

International Developments in the Insurance Sector: The Road to Financial Instability?

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INTERNATIONAL DEVELOPMENTS IN THE INSURANCE SECTOR: THE ROAD TO FINANCIAL INSTABILITY?

International activity related to the regulation and supervision of financial services has exploded since the global financial crisis. The crisis exposed weaknesses in the structure for regulating internationally active banks, and motivated a number of work streams aimed at strengthening standards (most notably, significant revisions to the Basel capital standard for internationally active banks, now known as Basel III). The insurance sector was also stressed by the meltdown in financial markets that occurred in 2007–2008, albeit far less than the banking sector, and, with the exception of AIG, it is generally recognized that insurers played little role in the financial crisis, and that traditional insurance activities do not pose a systemic risk to the financial system.^{1,2} Nonetheless, the insurance sector has also been targeted for a new stream of regulatory initiatives at the international level. The most important organizations with respect to these activities are the International Association of Insurance Supervisors (IAIS) and the Financial Stability Board (FSB), both based in Basel, Switzerland. The purpose of this paper is to review these developments and to highlight potential concerns for U.S. insurance markets.

International Activity in the Insurance Industry Has Increased

There is a little doubt that the nature of the insurance sector has changed dramatically over the past 25 years. Mergers and acquisitions have reduced the number of companies and increased concentration, both in the U.S. and abroad. Potential incentive conflicts between shareholders and policyholders have

¹ Harrington (2009) provides a detailed discussion of the role played by AIG in the 2007–2009 financial crisis. The Office of Thrift Supervision (OTS) was AIG’s consolidated holding company regulator, while state insurance regulators regulated AIG’s subsidiary insurance companies. When AIG faced a severe liquidity crisis, the U.S. Treasury and Federal Reserve stepped in with funding, most of which “was paid to banking and investment banking organizations, including large amounts to foreign banks, especially E.U. institutions.” Because the banks were not required to take haircuts on amounts owed to them, some observers have characterized the AIG transactions as a “back-door bank bailout.” According to federal policymakers, the Federal Reserve could not require foreign banks to take haircuts, and thus made the decision to forego haircuts on payments to U.S. banks, with the goal of treating domestic and foreign banks equally. (See, for example, Shenn et al. 2010 and Sanati 2009). State insurance regulators have stated that insurance companies had sufficient funds to pay policyholder claims, and that the bailout was not necessary to protect insurance policyholders.

² Chen et al. (2013) find that insurers are victims rather than instigators of systemic risk. Cummins and Weiss (2013) analyze the insurance industry against a number of systemic risk indicators and conclude that the core activities of insurers are not a significant source of systemic risk, but that banking functions such as derivatives trading are a potential source. IAIS (2012) concluded that insurers engaged in traditional insurance activities were largely not a concern from a systemic perspective.

increased following the wave of demutualizations in the 1990s (particularly in the life insurance sector). Over the years, the role of life insurers in asset management has exploded, as annuities and retirement savings products have eclipsed traditional life insurance protection. Capital markets have become a significant source of capital. In short, the industry has evolved significantly since the 1990s, in its geographic footprint, changing ownership structures, evolution of products and risk transfer mechanisms, and engagement in nontraditional activities.

The increasingly international nature of the insurance industry has led insurance supervisors to coordinate more with one another. The International Association of Insurance Supervisors was created in 1994, a formal recognition by supervisors that policyholders and the industry would benefit from increased cross-border regulatory cooperation, with a focus on sharing best practices and increasing coordination.³ Over the years, the IAIS developed a number of principles, standards, and guidance papers to promote effective insurance supervision. As a result of the Financial Sector Assessment Program (FSAP), the U.S. insurance regulatory system is periodically assessed for its compliance with the Core Principles for Insurance Supervision (ICPs) developed by the IAIS.

Another important body is the Financial Stability Board (FSB). Since its creation in the wake of the global financial crisis, the FSB has exercised considerable influence on IAIS work streams.⁴ While neither the FSB nor the IAIS has the ability to compel countries to adopt its recommendations, their activities motivate policies in individual countries. Moreover, as an obligation of membership, FSB members commit to implement international financial standards and agree to undergo periodic peer reviews, including under the FSAP program. U.S. members of the FSB are the U.S. Treasury, Federal Reserve Board, and SEC.

³ The IAIS was established in 1994 and represents insurance regulators from over 200 jurisdictions in nearly 140 countries. The IAIS develops international insurance principles, standards, and guidance papers and provides training and support on issues related to insurance supervision. Through the IAIS, insurance supervisors have developed a set of 26 core principles for insurance supervision, essentially laying out the critical elements of an effective regulatory system. The IAIS is governed by an Executive Committee. At the end of 2014, the executive committee had four members from the U.S. (the Federal Insurance Office and three U.S. state regulators), nine from Europe (7 EU members, Switzerland, and Guernsey), and six from the Asia-Pacific region. The remaining 8 countries came from North America (2), South America (2), the Caribbean (1), Africa (1), and the Middle East (2).

⁴ The Financial Stability Board was created in 2009 by the G-20 as a successor to the Financial Stability Forum. It is dominated by central banks, bank regulators, and ministries of finance (such as the U.S. Department of the Treasury). While some of the members represent integrated supervisors, which also supervise insurance companies, specific insurance representation is minimal, as those institutions typically send individuals with banking expertise to the meetings.

Three significant projects underway at the IAIS, in coordination with the FSB, are as follows:⁵

- **Common Framework for Insurance Supervision of Internationally Active Insurance Groups (IAIGs).** The IAIS describes this Common Framework (ComFrame) as a set of international supervisory requirements which builds and expands upon the requirements and guidance contained in the ICPs. According to the IAIS, the complexity and international activity of IAIGs create a need for a more specific framework so supervisors can better coordinate their supervisory activity under the aegis of a group-wide supervisor. A stated goal of ComFrame is to streamline the supervisory process and reduce reporting and compliance demands on IAIGs. The development of ComFrame has been underway since 2010 and is scheduled for completion in 2018.
- **International Insurance Capital Standard (ICS).** In October 2013, the IAIS announced its plan to develop a risk-based insurance capital standard (ICS) by 2016. This was in response to the FSB's request that the IAIS produce a work plan to create a "comprehensive group-wide supervisory and regulatory framework for internationally active insurance groups." According to the FSB, "(A) sound capital and supervisory framework for the insurance sector more broadly is essential for supporting financial stability." The ICS is intended to provide a "globally comparable risk-based measure of capital adequacy" for IAIGs, reflecting "all material risks to which an IAIG is exposed." It aims at "comparability of outcomes across jurisdictions," thereby contributing to a level playing field and reducing the possibility of capital arbitrage.
- **Global Systemically Important Insurers (G-SIIs).** Together with the FSB, the IAIS has developed a methodology for identifying insurance groups that pose a risk to global financial stability and is designing related policy measures to apply to those G-SIIs. To date, the FSB has identified 9 G-SIIs, including three U.S.-domiciled insurance groups (AIG, MetLife, and Prudential Financial).⁶ Designated insurers are targeted for heightened regulation and supervision to reduce the probability and impact of failure. Policy measures for G-SIIs include enhanced supervision, effective resolution (that is, winding down a troubled insurance group), and higher capital requirements (known as "higher loss absorption capacity"). The IAIS concluded the development

⁵ In addition to the three items mentioned here, the IAIS has a number of other significant work streams. These include projects related to market conduct, governance, remuneration, resolution, and cyber risk.

⁶ The FSB has also been working to develop a list of systemic reinsurers and was expected to make the list public in November 2014. However, the announcement was postponed "pending further development of the methodology." In April 2015, news sources reported on communication from the Bank of England (which chairs the FSB) to the U.S. Treasury, asking why Berkshire Hathaway was missing from the provisional list (Gray 2015).

of its Basic Capital Requirement (BCR) for G-SIIs in October 2014, announcing that it had completed “the first of several steps in its process to develop group-wide global insurance capital standards.”

