To be sure, two stress tests have found that, despite the various factors above, the failure of a major reinsurer would not substantially impact primary insurers. First, a stress test by the G30 conducted in 2006 concluded that the failure of a major reinsurer, representing 20% of the global market, would expose primary property/casualty insurers to losses of only 2 to 2.5% of global non-life premiums.²⁴⁹ This conclusion was driven by the fact that only 11% of such premiums are ceded to reinsurer world-wide. Meanwhile, the report speculated that any shortage of reinsurance would likely be short lived given low market entry barriers and the capacity of remaining reinsurers to make up lost capacity.²⁵⁰ Second, a more recent, post-financial-crisis, analysis similarly concluded that the failure of a major reinsurer would not have a massive impact on primary insurers, resulting in only a small number of primary carriers (approximately 30) experiencing their own rating downgrades.²⁵¹

These simulations, however, do not establish that reinsurance cannot contribute to or cause systemic risk. Both simulations model the impact on primary insurers of an exogenous shock on reinsurers. But, of course, insurer and reinsurer results are deeply correlated: both insurers and reinsurers are impacted by underwriting cycles, financial market conditions, and catastrophic losses. Thus, any instability to insurers arising from reinsurance counterparty risk would almost certainly be paired with other sources of stress to insurers. Additionally, both simulations implicitly assume that instability at one reinsurer would not be correlated with instability of other reinsurers. This too may not be a realistic assumption: even ignoring that reinsurers rely on similar risk models and are exposed to similar catastrophe risks and market conditions,²⁵² the industry is subject to the prospect of correlated instability among reinsurers due to the prospect of a retrocession spiral.

Much more importantly, these analyses assess the vulnerability of the reinsurance system at a specific point in time. Our point here, and the relevant point for assessing systemic risk (at least from the perspective of designing an overarching regulatory architecture) is that the structure of the underlying system is capable of becoming systemically significant in the future. Even if earlier stress tests are correct that the reinsurance industry poses little risk to the larger insurance system, core features of the

²⁴⁸ See generally Mark Flower, et al., *Reinsurance Counterparty Credit Risks - Practical Suggestions for Pricing, Reserving and Capital Modeling*. 34th annual GIRO Convention; Understanding and Modeling Reinsurance Counterparty Risk. 8-10 (2007)

²⁴⁹ GROUP OF THIRTY, *supra* note 234, at 5.

²⁵⁰ *Id.*

²⁵¹ Park & Xie, *supra* note 231, at 23.

²⁵² Cf. Schwarcz, *Regulating Complexity*, *supra* note 172, at 227 (referencing model failure leading to a pricing panic in the CDO and ABS CDO financial markets).

structure of that industry – including its concentration, lack of consistent regulation, and second-order linkages – makes it intrinsically susceptible to the possibility of such a collapse in the future.

3. Insurers' Guarantees Against Financial Risk:

A substantial percentage of life insurers' premiums are currently attributable to products that are principally investment-oriented and that guarantee contractually specified investment returns to policyholders.²⁵³ Examples include variable annuities,²⁵⁴ fixed indexed annuities,²⁵⁵ and guaranteed investment contracts.²⁵⁶ Perhaps the most stark example of this – which illustrates how insurance products can morph into financial guarantee products – is the contingent deferred annuity, wherein an insurer guarantees that an investment vehicle chosen by the policyholder and maintained independently of the insurer (such as a 401(k) or mutual fund) will yield contractually specified payments for the remainder of the policyholder's lifetime.²⁵⁷

Insurance products incorporating investment guarantees create the prospect that prolonged and unanticipated changes in financial markets could place a substantial strain on numerous life insurance companies at the same time. For instance, as apparently occurred from 2003-2007, unanticipated low interest rates can cause substantial losses on products that contain embedded interest rate guarantees.²⁵⁸ Similarly, a sudden and prolonged decrease in equity, real estate, or bond markets could simultaneously place substantial pressure on insurers with large portfolios

²⁵³ See Insurance Information Institute, *Annuities*, III.ORG http://www.iii.org/facts_statistics/annuities.html (“Measured by premiums written, annuities are the largest life/health product line”).

²⁵⁴ For recent data on variable annuity sales, see INSURED RETIREMENT INSTITUTE, *FIXED ANNUITY SALES PUSH INDUSTRY-WIDE SALES TO HIGHEST LEVEL IN TWO YEARS 2 (2013)* (stating that total variable annuity assets topped 1.7 trillion dollars in 2013 and sales averaging over 35 billion dollars a quarter).

²⁵⁵ See *id.* for similar data on fixed annuities sales, including average quarterly sales in 2013 topping 17 billion dollars.

²⁵⁶ See *id.*

²⁵⁷ See NAIC Contingent Deferred Annuity Subgroup, Report of the CDA Subcomm. To A Comm. (Feb. 22, 2012). See also Letter from Birny Birnbaum, Exec. Director, Center for Economic Justice, to Ted Nickel, Chair, NAIC Contingent Deferred Annuity Subgroup (Oct. 8, 2012) *available at* http://www.naic.org/documents/committees_a_contingent_deferred_annuity_wg_cej_recommendations.pdf (voicing concern that adverse market conditions could result in significant financial loss for CDAs because exhaustion of holders financial assets would trigger massive simultaneous claims).

²⁵⁸ See Merrill, *supra* note 23, at 18. Of course, insurers are exposed to a variety of potential risks associated with interest rates, given the long-term nature of all life insurance products. See generally Kyal Berends, Robert McMenamin, Thanases Plestis, and Richard J. Rosen, *The sensitivity of life insurance firms to interest rate changes*, 2Q/2013, *Economic Perspectives*.

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of Contingent Deferred Annuities, Guaranteed Investment Contracts, or traditional annuities with lifetime guarantees.²⁵⁹ It is worth remembering in this context that, while recovery from the 2008 crisis has in many ways been slow, the crisis was characterized by a robust and relatively quick rebound in the value of most financial instruments, particularly equity markets.²⁶⁰ But this need not always be true: some financial market collapses are characterized by a long and sustained drop in the value of financial instruments.²⁶¹

The wide-spread failure of investment guarantees to individuals could conceivably produce broader consequences: reduced retirement savings could trigger unanticipated mortgage and credit card defaults, a sudden uptick in the need for social services, or labor market distortions as newly retired individuals attempted to re-enter the job market.²⁶²

4. Policyholder Runs and Guarantee-Fund Structure

The insurance system may also be vulnerable to policyholder runs, a risk that could well increase in the future depending on developments in insurance-policy design. In many types of insurance, insureds “only have a right to demand payment on the occurrence of a contractually specified event. This minimizes the risk of a “run” on an insurer.”²⁶³ But this is not true of many life insurance products. Life insurance and annuity products often allow policyholders to cash out their policies.²⁶⁴ For some products,

²⁵⁹ For instance, in 1991 six major life insurers, each with over \$4 billion in assets, failed as a result of their common exposures to commercial real estate and junk bonds. See Scott Harrington, *Policyholder Runs, Life Insurance Company Failures, and Insurance Solvency Regulation*, 15 REGULATION 27 (1992).