The Challenges in Supervising Cross-Border Insurance Groups

The importance of group supervision—and the need for insurance supervisors around the world to increase their level of cooperation—cannot be denied. Internationally active insurance groups tend to be more complex than their purely domestic counterparts, although organizational structures vary. Some groups have risk and capital management functions that are largely centralized. Others manage their operations locally, with some level of coordination at the group level. Still others claim to hold subsidiary insurers as pure investments only, with a wholly decentralized approach to management.

Complicated organizational structures can make it difficult to see the interlinkages across parts of the group, and a problem in one part of the group can create knock-on effects in other parts of the group (as, for example, in the case of AIG).⁷ Centralized management and operational functions (such as IT) also create the potential that breakdowns in one part of the group can impact another part. Resolutions involving subsidiaries in multiple jurisdictions or where local operations are dependent on centralized systems are more complex. In short, one cannot understand the risk posed to an individual insurance company in the group without understanding its connection to the rest of the group. These are the real-world challenges that supervisors encounter.

Finally, as the case of AIG demonstrates, insurance groups may engage in activities that have interlinkages with banks and the financial markets. These activities may exist outside a regulated insurance company and be largely independent of those activities (as in the case of the AIG Financial Products activities), or they may be more closely related to the traditional insurance activities (derivatives associated with hedging activities and securities lending, for example). The AIG case has heightened concern, justified or not, that these interconnections with other parts of the financial system have the potential to pose systemic risk.

⁷ AIG’s holding company was downgraded, largely due to losses in an unregulated subsidiary. This downgrade had a spillover effect on the insurance companies within the group, particularly due to risks associated with the securities lending activities in the life insurance companies. Consequently, U.S. insurance regulators have created new tools to identify and investigate risks throughout the group, particularly their potential for contagion to the insurer.

Developing a system of group supervision for IAIGs is complicated by the vast differences among insurance markets across the world. The nature of the products, legal and regulatory environments, capital markets, and social and cultural dynamics vary based on history and geography. In some markets, the industry is highly concentrated, while in others (such as the U.S.), smaller regional insurers continue to play a critical role.⁸ The role of capital markets varies, with the U.S. generally having more robust capital markets than, for example, Europe (where financing is more bank-centric, tending to increase linkages between banks and insurers).⁹ Differences in product design lead to different reactions to a particular stress. The current low interest rate environment, for example, is negatively affecting life insurance companies, but the severity of that effect varies across jurisdictions (Moody's 2015). Cummins and Venard (2008) concede that global trends are impacting insurance markets, but they suggest that "the emphasis on globalization overlooks the local diversity of insurance markets worldwide." There remains significant heterogeneity among countries and regions and "significant local diversity." These differences stem from political, legal, and cultural dynamics and are reflected in insurer investment strategies, product design, distribution systems, and market structure.

The differences across markets also play out as differences in the culture and approach to regulation and supervision. The relative role of capital regulation, financial transparency, and risk-based supervision varies, with the U.S. insurance regulators historically emphasizing transparency and supervision more than some other jurisdictions (including Europe). The tolerance for an insurer failure may also vary, depending on the concentration in the market, the existence of well-developed tools for resolving troubled insurers, and the existence and structure of policyholder protection systems (such as state-based guaranty funds in the U.S.).¹⁰ These differences may also reflect and contribute to

⁸For example, in an exhaustive study of three non-life insurance markets (motor liability insurance, comprehensive motor insurance and home/household insurance), Europe Economics found five-firm concentration ratios in European countries to be higher generally than in the U.S. or selected individual states, and in many cases, significantly higher. Cummins et al. (2014) report the 5-firm concentration ratios for life insurance in 10 European countries in 2011. These varied from .384 in Germany to .738 in Sweden, with an overall concentration ratio of .488. According to the NAIC, the market share of the top 5 life and fraternal insurers in the U.S. was .334 in 2012.

⁹European capital markets are significantly less developed than those in the U.S. insurance sector in Europe are debt holdings in financial institutions and sovereign bonds. Europe's capital markets are roughly half as large relative to GDP as those in the United States, meaning banks play a more significant role. (The European financial markets are often described as bank-centric.) See, for example, Wright 2014. Relative to GDP, bank balance sheets are larger in Europe than in the U.S. (four times GDP vs. 80 percent of GDP in the U.S.). The smaller capital markets and increased significance of bank funding tends to increase the linkages between banks and insurers in the EU, where insurers act as a source of funding for bank lending.

¹⁰There are significant differences among markets along these dimensions. Comparing just Europe and the U.S., for example: (1) In the U.S., all states have guaranty funds for life, property-casualty, and health insurance, although limits may vary. In Europe, guaranty funds do not exist in all countries; (2) U.S. insurance regulators have

differences in the effectiveness of market discipline in promoting solvency. There is evidence, for example, that market discipline in U.S. insurance markets may be stronger than in some other markets.¹¹ This may reflect, among other things, the extensive use of subordinated debt as a source of capital in the U.S. insurance sector, the relatively well-developed structure for resolving troubled insurance companies while prioritizing policyholder interests, and the considerably greater transparency in insurer financial reporting.¹²

Differences in markets and regulation complicate the process of supervising IAIGs. When a cross-border insurance group has legal entities in multiple jurisdictions, management may structure operations to take advantage of regulatory differences, a problem known as regulatory arbitrage. One mechanism for such risk-shifting is intragroup reinsurance. This may be for legitimate diversification purposes, or it may be motivated strictly by a desire to move the business to a less stringently regulated jurisdiction. Assets may be allocated across subsidiaries to minimize regulatory requirements, and wholesale business may be written out of specific subsidiaries in response to regulatory differences. (This is less likely in the case of retail direct-to-consumer business, which tends to be highly regulated.) While local regulators can ring-fence local operations to protect local consumers, that may not be the optimal solution from an efficiency perspective, particularly where international diversification is desirable. And, finally, IAIGs may engage in unregulated activities outside the insurance entities that potentially pose systemic risk to the financial system.

The debate underway today—one that is critical to the future of regulation and the industry—is how to best supervise internationally active insurance groups, guard against regulatory arbitrage and contagion,

well-developed systems for resolving troubled insurers, including powers to take control of an insurance company and stem outflows. In Europe, there are substantial differences across countries in terms of the extent to which recovery and resolution powers are available to national authorities (European Insurance and Occupational Pension Authority 2015). Gallanis (2015) offers examples of U.S. life insurer insolvencies and how regulatory authority was used to provide an orderly liquidation.

¹¹ Most empirical research on the subject finds evidence of market discipline in the U.S. insurance markets. For a summary of research, see Eling 2012. Because of the absence of publicly available data, there has been little research on market discipline for insurance markets outside the U.S. Eling and Schmit (2012) find evidence of market discipline in the German insurance market, although the actual effect appears smaller than that found in the U.S. insurance market. For a discussion of factors that promote market discipline in U.S. insurance markets, see Harrington 2004.

¹² Effective market discipline can be an important ally to regulators in promoting financial strength and a healthy risk culture. In the aftermath of AIG, one important question is how market discipline has been affected. Did the U.S. government intervention weaken market discipline and create an expectation of bailouts in the future? If so, what is the best response to that development in the U.S.? Can we put the genie back in the bottle, or do we need to build a regulatory system that embraces the existence of too-big-to-fail institutions? The importance of this debate for the future of U.S. insurance markets cannot be overstated.

and protect policyholders, while allowing for efficient cross-border risk transfer. Given the complexity and diversity among insurance markets, the answer is far from clear. Two basic alternatives are emerging: (1) an approach that borrows from bank regulation and emphasizes the consolidated group and uniform international capital standards; or (2) the traditional insurance approach that emphasizes the legal entities and diverse markets, with increased focus on interlinkages and intragroup transactions and increased collaboration among supervisors.

Background

As will be seen in the following discussion, the debate in the insurance sector has been strongly influenced by two earlier developments: (1) The Basel Capital Regime for internationally active banks and (2) Solvency II, the European Union's new risk-based capital system. Let us now examine each in turn.

The Basel Capital Standard for Internationally Active Banks. The Basel Accord, as it is known, was developed by the Basel Committee on Banking Supervision (BCBS), and has been revised multiple times over the years.¹³ The most recent incarnation is aimed at addressing deficiencies that became apparent during the recent financial crisis. The original 1988 Accord, now known as Basel I, introduced a simple capital regime for internationally active banks, focused specifically on credit risks, with assets placed in five different buckets, each with a different capital charge. Two objectives were identified: (1) to strengthen the soundness and stability of the international banking system; and (2) to diminish an existing source of competitive inequality among international banks.¹⁴ The calculation was applied to banks on a consolidated basis (Basel Committee on Banking Supervision 1988). In 1996, the BCBS added a capital charge for the market risk stemming from a bank's trading activity. For the first time, banks were permitted to use internal models to calculate a component of the regulatory capital requirement.

¹³ The Basel Committee on Banking Supervision is a committee of banking supervisory authorities established by the G-10 countries in 1974. It serves a role in the banking sector similar to that served by the IAIS in insurance. The BCBS provides a forum for regular cooperation on banking supervisory matters and sets standards for supervising internationally active banks. In 2015, its membership includes 27 countries plus the European Union.

¹⁴ Competitive issues, or a desire for a level playing field, were a significant motivation for the development of Basel I. As Tarullo (2008) describes, Japanese banks grew rapidly in the 1980s, and represented an increasingly large portion of global banking assets. Meanwhile, the position of U.S. banks had declined. Basel I was aimed, at least in part, at strengthening the competitive position of U.S. banks vis-a-vis Japanese banks. Tarullo likens the Basel I negotiations to a trade negotiation.

By the late 1990s, there were widespread concerns that Basel I was not sufficiently risk-based and, as a result, banks were engaging in regulatory arbitrage to reduce their capital requirements.¹⁵ The BCBS began work on a significant revision to the Basel Accord in 1999, and the result, known as the Basel II Framework, was finalized in 2004. Basel II introduced a three-pillar system, with capital requirements constituting Pillar I. Pillars 2 (Supervisory Review) and 3 (Market Discipline) were aimed at increasing the supervisory attention paid to banks' internal capital assessments and promoting greater transparency in banks' financial reporting. A new capital charge for operational risk was added, and internal model options were introduced for credit risk and operational risk (on top of the previous internal model for market risk). Banks given approval to use internal models could expect lower capital requirements. This was justified on the basis that it provided an explicit incentive for banks to adopt "more comprehensive and accurate measures of risk as well as more effective processes for controlling their exposures to risk."

The story of the Basel capital requirements does not end with Basel II. Once again cracks appeared, as the global financial crisis highlighted limitations in Basel II. Basel III was adopted in 2010. The revisions embodied in Basel III focus particular attention on the liquidity issues faced by banks, the problems stemming from reliance on internal models, and the lack of consistency in implementation across countries. In addition to amendments aimed at increasing the risk-based capital requirements, Basel III introduced a new simple leverage ratio as a "backstop" to the more-traditional risk-based capital measure. Meanwhile, attention turned to cross-country inconsistencies in the implementation of Basel requirements, which has resulted in a lack of consistency in the results. In November 2014, the BCBS delivered to the G20 a report entitled "Reducing Excessive Variability in Banks' Regulatory Capital Ratios," which responds to the diversity in implementation of the Basel capital requirements and identifies steps to achieve more consistency and comparability in bank capital ratios (Basel Committee on Banking Supervision 2014a). In December 2014, the BCBS published a consultative paper on the design of a capital floor based on standardized, non-internal modeled approaches (Basel Committee on Banking Supervision 2014b).

Solvency II and its Evolution. Solvency II, the new European Union (EU) insurance capital regime, has been under development for over ten years. After multiple delays, it is now scheduled to become effective in 2016. Because it has influenced the work of the IAIS and other international developments in insurance regulation, it merits special attention.

¹⁵ For a detailed history of Basel I and Basel II, see Tarullo (2008:88): "By the mid-1990s, regulatory arbitrage through the use of nontraditional financial instruments was regarded as a serious problem with Basel I, and securitization was identified as the most prominent form of this arbitrage."

Solvency I, as the existing EU-wide solvency requirement is known, is largely based on a solvency regime developed in the 1970s. By the early 2000s, Solvency I was widely criticized for not being sufficiently risk-based. (Some other jurisdictions, most notably the U.S., introduced risk-based capital systems in the early 1990s.) Compounding the problem, accounting regimes varied widely across Europe, resulting in significant inconsistencies in the measurement of insurer capital positions.

A major impetus behind the development of a more harmonized solvency system was the creation of the European Single Market for Insurance, which became effective in 1994. Under the Single Market, insurers licensed in one EU country (the “home” country) are permitted to “passport” into other EU countries, providing services freely through the EU without any additional authorization by those other countries (known as “host” countries). According to Frutos (1994), the Single Market embraced three essential principles:

1. *A single European license.* Once a company is issued the license, no additional permission of the host country is required;
2. *Home country control.* Insurers are subject only to the supervision of their home countries for their activities throughout the EU; and
3. *A focus on solvency regulation.* Regulations applying to premium and policy conditions were abolished.

The ability of insurers to operate freely on a cross-border basis, subject only to oversight by the home country, increased focus on the lack of consistency in regulation across the EU. Specifically, policymakers worried about regulatory arbitrage, fearing that insurers would headquartered themselves in the less strongly regulated jurisdictions and place policyholders in other jurisdictions at risk. A new, more-harmonized European capital regime and supervisory system was seen as necessary to create a “level playing field,” and in 2004 and 2005, the European Commission issued three waves of Calls for Advice, beginning the process to develop a new solvency system.

It is worth noting the time period for the initial development of Solvency II predicated the recent financial crisis. At the time, Basel II was receiving much positive attention, and the architects of Solvency II patterned many aspects of the new capital standard after Basel II. Indeed, Solvency II was often referred to as “Basel for insurers.” Parallels to Basel II include a three pillar structure, and the concept of permitting sophisticated insurers to rely on internal models to assess their regulatory capital requirements. In some respects, however, Solvency II is even more ambitious. Where the use of internal

models for banks was largely limited to operational risk, market risk in the trading book, and to some aspects of the credit risk assessment, Solvency II permits the use of internal models for virtually all quantifiable risks faced by an insurer.

An additional aspect of the Basel capital standard that found its way into Solvency II was an emphasis on assessing the consolidated capital position of the group and a significant role to be played by the consolidated regulator (that is, the group supervisor). Early versions of Solvency II included a novel concept known as “group support”, under which a subsidiary was permitted to recognize resources held at the parent company to meet its capital requirements, so long as the level of capital at the group was sufficient for the group as a whole and the group supervisor agreed. In effect, this introduced into the European insurance sector a concept known in U.S. banking circles as “source of strength.”

The essential premise behind original versions of Solvency II was as follows: to create a mechanism for Europe in which capital was fungible, and easily moved across the individual insurers that comprise the group. For each group, a single authority (the group supervisor) would be appointed and given primary responsibility for all key aspects of group supervision (group solvency, intragroup transactions, risk concentration, risk management, and internal control). A group could apply for permission to use an internal model to determine its capital requirements, and the ultimate decision to accept or reject the application rested with the group supervisor. A group supervisor decided whether to permit a group to rely on group support, and the supervisor of an insurer subsidiary could not impose additional capital requirements on a subsidiary unless it was agreed to by the group supervisor.

To measure the amount of capital available, Solvency II emphasized a market-consistent view of the balance sheet, with assets and liabilities marked to market. At the time, accounting standard setters, in particular the IASB (International Accounting Standards Board), whose International Financial Reporting Standards (IFRS) are observed in Europe, were moving toward market-based valuation in a variety of areas, as a means of better reflecting the current financial condition of firms generally and achieving greater consistency in financial reporting across industries and markets. Basing the valuation of assets and liabilities on market consistent valuation seemed to be consistent with those trends.