²⁶⁰ See, e.g., *id.* at 18 (noting that insurers’ securities portfolios had largely rebounded to pre-crisis levels by 2011).

²⁶¹ See Christina D. Romer, *The Nation in Depression*, 7(2) J. ECON. PERSP. 19, 29–33 for discussion of how the stock market crash and uncertainty in the value of financial products lead to drastic declines in consumer spending and were exacerbated by instability in the U.S. banking system.

²⁶² Various people have emphasized that the global financial crisis taught the financial distress of individuals can rather easily morph into financial distress for the financial system. See, e.g., FINANCIAL CRISIS INQUIRY REPORT, *supra* note 160, at 213–21 (describing how the rising default rate of individual homeowners snowballed into global financial crisis).

²⁶³ Schwarcz, *Regulating Insurance Sales*, *supra* note 20, at 1753.

²⁶⁴ Weber, *supra* note 138, at 47. For instance, in its decision designating Prudential as a SIFI, FSOC noted that “Although Prudential does not substantially depend on short-term funding, and its life insurance and annuity products are generally considered to be relatively long-term liabilities, a substantial portion of the liabilities in the U.S. general account are available for discretionary withdrawal with little or no penalty and therefore could, in practice, have characteristics of short term liabilities. Policyholders in Prudential’s separate account and international insurance business are also able to surrender policies for significant cash values on short notice.” FSOC, *supra* note 145, at 8.

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such as deferred annuities, policyholders often have the right to withdraw their funds with no penalties, at least after an initial contractually-specified period. For other products, such as whole and universal life insurance, policyholder withdrawals from cash-value accumulation typically involve the payment of penalties to the insurer. Apart from cash withdrawals, policyholders often enjoy contractual rights to take out loans against their life insurance policies, that may come along with much smaller fees and do not require forfeiting insurance coverage.

These features of many life insurance policies mean that policyholders who become concerned about their carriers' solvency may well demand withdrawals or policy loans, producing a downward spiral analogous to those found in classical bank runs—in which some bank depositors panic, converging on the bank in a “grab race” to withdraw their monies first.²⁶⁵ Although this risk is well understood, it has historically been downplayed because of the fees associated with many forms of policyholder withdrawal.²⁶⁶ But there is indeed historical precedent for a run on a life insurance company: in 1991, policyholders withdrew over \$3 billion from Executive Life in the year prior to its failure.²⁶⁷ Although this run was more a product of Executive Life's tenuous financial position than the cause of its tenuous position, it did indeed have the effect of forcing Executive Life to liquidate a substantial percentage of its portfolio.²⁶⁸

Moreover, the risk of a run on a life insurer is likely increasing. First, life-settlement companies have increasingly offered policyholders the option of selling their policies to investors for much larger sums than the surrender value (the opposite side of the insurance-backed securities market, described above).²⁶⁹ As this industry becomes more and more sophisticated and prevalent, insurers will increasingly face market

²⁶⁵ See, e.g., Jonathan R. Macey & Geoffrey P. Miller, *Bank Failures, Risk Monitoring, and the Market for Bank Control*, 88 COLUM. L. REV. 1153, 1156 (1988) (linking bank runs and depositor collective action problems).

²⁶⁶ See, e.g., Scott Harrington, *Capital Adequacy in Insurance and Reinsurance in CAPITAL ADEQUACY BEYOND Basel* 87 (Hal S. Scott ed., 2005); GUILLAUME PLANTIN AND JEAN-CHARLES ROCHET, *WHEN INSURERS GO BUST: AN ECONOMIC ANALYSIS OF THE ROLE AND DESIGN OF PRUDENTIAL REGULATION* 90-93 (2007).

²⁶⁷ See Scott Harrington, *Policyholder Runs, Life Insurance Company Failures, and Insurance Solvency Regulation*, 15 REGULATION 27 (1992).

²⁶⁸ See *id.* The failure of Executive Life was a major contributor to the states reforming their risk-based capital regime. But while the reform of the state risk-based capital regime might well limit the risk of a failure such as Executive Life, it does not alter the fundamental point that insurers can indeed be susceptible to policyholder runs when their policyholders lose confidence in their long term solvency.

²⁶⁹ See Nadine Gatzert, *The Secondary Market for Life Insurance in the United Kingdom, Germany, and the United States: Comparison and Overview* 13 RISK MGMT. & INS. REV. 279, 279 (2010).

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pressures to allow policyholders to cash out of their policies at amounts approaching their net present value.²⁷⁰ This is because insurers decidedly do not want policyholders selling their policies to investors: unlike policyholders, investors never let policies lapse when they no longer need or cannot afford coverage, which is precisely how investors make money from purchasing such policies in the first place.²⁷¹

Second, life insurers are increasingly making payouts to policyholders by issuing “retained asset accounts.” Retained asset accounts operate almost exactly like bank accounts: policyholders can withdraw their funds from these accounts at any time, with no fee, simply by using instruments that function almost identically to checks. Unlike bank accounts, however, these accounts are not backed by FDIC insurance. A recent survey by the Texas Department of Insurance of 160 life insurers found open retained asset accounts totaling \$2.3 billion simply with respect to policyholders living in Texas.²⁷²

One objection to the prospect that life insurers could be subject to a run by policyholders is that many life insurers contractually maintain the right to delay payouts on policies with immediate withdrawal benefits. But as FSOC emphasized in rejecting this argument in the context of designating Prudential as a SIFI, “the company could have strong disincentives to invoke” a contractual withdrawal right “because of the negative signal invoking such a deferral could provide to counterparties, investors, and policyholders.”²⁷³ This rationale, of course, applies just as much to any other insurer as it applies to Prudential.

While there is limited historical evidence of policyholder runs at one insurer triggering defaults at other insurers, the existence of state-by-state, rather than federal, guarantees of policyholder payment increases the risk that a run on one institution could cause runs at other institutions. This is because state-guarantee funds are much less reliable and complete than FDIC insurance.²⁷⁴ State-guarantee funds are not generally pre-funded, they limit payouts to amounts that are often well below the face value of insurance policies, they are subject to a per-claimant limit, and they are not (explicitly) backed by the federal government.²⁷⁵ Moreover, state-guaranty funds are premised on the capacity of non-troubled insurers to

²⁷⁰ See *id.* at 296.

²⁷¹ See Eryn Matthews, *STOLI on the Rocks: Why States Should Eliminate the Abusive Practice of Stranger-Owned Life Insurance*, 14 CONN. INS. L. J. 521, 530 (2007).

²⁷² See TEXAS DEPARTMENT OF INSURANCE, RETAINED ASSET ACCOUNTS SURVEY (2011), available at <http://www.tdi.texas.gov/reports/life/documents/raareport.pdf>

²⁷³ FSOC, *supra* note 145, at 2.

²⁷⁴ See Martin F. Grace & Hal S. Scott, *An Optional Federal Charter for Insurance: Rationale and Design*, in THE FUTURE OF INSURANCE REGULATION IN THE UNITED STATES 55, 90 (Martin F. Grace & Robert W. Klein eds., 2009).

²⁷⁵ See *id.*

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cover the obligations of failing insurers.²⁷⁶ As such, their capacity to handle several major insolvencies concurrently is highly doubtful. Indeed, attempting to force surviving carriers to shoulder the burden created by several large insolvencies could actually endanger the health of otherwise solvent insurers, thus generating a downward spiral in insurance markets.

5. Systematic Errors in Life Insurers Reserves

Perhaps the most common reason that individual insurers fail is that they set aside an insufficient amount of money to pay for future claims.²⁷⁷ Such errors in setting policyholder reserves are common in insurance, simply because it is often difficult to predict the frequency and magnitude of future claims.²⁷⁸ This is particularly true for insurance policies where there is a substantial gap of time between the purchase of the policy (when an insurer must set reserves) and the ultimate payout of a claim. Insurers that are experiencing financial difficulty are particularly likely to under-reserve in an attempt to mask the degree of their troubles.²⁷⁹

Much more troublingly from a systemic risk perspective, under reserving and underpricing of risk have become repeated and industry-wide phenomena in property/casualty insurance markets.²⁸⁰ Indeed, property/casualty markets are generally characterized by oscillation between “hard markets” – when coverage is relatively scarce and unavailable – and “soft markets” – when coverage is relatively cheap and available. Even apart from these cyclical patterns in reserving, liability insurers have frequently underestimated reserves due to their failure to anticipate increases in liability exposure resulting from medical malpractice, asbestos and pollution remediation expenses.²⁸¹ Similarly, long-term care insurers substantially underestimated their loss reserves in the 1990s by failing to fully account for large increases in long-term care

²⁷⁶ *Id.*

²⁷⁷ PLANTIN & ROCHET, *supra* note 266; Cummins & Weiss, *supra* note 20, at 36 Table 6 (attributing 29% of life insurer insolvencies and 42% of P&C insurer insolvencies to inadequate pricing/deficient loss reserves).

²⁷⁸ See Martin F. Grace & J. Tyler Leverty, *Property–Liability Insurer Reserve Error: Motive, Manipulation, or Mistake*, 79(2) J. RISK AND INS. 351, 353 (2012)

²⁷⁹ See *id.* at 353, 361–63

²⁸⁰ See Financial Research Advisory Committee Research Subcommittee, *OFR Study on the Insurance Sector Recommendation*, available at <http://www.treasury.gov/initiatives/ofr/about/Documents/FRAC%20Research%20OFR%20Study%20on%20the%20Insurance%20Sector%20Recommendation.pdf>

²⁸¹ See, e.g., KENNETH S. ABRAHAM, *THE LIABILITY CENTURY: INSURANCE AND TORT LAW FROM THE PROGRESSIVE ERA TO 9/11* 126, 156–62 (2008) (explaining how legal and social changes throughout the second half of the 19th century led to new and unexpected forms of insurer exposure in these sectors); L. Lee Colquitt, *The Impact of Asbestos and Environmental Reserves Increases on Shareholder Wealth* 10(3) N. AM. ACTUARIAL J. 17 (2006) (“[M]ost analysts agree that U.S. insurers are underreserved for asbestos and environmental liability”).

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expenses as well as the effects of an aging population.²⁸² These types of systematic errors in reserving have had large consequences for the availability and structure of future insurance coverage.²⁸³ But their common reoccurrence is not surprising: competition among carriers for business can lead to overly optimistic estimates of long-term liabilities, particularly when the managers of companies who ultimately control these figures have a strong incentive to focus on short-term results.²⁸⁴

In the past, systematic errors in reserving have been limited in the life insurance domain, because life insurers have historically faced rigid and conservative reserving rules for life insurance and annuity products.²⁸⁵ The strictness of these rules is due in part to the extremely long time horizons between the purchase of coverage and the payout of a claim for these products, which creates potentially outsized risks of reserve errors. However, two recent, and related, developments suggest that this long-standing history of conservative reserving in life insurance may not extend into the future.

First, in the last decade or so, life insurers have increasingly used captive insurance companies to escape regulatory rules governing reserve setting, a process that some have referred to as “shadow insurance.”²⁸⁶ Traditionally, captive insurers were simply a way for a traditional non-insurance company, such as Coca Cola or GM, to self-insure its risks rather than purchase conventional insurance.²⁸⁷ From this perspective, it

²⁸² See SCOR GLOBAL LIFE, FOCUS 2012: LONG TERM CARE INSURANCE 16–19 available at http://www.scor.com/images/stories/pdf/library/focus/LIFE_Focus%20LTC%20EN%2010-2012.pdf.

²⁸³ See, e.g., *id.* (explaining the response of long term care insurers to raise prices and lower coverage); TOM BAKER, MEDICAL MALPRACTICE MYTH (2005) (explaining the relationship between the liability insurance crisis and errors in insurers’ loss reserves).

²⁸⁴ See UNITED STATES INTERNATIONAL TRADE COMMISSION, PROPERTY AND CASUALTY INSURANCE SERVICES: COMPETITIVE CONDITIONS IN FOREIGN MARKETS 2-13 (2009) (describing the insurance market cycle between “soft” and “hard” years).

²⁸⁵ See Steven D. Lash & Rebecca Kao Wang, *Demystifying Life Insurance Securitization: XXX and AXXX Securitization Issues and Considerations*, 61 FIN. REP. 18, 18–19 (2005).

²⁸⁶ Mary Williams Walsh & Louise Story, *Seeking Business, States Loosen Insurance Rules*, N.Y. TIMES, May 8, 2011, at A1. See Ralph S.J. Koijen and Motohiro Yogo, *Shadow Insurance* (NBER Working Paper No. 19568, 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2320921. Shadow Insurance may also have the effect of increasing the interconnections between the insurance industry and the banking industry. See Part II.A, *supra* (discussing banks as guarantors of insurers).

²⁸⁷ See NAIC Captives and Special Purpose Vehicle Use Subgroup, *Captives and Special Purpose Vehicles* 16 (NAIC White Paper, 2012) available at http://www.naic.org/documents/committees_e_cspv_sg_2012_fall_nm_materials.pdf (emphasizing the risk to policyholders of this practice, because insurers use it to avoid statutory accounting rules.) Although this draft has been approved by the

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makes little sense for an insurer to set up its own captive. But life insurers realized that they could exploit the rules governing captive insurers to avoid what they deemed to be “excessive” reserve requirements.²⁸⁸ To do this, the life insurer transfers some of its risk to the captive insurer via a reinsurance transaction.²⁸⁹ This transaction can reduce reserves because insurers do not need to reserve against risks that are transferred to reinsurers (even if they are affiliated). Meanwhile, captive insurers are subject to a much looser set of solvency rules than ordinary insurers and can generally choose their regulator among any of the states.²⁹⁰ According to the New York Attorney General, “shadow insurance ... puts the stability of the broader financial system at greater risk.”²⁹¹ Indeed, one recent estimate concludes that “shadow insurance reduces risk-based capital by 53 percentage points (or 3 rating notches) and raises impairment probabilities by a factor of four.”²⁹²

Second, state insurance regulation is currently embarking on a fundamental change to the rules governing the setting of life insurers’ reserves. Rather than requiring a relatively mechanical and conservative

Captives and Special Purpose Vehicle Use (E) Subgroup of the Financial Condition (E) Committee of the NAIC, it is still under review (and has not yet been approved) by that full committee.