It is important to note, then, that the original concept behind Solvency II was grounded in the goal of creating a single market in Europe and permitting the free flow of capital. The model rested on fungibility of capital across the group and an empowered group supervisor with the authority to make most key group regulatory decisions. The group supervisor was required to coordinate with local

supervisors, but, at the end of the day, the group supervisor was the regulator, with the power to make decisions that impacted policyholders in other countries. As Insurance Europe (a trade group comprised of European insurers) noted in 2008, the proposal was “indeed bold and innovative.”

Under the group supervision arrangements, there is one comprehensive analysis of risks across the group and one overarching capital requirement, the Group SCR. In order to maximize the resilience of the insurance businesses, it is essential that the group has the freedom to move resources around the different legal entities as conditions require. . . . If we choose not to take this modernizing approach to Solvency II then we deny many of the fundamental benefits of pooling risk and capital, to the detriment of the competitiveness of European insurers and to the cost of policyholders [Insurance Europe 2008].

The original Solvency II model came in for significant criticism following the emergence of the global financial crisis. Lessons learned from the banking sector regarding fungibility of capital and the incentive conflicts between home and host supervisors raised questions about the philosophy underlying Solvency II. In November 2008, following objections from a number of EU countries to the group support regime and the creation of an uber-powerful group supervisor, these concepts were modified. Group support was eliminated, and supervisors of subsidiaries were permitted to impose a capital add-on at the subsidiary level. These changes were made over the initial objections of the European Commission, and the final Solvency II Directive contains compromise language (in Article 242) calling for the Commission to revisit the issue in the future (which it has promised to do).

Several compromises were also reached to relax the principle of market consistency, which some insurers argued created artificial volatility. Nonetheless, the negative impact of Solvency II’s modified market consistency approach continues to be an area of contention, particularly among life insurers offering long-term guarantees.

As implementation of Solvency II neared, insurance supervisors also seemed to embrace a newfound skepticism of internal models. Some insurers complained the model approval process became overly burdensome. In 2013, the UK Prudential Regulatory Authority introduced a new system of Early Warning Indicators to supplement internal models-based capital requirements, which was viewed by many in industry as undermining the benefits of Solvency II’s internal models approach.

While the debates around Solvency II were occurring in the European theater, the principles of Solvency II (consolidated group-wide capital requirements, market consistency, and reliance on internal models)

were being pushed at the IAIS and in other jurisdictions through Solvency II's equivalence process.¹⁶ ComFrame and the work on a new international capital standard for insurance reflect this influence and embrace a model of insurance regulation starkly different from the model that has long served the U.S. market.

As Robert Litan (2014) observes:

The regulation of insurer financial strength in the United States historically has focused on a fundamental principle: that the premiums and capital of any insurer are meant to pay the claims of that insurer's policyholders and not to be drawn on to rescue a failing affiliate within the same group. This is a *customer-centric* approach, based on the individual insurance contract that is issued by a separately capitalized insurer for a specific period of time, in which the premiums charged are regulated based on that issuer's solvency position and the risk assumed under that contract.

Since the financial crisis, however, international financial bodies, including the EU, have been pressing U.S. policy makers to adopt the EU's very different approach toward insurance regulation for globally and systemically important insurers, and potentially for all insurers, borrowing from the banking industry the notion of "group capital" regulation. This latter approach ignores the legal separateness of the different entities belonging to the same group and makes all parts of a banking group financially responsible for each other, through the so-called "source of strength" doctrine for holding companies and "cross-guarantee" requirements for bank subsidiaries. In effect, group capital regulation is *creditor-centric*, and potentially ignores the specifics of individual insurance contracts.

¹⁶ Before the financial crisis, IAIS members were hotly debating market-consistent valuation, use of internal models for regulatory capital purposes, the role of the group supervisor, and the need for a uniform consolidated Basel-II-like international capital standard. These resulted in a number of papers that expressed compromise positions. (See, for example, *Common Structure Paper for Assessment of Insurer Solvency* (2007), *IAIS Principles on Group-Wide Supervision* (2008), *IAIS Guidance Paper on the Role and Responsibilities of a Group-Wide Supervisor* (2008), *Standard and Guidance Paper on the Structure of Regulatory Capital Requirements* (2008), *Standard and Guidance Paper on the use of Internal Models for Risk and Capital Management Purposes* (2008), *Issues Paper on Groupwide Solvency Assessment and Supervision* (2009).) Following the problems at AIG, it was widely agreed that supervisors needed to increase the level of coordination and information sharing when it came to supervising IAIGs. U.S. insurance regulators and the NAIC supported ComFrame in 2010 as a vehicle to help accomplish that increased coordination, including coordination in assessing capital adequacy. Unfortunately, ComFrame quickly turned into another debate over the need for a consolidated capital standard, and in 2013, the FSB instructed the IAIS to develop an international capital standard, effectively ending the debate. In this context, it is worth noting that there is considerable overlap between the European members of the IAIS and FSB. U.S. functional insurance regulators (that is, the state insurance commissioners) are not represented at the FSB.

Litan goes on to explain why this alternative approach has questionable value in the insurance industry (with the possible exception of systemically important insurers), given that the banking concept of “source of strength” does not apply.¹⁷

The EU, which emphasizes the group as the key economic unit, is starkly different from the U.S system, and these differences are reflected in specific elements of their regulatory structures. In the U.S., for example, an insurer must obtain prior approval from its regulator before entering into a pooling arrangement or material reinsurance transaction that transfers risk to another entity in the group. Intragroup transactions are monitored closely, and prior approval is required for material transactions. Dividend payments from an insurer to a holding company parent require regulatory approval if they exceed a certain level. All of this is aimed at ensuring that the assets within the legal entity are sufficient to pay policyholder obligations. In the EU, on the other hand, there are no special requirements for affiliated reinsurance, because of the emphasis on the group as a whole (U.S./EU Technical Report: 84).

The structure of Solvency II, which requires European insurers to comply with Solvency II's capital requirements on a consolidated basis everywhere they do business, necessarily impacts the operations of European insurers in other countries. At a very simple level, for non-life insurers, the market-consistent valuation of technical provisions introduces volatility in the technical provisions that makes it difficult to glean loss trends (particularly for long-tail lines), which are the primary driver of non-life insurer performance. EU life insurers are required to hold capital against temporary volatility in asset prices/credit spreads, which undermines a key aspect of their business model—long-term investing.¹⁸ This may explain why the Europeans have placed such an emphasis on a level playing field and comparability in the development of the IAIS consolidated capital requirements, rather than on policyholder protection.¹⁹ This also creates an incentive to impose Solvency II-like regulation on other

¹⁷ The designation of insurance groups as systemically important and subject to enhanced supervision and higher capital requirements has been controversial, both in process and in outcome. The differences between the business models of traditional insurers and banks are significant. One important difference is the role they play in the payment system. In general, insurance companies do not represent the same risk to the payments system that is traditionally associated with banks, as insurers do not provide a “medium of exchange” in the same manner as banks.

¹⁸ Based on 2013 revenues, five of the 10 largest global insurance groups are based in the EU, and one is from Switzerland, which also bases its capital requirements on market consistent valuation (Insurance Information Institute 2015).

¹⁹ The proposed IAIS ICS embraces this level playing field objective. Under ICS principle 5, the ICS aims at comparability of outcomes across jurisdictions: “Applying a common means to measure capital adequacy on a group-wide consolidated basis can contribute to a level playing field and reduce the possibility of regulatory arbitrage” (International Association of Insurance Supervisors 2014).

jurisdictions through the equivalence process.²⁰ In this context, it is worth noting that U.S. and international accounting standard setters (the FASB and IASB, respectively) have been unable to reach agreement on a single accounting standard for insurance contracts, after years of attempting to do so. U.S. and EU accounting systems will remain different—a major stumbling block to the introduction of a global capital standard.