²⁸⁸ See NY DEP’T OF FIN. SERV., *SHINING A LIGHT ON SHADOW INSURANCE* 4–5 (June 2013).

²⁸⁹ Koijen & Yogo, *supra* note 286, at 2.

²⁹⁰ See NAIC, *Captive and Special Purpose Vehicles*, *supra* note 287, at 21. A survey of all fifty states conducted by the Captives and Special Purpose Vehicle Use (E) Subgroup of the Financial Condition (E) Committee of the NAIC revealed that the differences in solvency standards for captives as compared to a commercial insurer include no statutory deposit requirements, lower minimum capital and surplus requirements, not subject to RBC requirements, and a lack of mandatory examination. See NAT’L ASS’N INS. COMM’R., *CAPTIVES & SPV USE (E) SUBGROUP: CALL FOR COMMENT – SURVEY RESULTS* (Mar. 2012), available at http://www.naic.org/documents/committees_e_cspv_sg_related_docs_survey_result_s_march_2012.pdf [hereinafter NAIC Survey]. See also Robert Stein, *Time for an Overhaul of State-Based Regulation*, in *BEST’S REVIEW* 93 (Jul. 2009) (“I have watched with bewilderment the establishment of stringent reserve and capital requirements, only to see regulatory endorsement of the use of offshore and onshore captives to avoid those standards. Some states’ recent actions go even further, by apparently eliminating collateral requirements for reinsured reserves.”).

²⁹¹ See Benjamin M. Lawsky, N.Y. Superintendent of Fin. Serv., Remarks at the 22nd Annual Hyman P. Minsky Conference on the State of the U.S. and World Economies in New York City (April 18, 2013) available at http://www.dfs.ny.gov/about/speeches_testimony/sp130418.htm (emphasizing that shadow insurance “could leave insurance companies less able to deal with losses” because such insurance “does not actually transfer the risk for those insurance policies off the parent company’s books, because in many instances, the parent company is ultimately still on the hook for paying claims if the [captive’s] weaker reserves are exhausted”).

²⁹² See Ralph S.J. Koijen and Motohiro Yogo, *Shadow Insurance* (NBER Working Paper No. 19568, (2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2320921).

approach to this exercise, states are organizing through the NAIC to implement a process of principles-based reserving (“PBR”), which would grant insurers substantial discretion to set their own reserves based on internal models of their future exposures.²⁹³ The role of regulators in this regime would be to oversee insurers’ processes for setting reserves and ensure that they comply with broad high-level principles. But as FIO’s recent report warned, “State regulators require significant additional technical expertise or resources to properly evaluate the rigor and quality of idiosyncratic reserve models that vary among firms within a heterogeneous insurance industry.”²⁹⁴ Given the extensively documented inability of federal regulators to fully understand and vet the internal models of financial firms prior to the crisis,²⁹⁵ it is unclear whether states will be able to effectively constrain firms’ reserving decisions in this new regime.

These developments raise the possibility that a large segment of life insurers could face substantial financial instability due to systematic reserve errors across the industry. Changes in both regulatory rules and regulatory arbitrage “technology” have caused or will cause fundamental shifts in the way that most life insurers account for their central liabilities. Yet as noted above, life insurers potentially face strong incentives to under-serve as a result of the long-term nature of their liabilities and the short-term orientation of management²⁹⁶ and shareholders (at least in the case of insurers organized as corporations).²⁹⁷ Although persistent under-reserving would only gradually weaken insurers, public recognition that many insurers have systematically under-served for years and are consequently insolvent could well be swift and dramatic.

III. Regulatory Implications: Empowering FIO to Regulate Systemic Risk In Insurance Resulting From Correlations Among Firms

As described in Part I, the current U.S. insurance regulatory regime delegates virtually all responsibility for regulating the business of insurance (outside of health) to the states. Only a small handful of insurance companies – currently numbering two – that are deemed individually “systemically important” receive an additional layer of regulatory scrutiny at the federal level. Part II, however, argues that entire

²⁹³ See generally Weber, *supra* note 138.

²⁹⁴ FEDERAL INSURANCE OFFICE, *supra* note 57, at 36.

²⁹⁵ See John C. Coffee Jr. & Hilary A. Sale, *Redesigning the SEC: Does the Treasury Have a Better Idea?*, 95 VA. L. REV. 707, 741-44 (2009).

²⁹⁶ See Claire Hill & Richard Painter, *Berle’s Vision Beyond Shareholder Interests: Why Investment Bankers Should Have (Some) Personal Liability*, 33 SEATTLE U. L. REV. 1173, 1173-99 (2010) (discussing conflicts between short term interests of investment bankers and long term stability).

²⁹⁷ See generally Henry Hansmann, *The Organization of Insurance Companies: Mutual Versus Stock*, 1 J. LAW, ECON. & ORG. 125 (1985).

segments of the insurance industry may pose systemic risks to the larger financial system due to correlations in individual insurers' investment activities, underwriting exposures, and risk-management techniques, among others. The logical implication of these two Parts is that the federal government currently delegates to the states virtually exclusive responsibility for regulating entire segments of a sector of the financial system that can contribute to systemic risk.

This Part begins by arguing that this is a deep mistake in regulatory architecture. Because systemic risk is, by definition, nationally and internationally significant, it must be regulated – at least in part – at these levels of governance. Ensconcing insurance regulation at the state level frustrates regulation at both of these levels of governance. For this reason, this Part argues that a federal regulator should play a more robust role in overseeing the insurance industry in conjunction with the states. Subpart B describes one potential option for accomplishing this: empowering the Federal Insurance Office²⁹⁸ to preempt state law and potentially even conduct its own regulatory activities. To ensure that FIO exercises this authority judiciously, the Article suggests that any proposals by FIO to intervene in state insurance regulation to reduce systemic risk would need to be pre-approved by FSOC.

A. State Insurance Regulation and Systemic Risk

State insurance regulation is poorly equipped to address systemic risk in insurance, for at least two fundamental reasons. The first – and more important – involves a central tenet of federalism, which has been labeled the “internalization principle”²⁹⁹: regulatory responsibilities should generally be assigned – at least in part³⁰⁰ – to the unit of government that best internalizes the full costs of the underlying regulated activity.³⁰¹ Thus, the federal government should play an important part in the

²⁹⁸ A future draft of this Article will compare empowering FIO, which currently exists as an insurance-monitoring body within the U.S. Department of the Treasury, with possibly creating a more independent federal insurance regulator for this purpose. Although the latter could face more political opposition, that should be balanced against the benefits of an independent, and therefore nonpartisan, federal insurance regulator.

²⁹⁹ See Robert D. Cooter & Neil S. Siegel, *Collective Action Federalism: A General Theory of Article I, Section 8*, 63 STAN. L. REV. 115, 137 (2010); Clayton P. Gillette, *Who Should Authorize a Commuter Tax?*, 77 U. CHI. L. REV. 223, 226 (2010).