Banks and Insurers: Similarities and Differences

While risk-based capital standards for insurers have developed independently of those for banks, the increased role of the bank-centric FSB and other banking-oriented policymakers has, since the financial crisis, tended to drive reforms in the insurance sector in a similar direction as the banking sector. This can be seen in such things as the methodology for designating systemically important insurers and the measures for those so designated, a focus on consolidated regulation with uniform international capital requirements, and a preference for market-based accounting measures. This drive for convergence risks diminishing the rich diversity that exists between the sectors.²¹

There are important differences between the business of banking, on the one hand, and insurance, on the other. Foremost among these, when it comes to prudential regulation, is the dramatic difference in funding structures. Commercial banks are heavily dependent on deposit and debt securities for funding. U.S. depositories fund around two-thirds of their activities with deposits. This is true even for the largest U.S. megabanks. The vast majority of funding for insurance companies is provided by their policyholders,

²⁰ Where a third country is deemed to have a system “equivalent” to Solvency II, there are implications for EU insurance groups doing business in the third country and for the third country’s insurers doing business in the EU. EU insurance groups doing business in a third country must meet Solvency II capital requirements for that business, unless the third country is deemed equivalent. If the third country is deemed to be equivalent, EU insurance groups may use local capital requirements. For third country groups doing business in Europe, a finding of equivalence will result in some deference being given to the third country in the areas of group capital requirements, group supervision, and reinsurance regulation. In 2014, the European Parliament approved the Omnibus II Directive, which relaxed some of the equivalence requirements, creating categories of temporary and provisional equivalence. A third country can be deemed “provisionally equivalent,” a designation that would allow EU groups to use local capital requirements when calculating group solvency requirements, under a method known as deduction and aggregation. The designation requires no action on the part of the third country. This could address the challenges faced by EU groups doing business in the US (particularly in the case of life insurance).

²¹ As Avinash Persaud (2014) eloquently explains, “Homogenous behavior, not risky assets, is the main avenue of systemic risk.” Persaud advocates varying asset accounting according to the nature of a firm’s liabilities, and he raises concerns regarding the impact of Solvency II on financial stability: “[T]he proposed Solvency II regime for long-term savings emphasizes a mark-to-market approach that will make the financial system more fragile. In some ways, Solvency II is even worse for financial stability than the original Basel II accord on bank supervision, which had to be quickly revised after the crisis erupted.”

typically in the form of technical provisions or reserves.²² Unlike bank deposits, policyholders face disincentives to liquidate these liabilities, and consumers do not depend on insurance products to provide short-term liquidity. Hence, insurers are not subject to traditional bank runs, and their exposure to liquidity risk is dramatically lower due to the nature of their liabilities.

Insurance liabilities may also be more flexible than bank liabilities. Certain liabilities, particularly those of life insurers, have some degree of “profit-sharing,” so that the policyholders share some degree of both the up-side and down-side of the performance of held assets.²³ If held assets perform poorly then some of those losses may be borne by policy-holders, mitigating the adverse impact on the company’s capital. Unlike banks, insurance companies typically fully provision for expected losses ahead of time. Generally banks do not provision for a loss until it is actually realized, whereas insurance companies are specifically structured to account for expected pay-outs. The very nature of insurance companies makes them less sensitive to business cycle risk than banks.

Risk sharing arrangements among insurers also tend to be more stable than those for banks. Insurance companies often diversify part of their risk by the use of reinsurance, whereas banks share this risk via securitization. As was witnessed during the financial crisis, securitization markets appear to be more fragile than reinsurance markets. While reinsurance markets may in normal times be less liquid than the market for asset-backed securities, this lack of liquidity incentivizes insurance companies to exercise a greater level of counterparty due diligence than banks. By contrast, the bank “originate-to-distribute” model is largely built upon assuming away counterparty risk.

In the aftermath of the financial crisis, central bankers and banking supervisors are playing an increased role in the development of regulatory policy applying to the insurance sector. The results can be seen, for example, in the Financial Stability Oversight Council (FSOC) designation of insurance groups and the consequent Federal Reserve oversight. Disorderly runs are *the* classic systemic risk problem in banking. The long-standing and deep banking sector fear of disorderly runs drives much of the rationale for designating U.S. insurance groups, in spite of the reduced risk and tools available to address policyholder runs.²⁴ A loss of insurance policyholder confidence is seen by bank-centric policymakers as

²² Al-Darwish et Al. (2011) estimate that over 90 percent of the funding for European insurers is derived from policyholders.

²³ The degree to which this is true varies by country, given differences in product design. See, for example, Moody’s (2015) for a discussion of differences in product design and their implications for interest rate risk.

²⁴ See, for example, the FSOC’s Basis for the Final Determination of AIG. In its justification for designating AIG, the FSOC relies in part on the possibility of policyholder runs in the face of AIG financial distress, with those runs spreading to other insurers, “potentially impairing the financial condition of multiple insurers across the

catastrophic and posing systemic risk. In contrast, the need for insurance companies to care about consumer confidence is less recognized, as is the potentially disastrous consequences—in the form of reduced market discipline—if insurance consumers relax their attention to insurer strength.

The obsession with liquidity risk and short-term volatility drives a series of policy measures that risk making non-bank financial companies look more like banks. A key distinguishing characteristic of the insurance sector is its ability to withstand short-term volatility risks. While one can question the Federal Reserve's track record in bank regulation, the fact remains that its regulatory experience is in the area of bank supervision. The result of an FSOC determination is to expand Federal Reserve bank-like supervision to designated non-banks. As the preceding discussion has highlighted, insurance companies are not banks. Both their assets and liabilities differ dramatically from those of banks. Pushing insurers to more closely mirror banks will serve to increase, rather than decrease, systemic risk by encouraging herding into similar asset classes and business models, ultimately reducing the diversity of our financial system.

The Structure of ComFrame and the ICS

The details of the final ComFrame and the ICS are still under development. Nonetheless, a general sense of the direction can be gleaned from reviewing the current proposals.

1. There is an emphasis on centralized processes. IAIGs required to have group-wide policies and processes in a host of areas, including investments, risk management, remuneration, compliance, actuarial, internal audit, claims, underwriting, and reinsurance and risk transfer.²⁵ The requirement for the group-wide risk management and compliance functions embrace “consistent implementation of those mechanisms and activities” throughout the IAIG at both the entity level and the overall group-wide level (M2E2-9-1, M2E2-10-1). While few supervisors would dispute the point that insurance groups should have effective risk management, underwriting, claims, investment, internal audit, and compliance functions, it is not clear that

industry.” The designations of Prudential and Met Life also point to the fear of policyholder runs. In each case, the FSOC effectively ignore the tools available to state regulators to control policyholder runs and contain their impact.

²⁵See, for example, the September 2014 draft of ComFrame which requires, among other things, a group-wide governance framework (Parameter M2E2-1-1), a centralized code of conduct and procedures (M2E2-1-2), a group-wide remuneration policy (M2E2-5-1), group-wide control functions for risk management, compliance, actuarial matters and internal audit (M2E2-8-1), and a consistent group-wide policy for outsourcing, a group-wide ERM framework, a group-wide investment policy (M2E4-1) and a group-wide underwriting policy (M2E4-4), a group-wide claims management policy (M2E4-5), group-wide reinsurance and risk transfer strategy (M2E4-6), and a group-wide actuarial policy (M2E4-7) (International Association of Insurance Supervisors 2014).

centralized policies are necessarily the best answer in all cases. The strong emphasis on centralized processes and policies seems inconsistent with the decentralized management structures that have historically characterized many IAIGs. This contrasts with the approach of U.S. insurance supervisors, which emphasizes flexibility in supervising group risks, tailoring cooperation and supervisory plans on the basis of the group's own structure and processes.