³⁰⁰ Although this caveat is not always included within the “internalization principle,” it can be explained by the significant literature on cooperative federalism and the like, which shows that, in some cases, cooperation among different levels of government can produce benefits such as decreasing regulatory capture or better accommodating local tastes and preferences. See generally Amanda Rose, *State Enforcement of National Policy: A Contextual Approach (with Evidence from the Securities Realm)*, 97 MINN L. REV. 1343 (2013).

³⁰¹ This principle dates back to WALLACE E. OATES, *FISCAL FEDERALISM* (1972).

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regulation of pollution that crosses state boundaries, such as air and water pollution. By contrast, individual states should generally regulate potential pollution whose harmful effects would be entirely confined within their boundaries. The rationale for this principle is that government entities will only have optimal incentives to take into account the full costs and benefits of their regulatory decisions if the impacts of those decisions are felt entirely within their jurisdictions.³⁰² Delegating sole regulatory responsibilities to states over activities that produce negative externalities nationally or internationally will generally lead to under-regulation of those externalities.³⁰³

Because systemic risk in insurance is a negative externality whose effects are felt nationally and internationally, the internalization principle suggests that insurance should be regulated – at least in part – by national and international regulatory bodies. At root, systemic risk in insurance – like all systemic risk – is simply one particular type of negative externality that can arise from the activities of individual insurers: insurers enjoy all the profits attributable to providing coverage in the absence of a financial crisis, but many of the costs of a financial crisis are borne by society at large in the form of diminished macro-economic activity.³⁰⁴ For this reason, state insurance regulators will predictably have insufficient incentives to appropriately regulate activities in insurance markets that can generate systemic risk: whereas the costs of such regulation are predominantly felt locally – in the form of increased premiums for consumers, decreased profits for insurers,³⁰⁵ and decreased premium taxes for state governments³⁰⁶ – the benefits are enjoyed by a diffuse set of national and international actors to whom local lawmakers are not accountable.

The mismatch between the national and international consequences of systemic risk in insurance and the state regulation of insurance is potentially even worse than this straightforward application of the internalization principle might suggest. As described in Part II, one of the important potential drivers of systemic risk in insurance is solvency-based

³⁰² *See id.*

³⁰³ As Cooter and Siegel note, in a world with zero transactions costs, states could theoretically coordinate with one another to address this type of problem. But because transactions costs with respect to devising such regulation are generally quite high, this type of coordination is practically a limited solution. *See Cooter & Siegel, supra* note 299, at 139-144.

³⁰⁴ *See generally* Steven L. Schwarcz, *Markets, Systemic Risk, and the Subprime Mortgage Crisis*, 61 SMU L. REV. 209, 212-213 (2008).

³⁰⁵ Most regulation, of course, comes along with costs that are borne by consumers and firms.

³⁰⁶ States generate substantial amounts of revenue from premium taxes. *See* Spencer L. Kimball & Ronald N. Boyce, *The Adequacy of State Insurance Rate Regulation: The McCarran-Ferguson Act in Historical Perspective*, 56 MICH. L. REV. 545, 554 (1958) (emphasizing the importance of premium taxes to states).

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regulation that is designed to ensure that insurers can pay policyholders when their claims come due.³⁰⁷ Indeed, it was precisely this type of regulation that caused insurers both to increase their holdings of mortgage-backed securities and then to sell them en masse at the first sign of trouble.³⁰⁸ As a result, state-based regulation to protect consumers from less than full payment stemming from insolvencies may ironically exacerbate systemic risk.³⁰⁹ Here, as suggested by the internalization principle, state regulators will tend to favor regulation that protects consumers within their state even if such regulation has the side effect of exacerbating systemic risk. But this type of conflict has the particularly insidious feature that it may be hard to identify, given the counterintuitive way in which state regulation favors the interests of local constituents over national interests.

All of this suggests that national and international regulatory bodies should be significantly involved in regulating activities that generate systemic risk in insurance. Indeed, in recent decades, the need for such national and international regulation of financial activities that can produce systemic risk has been widely acknowledged. Thus, the last century has seen a gradual nationalization of regulation in both the banking and securities domains, particularly with respect to issues involving prudential regulation and systemic risk rather than consumer protection.³¹⁰ Similarly, it has seen the increasing importance of international norm-setting bodies such as the Basel Committee and IOSCO.³¹¹

Enhancing federal regulation of systemic risk in insurance should promote greater international coordination of systemic risk and insurance.

³⁰⁷ See Part II.A, *supra*.

³⁰⁸ *Id.*

³⁰⁹ The notion that financial regulation may exacerbate systemic risk has been explored elsewhere. See Whitehead, *supra* note 17; Romano, *supra* note 17.

³¹⁰ See Christopher J. Brummer, *How International Financial Law Works (And How It Doesn't)*, 99 GEO. L.J. 257 (2011). See also Benn Steil, *Regulatory Foundations for Global Capital Markets*, in FINANCE AND THE INTERNATIONAL ECONOMY 66 (Richard O'Brien ed., 1992) ("Since any systemic effects of inadequate or misguided regulation in one jurisdiction cannot be contained within that single jurisdiction, the imposition of universal standards or modes of operation is likely to be the only effective response."). The more prominent role of states in regulating consumer protection in banking and securities regulation is roughly consistent with the internalization principle, as many consumer protection issues are felt predominantly within states. Moreover, allowing state to retain some authority over consumer protection issues, concurrently with the federal government, can serve other goals, such as reducing regulatory capture. See Amy Widman & Prentiss Cox, *State Attorneys General's Use of Concurrent Public Enforcement Authority in Federal Consumer Protection Laws*, 33 CARDOZO L. REV. 53, 53 (2011).

³¹¹ See David Zaring, *Finding Legal Principle in Global Financial Regulation*, 52 VA. J. INT'L L. 685 (2012).

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Currently, the International Association of Insurance Supervisors (“IAIS”) generates “soft law” on insurance regulation generally, and on the regulation of systemic risk in insurance in particular.³¹² These white papers, principles, and frameworks do not directly bind countries, but nonetheless play an important role in the development of insurance regulation globally.³¹³ Not surprisingly, however, the state-based framework for insurance regulation in the U.S. has made American participation in this process immensely complicated.³¹⁴ Although Dodd-Frank partially addressed this issue by empowering FIO to represent American interests internationally,³¹⁵ this approach faces the obvious and important limitation that FIO itself has no actual regulatory authority over the insurance industry.³¹⁶ As such, FIO’s subscription to international norms in the IAIS has limited influence on individual states, which have often resisted developments at the IAIS relevant to the regulation of systemic risk in insurance.³¹⁷

Aside from the internalization principle, a second fundamental reason that state regulation is poorly equipped to address systemic risk in insurance is that state regulators lack the necessary expertise and perspective. As described above, systemic risk in insurance arises in large part because of the pervasive and ever-changing nature of the inter-connections between the insurance industry and the rest of the financial system.³¹⁸ But state regulators have very limited expertise or oversight over any part of the financial system other than insurance. Virtually all securities regulation at the state level is focused on fraudulent sales to

³¹² See generally INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS, INSURANCE CORE PRINCIPLES, STANDARDS, GUIDANCE AND ASSESSMENT METHODOLOGY, October 2011 (revised October 2013); INTERNATIONAL ASSOCIATION OF INSURANCE SUPERVISORS, 2013 DRAFT COMFRAME. On soft law generally, see CHRIS BRUMMER, SOFT LAW AND THE GLOBAL FINANCIAL SYSTEM (2012).

³¹³ See generally Brumer, *supra* note 310.

³¹⁴ See generally Elizabeth F. Brown, *The Development of International Norms for Insurance Regulation*, 34 BROOK. J. INT’L L. 953, 984 (2009); Elizabeth Brown, *Will the Federal Insurance Office Improve Insurance Regulation*, 81 U. CIN. L. REV. 551, 576 (2012); FINANCIAL STABILITY BOARD, PEER REVIEW OF THE UNITED STATES 10 (August 27, 2013), [available at](http://www.financialstabilityboard.org/publications/r_130827.pdf) http://www.financialstabilityboard.org/publications/r_130827.pdf (“While the FIO represents the US on international insurance matters and negotiates covered agreements, only the states have the authority (but are under no legal obligation) to implement laws that are consistent with those agreements and international standards agreed within the IAIS.”).

³¹⁵ See Part I.C, *supra*.

³¹⁶ Brown, *Will the Federal Insurance Office Improve Insurance Regulation*, *supra* note 314, at 582 (noting the limitations of FIO in participating in international developments at IAIS because FIO is not itself a regulator).

³¹⁷ See, e.g., Elizabeth Festa, *NAIC says international capital standards won't replace state RBC regime*, LIFEHEALTHPRO (Dec. 15, 2013).

³¹⁸ See Part II, *supra*.

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consumers or on relatively small offerings.³¹⁹ And while state banking regulation is more robust at the state level than securities regulation, it focuses predominantly on consumer protection and on the regulation of smaller, community banks.³²⁰ Moreover, state banking regulation operates in conjunction with, and subject to the oversight of, a large number of federal banking regulators, including the FDIC, the Fed, and the CFPB.³²¹ Similarly, after Dodd-Frank, virtually all regulation of the “shadow banking system” occurs at the federal level.³²² In sum, the vast majority of regulatory expertise on (non-insurance) financial regulation is located at the federal, rather than the state, level.

To be sure, state insurance regulators can, in theory, attempt to coordinate with federal financial regulators to the extent necessary to regulate issues surrounding systemic risk. But even apart from the internationalization principle, these efforts are often unproductive and fraught with posturing and politics.³²³ In large part this is because state insurance regulators are often so pre-occupied with maintaining their tenuous grip on authority that they reflexively resist federal involvement in insurance matters, even when it comes from non-insurance federal regulators.³²⁴ Additionally, such coordination is substantially impeded by the fifty-plus different insurance jurisdictions, each of which may be represented by commissioners who themselves have very different views about regulation generally, and about the prospect of systemic risk in insurance, in particular.³²⁵

Not only do state insurance regulators have limited knowledge or expertise about non-insurance financial markets, but they often have limited perspective about potential system-wide risk within insurance markets themselves. State insurance regulation in the United States is conducted almost exclusively on a legal entity basis, meaning that insurance regulators focus the bulk of their regulatory scrutiny on individual insurance companies.³²⁶ By contrast, they do not focus

³¹⁹ See generally JAMES D. COX, ROBERT W. HILLMAN, & DONALD C. LANGEVOORT, *SECURITIES REGULATION: CASES AND MATERIALS* 14-15 (5th Ed. 2006).

³²⁰ See generally CARNELL ET AL., *supra* note 60, at 85-105.

³²¹ *Id.*

³²² See Steven L. Schwarcz, *Regulating Shadow Banking: Inaugural Address for the Inaugural Symposium of the Review of Banking & Financial Law*, 31 *REV. BANKING & FIN. L.* 619, 626-27 (2012).

³²³ See generally KENNETH MEIER, *THE POLITICAL ECONOMY OF REGULATION: THE CASE OF INSURANCE* (1988).

³²⁴ See Daniel Schwarcz, *Transparently Opaque: Understanding the Lack of Transparency in Insurance Consumer Protection*, 61 *UCLA L. REV.* 394, 457-59 (2014).

³²⁵ See generally FEDERAL INSURANCE OFFICE, *supra* note 57 (describing lack of uniformity in state insurance regulation across a number of different dimensions arising from disagreements among states regarding regulatory priorities)

³²⁶ See NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS, *THE UNITED STATES INSURANCE SOLVENCY FRAMEWORK* 2-3 (2010) (describing the accreditation program

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extensive attention on insurance holding companies – the companies that own (often many) insurance companies, as well as other types of financial and non-financial companies.³²⁷ Insurance regulators do not even require aggregate financial reporting at the holding company level, much less regulate core financial measures at the holding company level, such as capital levels.³²⁸ This approach to financial regulation is intimately bound up with the state-based nature of insurance regulation: insurance holding companies operate in numerous different jurisdictions through numerous different subsidiaries, making state coordination with respect to such holding companies much more complicated than state coordination with respect to individual insurers.³²⁹

States' limited perspective on the operations of insurance holding companies means that insurance regulators are inherently more likely to overlook the potential for systemic risk to emerge within the insurance system. Supervisors of individual entities within a financial conglomerate naturally lack a complete and coherent understanding of the business and risks associated with the conglomerate as a whole.³³⁰ Risk-management, investment strategies, reserving strategies, and the like are all generally determined not by the managers or directors of individual legal entities,

and deference by insurance regulators to the solvency regulation of an insurer's domestic state). This approach is combined with rules that attempt to ensure the ring-fencing of individual insurance companies from the risks of their affiliates. Ring-fencing can be understood as legally deconstructing a firm in order to more optimally reallocate and reduce risk. The deconstruction can occur in various ways: by separating risky assets from the firm; by preventing the firm itself from engaging in risky activities or investing in risky assets; or by protecting the firm from affiliate and bankruptcy/insolvency risks. Steven L. Schwarcz, *Ring-Fencing*, 87 S. CAL. L. REV. issue no. 1 (forthcoming Nov. 2013).

³²⁷ To be sure, state insurance regulators have recently increased their efforts to understand risks at the holding company level. First, they have increased their ability to access information about activities within the group and are afforded rights of inspection. Kris De Frain, *Insurance Group Supervision*, CIPR NEWSLETTER (NAIC & CIPR), Apr. 2012, available at http://www.naic.org/cipr_newsletter_archive/vol3_ins_group_supervision.htm Second, they are in the process of adopting a qualitative risk-management report, entitled the Own Risk Solvency Assessment, that would be compiled at the holding company level. See National Association of Insurance Commissioners, *Own Risk and Solvency Assessment*, available at http://www.naic.org/cipr_topics/topic_own_risk_solvency_assessment.htm

³²⁸ See *id.*

³²⁹ To be sure, states do attempt to coordinate their regulation of insurance groups through supervisory colleges and the designation of lead regulators. Although valuable, these mechanisms largely act as periodic “check ins” among the regulators of the individual insurance companies within the insurance group, rather than a sustained attempt to regulate the holding company.