2. The group-wide supervisor plays a primary role.²⁶ In essence, the group supervisor is responsible for overseeing the group, while the other involved supervisors are largely dependent on the group supervisor to understand how those group risks affect their legal entities. While there are efforts to encourage collaboration with other supervisors (including references to cooperation through supervisory colleges), there are no real checks and balances to protect involved supervisors from the regulatory capture of the group supervisor (a problem widely believed to have played a role in the banking sector in the financial crisis). At the end of the day, other supervisors are dependent on the group-wide supervisor to understand group risks, while the group-wide supervisor is required to communicate information to the other involved supervisors *where appropriate*. This is in contrast to the approach taken by U.S. insurance regulators, who guard against regulatory capture by emphasizing the rights of each involved regulator, but encourage regulators to cooperate to reduce the regulatory burden.²⁷
3. The ICS is based on a consolidated view of capital under a single international standard, rather than a compilation of the requirements of the jurisdictions in which the insurer operates. This

²⁶The IAIG informs the group supervisor of its strategy, changes in strategy, changes in legal structures, material intra-group transactions and exposures, and so on. The group-wide supervisor decides on the scope of the group to be subject to supervision (M1E3-1-1), determines the appropriate level of supervisory intensity for the IAIG (ME1-1-2), conducts off-site monitoring at the group-wide level, and performs any on-site inspections at the Head of the IAIG. While the group supervisor may join in the on-site inspections of subsidiaries, there is no such provision for other involved supervisors to join an on-site examination at the group level. The group supervisor is responsible for assessing group processes, deciding who participates in the supervisory college, and managing the supervisory college. The group-wide supervisor assesses the valuation and capital adequacy of the IAIG, as well as its leverage and liquidity, and decides on whether any preventive or corrective measures need to be taken at the group level.

²⁷It is worth noting that, in the U.S., there is a highly coordinated system for solvency oversight, dating back decades. One of the first projects undertaken by the National Convention of Insurance Commissioners (the precursor to today's NAIC) was the development of standardized financial statements. Joint on-site examinations followed, as well as centralized databases and common analytical tools. Transparency among supervisors is a fundamental tenet, particularly where an insurer is potentially troubled, and compliance is assessed through on-site accreditation reviews. Extremely granular insurer financial information, housed in a centralized database, with the data available to all states, form a cornerstone of the multi-state regulatory system. The European Insurance and Occupational Pensions Authority (EIOPA) is working toward more consistent financial reporting and increased communication, including efforts to develop a centralized database, but it has not yet agreed on whether the data will be made available to all insurance supervisors. Today, this is a critical difference between the U.S. and EU systems.

contrasts with the perspective of U.S. insurance regulators, who, as noted earlier, question the value of a uniform consolidated capital *requirement* given diversity in markets and issues surrounding fungibility of capital, and who recognize the legal entity as central to policyholder protection.

4. The ICS is intended to provide a level of comparability across IAIGs as well as a level playing field. Accordingly, a Herculean amount of work is going into developing the specific details of the standard model. The emphasis on comparability and a level playing field contrasts with the role of risk-based capital (RBC) in the U.S. In the U.S., RBC requirements are an additional tool that complements a variety of tools aimed at identifying potential problems and promoting market discipline. In essence, the purpose of RBC in the U.S. is to serve as another early warning indicator. As one of a portfolio of tools, precision in its design is less important.
5. While no final decision has been made, the IAIS seems to be embracing a variation on market-consistent valuation as the accounting basis for the standard model, a concept that lies much closer to the European approach.²⁸ In its December consultation paper, the IAIS recognizes this will have a particular impact on U.S. insurers. “[T]he market-adjusted approach cannot be obtained through incremental adjustments made to most insurance liabilities that are reported under U.S. GAAP as the market-adjusted valuation basis is a completely different construct”(IAIS 2014b, paragraph 64). In addition, while the time frame is still under discussion, early indications are that the ICS capital measurement period would be a one-year time horizon, consistent with the short-term horizon of market consistent valuation. Again, this contrasts with the U.S. insurance regulatory system, which embraces a more long-term perspective.

Impact on the U.S. Insurance Market

The introduction of a one-size fits all consolidated international capital standard will undoubtedly have knock-on effects on the U.S. insurance market. In the short-run, there are two possible outcomes. One possible outcome is that the consolidated capital requirement is not constraining. Firms continue to meet diverse local capital requirements for their various operating entities, and, in addition, they demonstrate to their supervisors that they meet the consolidated international capital requirement. In

²⁸ The modified market-consistent approach is currently the default valuation method, justified on the basis that it is most likely to provide comparability of outcomes across jurisdictions. The IAIS has indicated, however, that it will collect also GAAP data and attempt to develop a “GAAP with adjustments” approach to valuation in its next field testing exercise.

this case, it is just another calculation, adding costs to the system, with the actual costs depending on how supervisors choose to implement it (that is, the documentation, model validation, examination, and so on).

If, on the other hand, the consolidated requirement is constraining, the ICS will impact the competitive balance between IAIGs and purely domestic firms. Suppose, for example, the ICS requires firms to hold more capital than current U.S. requirements. In that case, the ICS will make international firms less competitive compared to purely U.S. firms, and increase pressure to apply the measures to purely domestic companies. This is most likely to be true in the case of life insurance or other long-term products, where the modified market-consistent approach may impose relatively heavy capital requirements, by requiring insurers to recognize short-term market volatility.. Whether this is appropriate has been hotly debated, particularly since the global financial crisis, when the disruptive effects of market-consistent (or fair value) accounting became more apparent. Given the relatively strong performance of the industry during the recent financial crisis, one must question an outcome that requires insurers to increase their capital levels.²⁹

Second, one can expect that increasing resources will be devoted to calibrating the common capital standard, to the detriment of other areas of supervision that have served the U.S. market well in the past. As indicated earlier, state insurance regulators view capital requirements as one piece of a comprehensive package of regulatory tools.³⁰ Historically, strong emphasis is placed on robust public disclosure, examination and analysis, and control of intragroup transactions and dividend payments that might jeopardize the legal entity. Strong public disclosure and robust resolution mechanisms contribute to more effective market discipline. These items have received considerably less attention in the development of ComFrame and the ICS. In that respect, ComFrame's strong focus on capital requirements parallels Solvency II, which some observers have described as *capital-centric*, meaning

²⁹ In its December 2014 Global Insurance Market Report (IAIS 2014c), the IAIS concluded: "During the past year, the global (re)insurance sector has proven to remain well-functioning and stable amid an often challenging environment. Evidence supporting this claim includes the high capital levels held by (re)insurers in the interest of policy holders, the overall stable profitability shown by the sector and an on-going inflow of additional (including alternative) capital."

³⁰ Tom Leonardi, a former Connecticut Insurance Commissioner, outlined the importance of these other tools in a speech in Taipei in 2013. AIG's securities lending problems were identified by an on-site examination in 2007, and by the market meltdown of September 2008, U.S. insurance regulators had already made good progress in reducing the firm's exposure. Regulators implemented new *public* reporting requirements for securities lending to enable easy detection of maturity mismatches in the future.

proportionately more supervisory resources are devoted to the development and enforcement of the capital requirements. In the U.S., by contrast, multistate analysis and examination, disclosure, and resolution tools predate the creation of risk-based capital requirements.³¹

Differences in the balance between capital requirements, supervision, and market discipline are important to consider. Scholarly research suggests some degree of substitution between these. For example, in a regime with strong market discipline or robust examination capabilities, capital requirements become less important. Strong capital requirements, on the other hand, become necessary when other tools are less robust to identifying potentially troubled firms.³² Because U.S. insurance regulators lean toward market discipline and robust supervision, a capital-centric system fails to recognize the strengths of the U.S. system and will tend to disadvantage U.S. insurers by imposing another layer of unnecessary regulation.

As the emphasis shifts internationally to the development and enforcement of the capital regime, it is likely to similarly shift the focus of U.S. regulators, given limited regulatory resources. Unfortunately, it is not at all clear that a capital-centric approach is well-suited for a world of increasing volatility,

³¹ Public disclosure is mandated by both state regulators and, for publicly traded insurers, by the U.S. Securities and Exchange Commission. Solvency II mandates increased public disclosure under Pillar 3, but the details are still under development, and, in general, the level of public financial reporting has historically tended to be lower. The NAIC has a mature, harmonized reporting, data collection and analysis function, which emphasizes the ability of all states to easily access information on the financial condition of an insurer.³¹ While the EU is developing harmonized reporting requirements, the data collection and analysis will remain at the Member State level, in part due to resistance by local supervisors (and their companies) to share the information broadly. The NAIC filings have long included a detailed listing of investments and investment transactions (also made available publicly), while the EU is developing its investment reporting requirements. To summarize, U.S. insurance regulators have historically given much more attention to comprehensive data collection, robust information sharing across states, and public disclosure.