³³⁰ CAMERON HALF, *EVOLVING TRENDS IN THE SUPERVISION OF FINANCIAL CONGLOMERATES* 18 (2002).

but instead by the managers and directors of the holding company.³³¹ Because their regulation is not focused on the holding company, state insurance regulators risk failing to appreciate patterns in these potential pre-cursors to systemic risk. All of this is well illustrated by AIG: because insurance regulators focused attention on individual insurers within AIG, they missed the fact that an AIG non-insurer affiliate was using insurers' assets to support risky securities lending operations.³³²

B. One Option for Enhancing Federal Involvement in State Insurance Regulation: Expanding FIO's Authority

The federal role in insurance regulation has been a perennial subject of debate for over half a century. Numerous proposals having been advanced by academics and policymakers to partially or entirely federalize insurance, and some of these have found their way into proposed legislation.³³³ In most cases, these proposals to enhance federal authority over insurance regulation are principally motivated by the perceived inefficiencies of state regulation, which tends to result in decreased uniformity of regulatory rules and increased compliance costs for insurers.³³⁴ By contrast, this Article suggests that direct federal involvement in insurance regulation is necessary to address the potential that systemic risk in insurance might arise within entire sectors of the insurance industry.

One potentially sensible way to respond to this risk would be to enhance the capacity of FIO to shape insurance regulation in cases where it has credibly determined that doing so is necessary to help monitor, manage, or prevent systemic risk in insurance. FIO is relatively well situated to take on this role for the very reasons that states are not. First, FIO is politically accountable to a federal constituency: the President appoints the Director of FIO, and FIO itself is housed within the Department of the Treasury.³³⁵ For these reasons, the internalization

³³¹ See Elizabeth F. Brown, *The New Laws and Regulations for Financial Conglomerates: Will They Better Manage the Risks than the Previous Ones?*, 60 AM. U. L. REV. 1339, 1357 (2011). Entity-based regulation also has had a propensity to lead to other problems including double or multiple gearing, contagion risk, concentration risk, conflicts of interest, and intra-group exposure. BANK FOR INT'L SETTLEMENTS, PRINCIPLES FOR THE SUPERVISION OF FINANCIAL CONGLOMERATES CONSULTATIVE DOCUMENT 15 (2011).

³³² See Part I.B, *supra*.

³³³ See generally Schwarcz, *supra* note 20, at 1720-24.

³³⁴ See, e.g., Henry N. Butler & Larry E. Ribstein, *The Single-License Solution*, REG., Winter 2008, at 36, 36-38. OPTIONAL FEDERAL CHARTERING AND REGULATION OF INSURANCE COMPANIES (Peter J. Wallison ed., 2000); THE FUTURE OF INSURANCE REGULATION IN THE UNITED STATES, 13-51, 117-43 (Martin F. Grace & Robert W. Klein eds., 2009)

³³⁵ Dodd-Frank Sec. 502(a), § 313(a), 124 Stat. at 1580 (codified at 31 U.S.C.A. § 313(a)).

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principle suggests that FIO would better internalize the potential costs and benefits of regulations that attempt to target the prospect of systemic risk in insurance.³³⁶ Additionally, as noted earlier, Dodd-Frank envisions FIO as the primary representative of the country's interests in international discussions of insurance regulation in fora such as the IAIS.³³⁷ Elevating the role of FIO to address the prospect of systemic risk in insurance – something that the international community has expressly endorsed in its own “peer review” of US insurance regulation³³⁸ – would help support the development of international norms and coordination on regulating systemic risk and insurance, consistent with the internationalization principle and the international ramifications of systemic risk.

Second, FIO's current structure and statutory responsibilities give it a good deal of expertise in systemic risk. Under Dodd-Frank, FIO's director is a non-voting member of FSOC, meaning that he and his staff are actively involved in thinking about systemic risk in insurance.³³⁹ Indeed, the first statutory goal of FIO is to monitor the insurance industry and its regulation for potential systemic risk.³⁴⁰ FIO's placement in the Department of the Treasury means that it can draw on the expertise and perspective of various different federal agencies and departments that regulate financial affairs.³⁴¹ So too can it draw on the views of a variety of experts, through a Federal Advisory Council on Insurance that advises FIO.³⁴²

There are various potential approaches to allowing FIO to take on an enhanced role in shaping state insurance regulation to monitor and account for systemic risk.³⁴³ Perhaps the most sensible is to empower FIO to develop federal standards that would then preempt state laws if they were not adequately implemented by the states.³⁴⁴ This type of power

³³⁶ See Part III.A, *supra*.

³³⁷ Dodd-Frank Sec. 502(a), § 313(a), 124 Stat. at 1580 (codified at 31 U.S.C.A. § 313(a)).

³³⁸ FINANCIAL STABILITY BOARD, PEER REVIEW OF THE UNITED STATES 11-12 (August 27, 2013), *available at* http://www.financialstabilityboard.org/publications/r_130827.pdf (“The FIO should enhance its monitoring of the sector through increased use of non-public information, and be further strengthened to be able to take action to address issues and gaps identified.”).

³³⁹ Dodd-Frank Sec. 502(a), § 313(a), 124 Stat. at 1580 (codified at 31 U.S.C.A. § 313(a)).

³⁴⁰ *Id.*

³⁴¹ See generally Jody Freeman, & Jim Rossi, *Agency Coordination in Shared Regulatory Space*, 125 HARV. L. REV. 1131 (2012)

³⁴² See Federal Register Volume 79, Number 6 (Thursday, January 9, 2014).

³⁴³ See FIO MODERNIZATION REPORT, *supra* note 118, at 8-10 (discussing various potential approaches to enhancing federal involvement in insurance regulation).

³⁴⁴ This proposal is described as a “state passport” system in FIO's modernization report, and was originally suggested by the Financial Services Roundtable. See *id.*

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would be most useful in allowing FIO to address systemic risks that arise due to inadequacies in the specific laws and regulations of states. For instance, FIO has suggested that “shadow insurance” poses a potential for systemic risk.³⁴⁵ One of the big problems in this domain is that carriers can choose to establish their captives in any state.³⁴⁶ This has arguably resulted in a “race to the bottom” as a few states have developed particularly lax rules for such captives regarding issues such as what types of assets can be help against liabilities.³⁴⁷ Empowering FIO to set minimum standards for captives of insurance companies could help address this risk.