Financial analysis and on-site examinations have also played a significant role in the U.S. historically, and multistate analysis and examination tools predate the creation of risk-based capital requirements. Under the accreditation program, independent reviewers assess the quality of a state's examination and analysis processes. In Europe, meanwhile, a common supervisory process is still under development, and the level of coordination is evolving.

³² See, for example, Morrison and White 2005: "Regulators with a good reputation for auditing banks *ex ante* should therefore prefer the alternative of following a loose capital policy. . . while relying on their own auditing skill to avoid chartering unsound banks. . . Thus, in contrast to the Basel Accord's emphasis on a "level playing field" across nations, we suggest that capital regulation should be tighter in countries where regulatory reputation is worse, since it is in effect a substitute for regulatory auditing ability."

These same authors concluded in a later paper that, although the level playing field rules impose the standards of the weakest regulator upon the best-regulated economies, and hence are good for weaker regulators, they may be justified where borders are open and capital is mobile, as for example, in the European Common Market (Morrison and White 2009).

uncertainty, complexity, and ambiguity. Instead, agility and flexibility are the traits that supervisors need to embrace. Complex international risk-based capital rules are unlikely to achieve those goals.

Third, in the long-run, there is a strong likelihood these developments will limit the ability of U.S. insurance regulators to protect U.S. consumers and markets. The trend toward an all-powerful group supervisor will increase the reliance of U.S. supervisors on foreign regulators where IAIGs are operating in the U.S. and increase opportunities for regulatory arbitrage.³³ These problems could be mitigated with strong collaboration among supervisors. Unfortunately, creating the right *incentives* for supervisory cooperation, transparency, and mutually beneficial problem-solving has not been a priority in ComFrame's development. One of the main lessons that bank supervisors learned in the recent financial crisis is that they could not always depend on the goodwill and transparency of supervisors in other jurisdictions (see, for example, D'Hulster 2012). Given current trends, we may be learning that same lesson in insurance in the future.

An Alternative Approach

With the exception of reinsurance and the European Common Market, most cross-border insurance business has historically been subject to local supervision and regulation. Often business is conducted through a local subsidiary. Where a branch is used, the branch is typically subject to local solvency rules. This has resulted in what some might call "ring-fencing" or "balkanization of capital," but reinsurance has long existed to permit geographic diversification. In the context of IAIGs, geographic diversification can be achieved through intragroup reinsurance arrangements, which create a clear contractual relationship between group affiliates and can facilitate an orderly winding up, if necessary. These clear legal structures have arguably increased the resilience of the sector and protected insurers from contagion due to local stresses.

As John Trowbridge, former Executive Member of the Australian Prudential Regulatory Authority, put it: "[S]olo supervision, i.e., supervision of insurers at a solo entity level, does work. The challenge is to maintain the integrity of the solo supervision while also carrying out effective group supervision that

³³ Current state insurance holding company laws give insurance regulators the authority to seek information from anywhere within a group that does business in the U.S. Already however, there are rumblings that a "covered agreement" on group supervision between the U.S. and EU could be used to preempt that authority.

protects the integrity of the group including all regulated and unregulated subsidiaries.” (Trowbridge 2013)

A consolidated international capital standard is not the only—or even the best—answer to this problem. Given the diversity of markets, the different approaches to regulation, and the fact that local policyholders have been well-protected by current regulatory structures, any change that interferes with local regulation carries risk. It is possible to create, as Trowbridge suggests, a system that builds on solo entity supervision. The solution is to embrace existing differences, but add an element in which supervisors work collectively to understand and address inappropriate regulatory arbitrage within the group. It is not difficult, for example, to track intragroup reinsurance transactions. If the majority of this risk transfer lands in a particular jurisdiction, that is telling. The supervisors of the individual legal entities can react to that information to ensure their policyholders are protected. There are a variety of ways to build a system of group capital requirements that embrace local differences. One of those is discussed below.

In its December 2014 public consultation on the ICS, the IAIS described one alternative to a consolidated capital requirement, known as *granular group modeling*. This approach models risks of the individual legal entities of a group and the relations between those units, “[enabling] the relevant supervisors of the group to determine whether any risk potential is posed to policyholders and the financial stability of the group by individual parts of the group itself for other parts of the group or for the group as a whole” (IAIS 2014b, paragraph 114(b)). Unfortunately, with little explanation, the IAIS rejected that approach on the basis that it did not produce a consolidated view.

Ceruti and Schmieder (2014) provide an example of an approach to capital assessment in the banking sector that appears—at least at a high level—similar to granular group modeling. Discussing the stress tests that are increasingly being used in the banking sector to assess capital adequacy, they point to a weakness: the stress tests are based on consolidated balance sheets, and thus “fail to take into account that home or host regulators might limit or even fully block flows within a banking group.” In other words, they assume fungibility of capital. Ceruti and Schmieder propose what they call a *group structure* approach, which begins by treating foreign subsidiaries and the parent bank as single entities. A consistent global scenario is developed, and broken down into scenarios for each subsidiary. They cite the following advantages for this approach:

- It forces stress testers to go through a number of thought processes, namely (1) the design of the scenario, (2) the development of an understanding of banks' business models and how they can be affected by different shocks and policy actions, respectively; and (3) helping uncover potential policy challenges that could emerge—which could contribute to contingency planning.
- It can reveal the relative soundness of specific entities within the group, which can inform policymakers.

Such an approach, based on collaborative setting of the stress tests among the involved supervisors in a group, has the potential to promote increased understanding across all supervisors with a stake in success. It avoids the pitfalls of the single group uber-supervisor, and opens the possibility that a group solvency assessment can be a means to promote communication, increase collective understanding among supervisors, and prepare them for crisis management should that time come. It also focuses attention on the impact of catastrophic losses, the primary issue with which insurance supervisors should be concerned.

The risk modeling approach builds on recent developments in the banking sector, where the Federal Reserve instituted a system of stress testing large banks in 2009, following waning confidence in the Basel capital requirements during the financial crisis (see, for example, Dowd 2014). Federal Reserve Governor Daniel Tarullo has characterized the stress tests as “[O]ne of the Federal Reserve's most important tools to gauge the resiliency of the financial sector and to help ensure that the largest firms have strong capital positions.”

In contrast to the banking approach, however, granular group modeling would assess the results of the stress testing at the legal entity level and for the group as a whole, to determine whether the entity remains capable of meeting its obligations under a stress scenario. This approach is a more robust way to address issues of regulatory arbitrage in a world of diverse markets and policyholder protections. For example, there is evidence that cross-border banks take advantage of differences in safety nets across countries by taking greater risk where deposit insurance exists.³⁴ By failing to account for such

³⁴ Carbo-Valverde et al. (2012) find evidence that cross-border banking allows banks to take advantage of differences in safety-net benefits across countries, a classic example of regulatory arbitrage. They conclude: “The existing framework for supervising cross-border M&A activity at banks is not tasked with monitoring and controlling the ways in which merger-related regulatory arbitrage might shift risk onto national safety nets.”

differences, a uniform consolidated capital regime can actually increase opportunities for regulatory arbitrage. Examining solvency at the legal entity level will account for local differences and better identify arbitrage that might be occurring within the groups.

Concerns about regulatory arbitrage can also be addressed by monitoring intragroup transfers and asset allocations. Ideally, this would occur collaboratively through a supervisory college. Concentration of group risks in a single jurisdiction should be visible to all supervisors, and each can take the action necessary and appropriate to correct the problem. Such an approach—in contrast to the consolidated capital approach—combines an appreciation of local differences with the need to address the cross-border risk transfer that can occur in IAIGs.