As FIO’s modernization report recognizes, this approach would prove more challenging to the extent that it involved not simply the preemption of state laws, but the establishment of additional requirements for certain sectors of the insurance industry.³⁴⁸ The effectiveness of any such affirmative federal requirements would depend on the quality and uniformity of their enforcement.³⁴⁹ FIO thus suggests that this type of approach “must specify standards, processes, and a deadline in order to minimize or eliminate the prospect of variance among the states.”³⁵⁰

Another potential solution to this dilemma would be to empower FIO to take over enforcement authority in cases where state enforcement was deemed to be lacking. In many ways, this approach would resemble that embraced in Affordable Care Act, where states were permitted to establish their own insurance exchanges, but the federal government retained the authority to do this if states refused.³⁵¹ This type of solution would likely only be effective if most states generally accepted the invitation to enforce FIO-promulgated rules. FIO’s budget and resources are not designed to support an active enforcement regime.³⁵² However, state refusal to enforce federally developed standards would presumably be much less likely in this setting than in the health insurance setting.³⁵³ Healthcare reform has, of course, been immensely controversial, and states’ refusal to implement a federal regime can be almost entirely

³⁴⁵ *Id.* at 32-34 (recommending that “States should develop a uniform and transparent solvency oversight regime for the transfer of risk to reinsurance captives”).

³⁴⁶ *See* Part II.B, *supra*.

³⁴⁷ *See id.*

³⁴⁸ *See id.*

³⁴⁹ *See id.*

³⁵⁰ *See id.* at 9.

³⁵¹ *See* ACA § 1321(b), 124 Stat. at 186 (to be codified at 42 U.S.C. § 18041).

³⁵² *See* FINANCIAL STABILITY BOARD, *supra* note 338, at 20 (noting FIO’s limited resources).

³⁵³ For discussion of states’ refusal to establish their own insurance exchanges, see David K. Jones and Scott L. Greer, *State Politics and the Creation of Health Insurance Exchanges*, 103 AM. J. OF PUB. HEALTH e8 (2013).

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attributed to that fact.³⁵⁴ It is hard to imagine that a narrow increase in FIO's regulatory authority would occasion anything like this type of controversy. Moreover, a key factor in states' resistance to developing insurance exchanges was the fact that these exchanges would require the development of an entirely new state entity.³⁵⁵ By contrast, the proposal here would simply permit enforcement by an existing agency. Because states are so invested in retaining this authority, they would be unlikely to resist implementing FIO's requirements, and thus the prospect of losing their authority.

A key benefit of empowering FIO to preempt state law and promulgate its own regulations would be that it would force states to work actively and cooperatively with FIO. To this point, states have either resisted or ignored many of FIO's suggestions. For instance, states have refused to allow FIO to attend meetings of supervisory colleges – wherein regulators discuss the risks associated with entire holding companies – by arguing that FIO's involvement would not be “appropriate.”³⁵⁶ Presumably, states would take a more accommodating perspective on including FIO within supervisory colleges if FIO had clear authority to preempt state law.

To be sure, an important concern with empowering FIO as we suggest is that FIO could use this authority to unduly aggrandize its own authority. The risk of regulatory aggrandizement is a common concern in regulatory design.³⁵⁷ This risk might be heightened in a setting such as this, where FIO's authority has historically been so limited and might remain so in the absence of it using the authority contemplated herein. Additionally, FIO's limited independence and budgetary authority also raise potential difficulties that might have to be addressed in any legislative effort to enhance FIO's role in insurance regulation.

One potentially effective way to guard against this type of risk would be to require FIO to secure the approval of some percentage of voting members of FSOC before promulgating new rules that would preempt state law. In that context, FSOC might be asked to determine whether the proposed rules are truly necessary to address the legitimate

³⁵⁴ *See id.*

³⁵⁵ *See id.*

³⁵⁶ *See, e.g.,* Leonardi Testimony, *supra* note 118, available at <http://financialservices.house.gov/uploadedfiles/hhrg-113-ba04-wstate-tleonardi-20140204.pdf> (resisting various reform recommendation suggested by FIO, particularly the participation of FIO in supervisory colleges, as the “presence of a non-regulator, even as well intentioned as Treasury, would threaten the objective independence of not just state regulators, but regulators at the federal and international levels who participate in the colleges, as well”).

³⁵⁷ *See, e.g.,* Stephen J. Choi & Andrew T. Guzman, *Portable Reciprocity: Rethinking the International Reach of Securities Regulation*, 71 S. CAL. L. REV. 903, 923 (1998).

prospect of systemic risk in insurance.³⁵⁸ This might also consider the extent to which state regulators have been given a fair and reasonable opportunity to address the deficiencies in state regulation that FIO had developed. Because state insurance regulators also have their own non-voting member on FSOC,³⁵⁹ there would be limited risk that FIO would be able to present a one-sided story about the need for targeted federal intervention to address systemic risk.

Ultimately, various options other than expanding FIO's authority are available to enhance federal involvement in state insurance regulation. To take the most obvious example, the federal government might simply create an optional or mandatory federal charter for insurers. Such proposals implicate numerous issues other than systemic risk, including regulatory uniformity, international coordination, and the substantive desirability of state insurance regulation. But this Article suggests that at least one generally under-appreciated virtue of most such proposals is that they would enhance federal involvement in the regulation of insurance markets, and thus the capacity of the federal government to identify, monitor, and respond to the aggregation of systemic risk in that sector.

CONCLUSION

Although insurance companies played a central role in the 2008 financial crisis, this country's regulatory response has focused on preventing a reoccurrence of the 2008 events instead of trying to more broadly understand why and how insurers can be systemically risky. Our article argues that insurers can be systemically risky not only due to their size—which is the primary current regulatory focus, spurred by AIG's near failure—but, more significantly, due to the commonalities and correlations in insurance products, investment strategies, and risk exposure and management that interconnect insurance to the larger financial system. Moreover, we argue, these commonalities, correlations, and interconnections are constantly changing, both in response to market changes in the insurance industry and the changing role of insurance within the larger financial industry.

Systemic risk regulation therefore presents a dynamic challenge, requiring an insurance regulatory structure designed to proactively identify, assess, and manage new potential sources of systemic risk from the perspectives of the overall insurance industry and its place within the financial system. The traditional system in the United States of state-based insurance regulation cannot adequately accomplish that. The fragmented nature of state regulation often prevents regulators from seeing

³⁵⁸ This approach would resemble FSOC's current role in reviewing regulation by the CFPB that could undermine systemic stability. *See* Dodd-Frank § 5513(a).

³⁵⁹ *See* Dodd-Frank § 5321(b)(2).

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overall risks—such as the risks of an insurance holding company that operates through multiple out-of-state subsidiaries. States also have inadequate incentives to police against those risks. Their traditional goals include consumer protection and premium-tax collection, not protecting against systemically caused harm. Furthermore, state regulators are unlikely to understand the changing role of insurance within the larger financial industry; indeed, states have little regulatory authority and expertise over that larger industry because banking and securities regulation are almost entirely federally regulated.

We therefore argue that the traditional state insurance-regulatory regime should be supplemented by national regulation of systemic risk. This could occur, for example, by expanding the authority of the U.S. Treasury Department's Federal Insurance Office, originally created by the Dodd-Frank Act to have a limited monitoring role. That Office itself recently suggested the potential need for more robust federal intervention in state insurance regulation. Any expanded authority of the Federal Insurance Office, we contend, should include the power to supplement—and in appropriate cases, even to preempt—state insurance laws if and when necessary to control systemic risk. The Federal Insurance Office should be well positioned to regulate systemic risk, given its accountability to a national constituency as well as its mandate to gain a global perspective on the insurance industry.