To take a simple example, Moody's recently issued a report indicating that many German and Dutch life insurance companies faced a very high risk to profitability from the current low interest rate environment (Moody's 2015). Moody's also warned that the capital of some of them will deteriorate if interest rates stay low for the next five years. In contrast (according to Moody's), U.S. life insurers face only a moderate risk. If interest rates stay low for the next five years, profits will progressively deteriorate, but the risk of losses is limited. Several German and Dutch insurance groups have subsidiaries operating in the U.S. insurance market. So what is the best way for U.S. insurance regulators to protect U.S. policyholders? Is it, first, to defer to European regulators and apply a single international capital standard that purports to protect all parts of the group (minimizing local differences)? Or, second, is it to understand how interest rate risk affects all parts of the group and whether there are knock-on effects to those companies that actually protect U.S. policyholders (taking into account local differences)?³⁵

Several suggestions have been made at the IAIS and at the NAIC to create a system of group capital assessment that is better able to embrace local conditions, accounting systems, and capital requirements.³⁶ Given the manner in which the proposed uniform consolidated ICS is likely to impact

³⁵ The dangers from relying on a home supervisor to protect the interests of policyholders (or depositors) in a host jurisdiction are well-recognized. In a nutshell, their incentives are not aligned. See, for example, Herring (2007) and D'Hulster (2012). A home supervisor has a greater incentive to protect local shareholders and policyholders than those who are distant. The key challenge in designing a system for regulating and supervising financial institutions operating on a cross-border basis is to address this incentive conflict without imposing excessive costs.

³⁶ Many of these ideas were presented at the 11/14/2014 meeting of the NAIC's ComFrame Development and Analysis Working Group, and descriptions can be found in the meeting materials. Several of them try to develop a

the U.S regulatory system, policymakers would be wise to encourage the IAIS to look harder at other options.

Prior Experience with Uniform Consolidated International Capital Standards—the Basel Experience

Prior experience with consolidated international capital standards in the financial sector is largely limited to the banking system, where, as mentioned earlier, an international consolidated capital requirement for internationally active banks was introduced in 1988. Extensive academic research has been done on the impact of the Basel Capital Accord. It is not the purpose of this paper to provide a full critique of the Accord, but a brief survey of some of the literature highlights continuing concerns.

Van Hoose (2007) surveys theoretical research on the effect of capital regulation on bank behavior. He finds that the literature produces “highly mixed predictions” regarding the effects of capital regulation on overall safety and soundness for the banking system as a whole. Concluding that the intellectual foundation for the Basel capital regime is “not particularly strong,” he cautions the reader as follows: “Until more headway is made on this crucial issue, it may be time for regulators to contemplate alternative approaches to bolstering the safety and soundness of the banking system . . . rather than expanding the scope and complexity of the present capital-requirement superstructure.”

Barth et al. (2004) examine regulation and supervision across 107 countries and conclude that, “the salient issues in bank regulation and supervision are inextricably intertwined . . . Stringent capital regulations are not closely associated with bank development, performance, or stability when controlling for other features of the bank regulation and supervision.” Andrew Haldane, the Director of Financial Stability at the Bank of England, offered stronger advice in comments delivered in 2012: “However well they perform in theory or in sample, complex capital rules do not appear to have performed well in practice and out-of-sample. That is a sobering message for the architects of the Tower of Basel” (Haldane 2012).

And then there are those who argue that the Basel capital regime, rather than promoting financial stability, actually introduces a source of systemic risk. By promoting common behaviors across banks, it reduces diversity and increases the risk that a common shock will be catastrophic. Lengwiler and

group capital requirement that embraces local diversity. The proposal from Prudential, for example, is particularly interesting, as it attempts to develop an “accounting-agnostic” accounting capital regime. NY Life focuses on cash flows rather than a particular accounting regime, and Liberty Mutual suggests collaborative supervisory engagement in the ORSA process. The plethora of ideas is encouraging. Unfortunately, the IAIS’ apparent determination to develop a one-size-fits-all standard is not.

Maringer (2015) find that extending the same regulation to more entities is likely to produce very synchronous behavior and thus exacerbate contagion and market crashes.³⁷

While opposing views can be found, the above discussion demonstrates that the contribution of international capital standards to financial stability in the banking sector is far from clear. The banking sector has a long history of banking crises, and efforts to promote financial stability through uniform international standards have not yet demonstrated success. To quote Barth et al. (2004: 50), “The international financial institutions seeking to develop harmonized checklists of financial regulations will almost never get it right. . . . [T]here are differences across countries and across time, so designing a static, harmonized template of financial regulations is at best potentially counterproductive. . . . [I]nternational institutions have frequently designed regulations that might be sound for one financial institution, or even one country, but that are destabilizing for other countries and the global financial system.”

Conclusions

International activity related to the regulation and supervision of financial services has exploded since the global financial crisis. The crisis exposed weaknesses in the structure for regulating internationally active banks, and motivated a number of statutes and regulations—most notably the Dodd-Frank Act—aimed at strengthening standards. Most important internationally are the significant revisions to the Basel capital standard for internationally active banks, now known as Basel III. The insurance sector was also stressed by the meltdown in financial markets that occurred in 2007–2008, albeit far less than the banking sector. With the exception of AIG, however, insurers played little role in the financial crisis. Nor do traditional insurance activities pose a systemic risk to the financial system. Nonetheless, the insurance sector has also been the target of new regulatory initiatives at the international level.

The risk of unintended consequences from this effort is real and significant. This is an important lesson as we consider the impact of uniform international standards on the insurance sector. Insurance companies are not banks. Their balance sheets and funding mechanisms differ considerably from those

³⁷ “Basel II . . . failed in the recent financial crisis. Some believe that one of the culprits is the exclusion of so-called shadow banks (for example, hedge funds and investment banks) from regulation. We find little support for this assumption in our simulations. To the contrary, our simulations reveal that extending the same regulation to more entities is likely to produce very synchronous behavior and thus exacerbate contagion and market crashes” (Lengwiler 2015).

of commercial banks. Attempts to regulate insurance companies like banks are certain to end badly, both for the companies and for purposes of financial stability. Given the current system's demonstrated ability to protect consumers and its relative stability in the recent financial crisis (particularly when compared to banks), the burden of proof for major changes in insurance regulation rests with those advocating such change. At this point, the case has not been made.

REFERENCES

Al-Darwish, Ahmed, and Gregorio Impavido, Malcolm Kemp and Padraig O'Malley Michael Hafeman. 2011. "Possible Unintended Consequences of Basel III and Solvency II." *International Monetary Fund Working Paper WP/11/187*.

Barth, James R., Gerard Caprio, Jr., and Ross Levine. 2004. "Bank Regulation and Supervision: What Works Best?" *Journal of Financial Intermediation* 206-248.

Basel Committee on Banking Supervision. 1988. "International Convergence of Capital Measurement and Capital Standards." July.

Basel Committee on Banking Supervision, 2014a. "Reducing Excessive Variability in Banks' Regulatory Capital Ratios: A Report to the G20." November.

Basel Committee on Banking Supervision, 2014b. "Capital Floors: The Design of a Framework Based on Standardised Approaches." December.

Buck, Florian and Eva Schliephake. 2013. "The Regulator's Trade-Off: Bank Supervision vs. Minimum Capital." *Journal of Banking and Finance* 37: 4584-4598.

Carbo-Valverde, Santiago, Edward Kane, ad Francisco Rodriguez-Fernandez. 2012. "Regulatory Arbitrage in Cross-Border Banking Mergers within the EU." *Journal of Money, Credit, and Banking* 44 (8): 1609-1629.

Cerutti, Eugenio and Christian Schmieder. 2014. "Ring Fencing and Consolidated Banks' Stress Tests." *Journal of Financial Stability* 11: 1-12.

Chen, Hua, J. David Cummins, Krupa Viswanathan, and Mary A. Weiss, 2013, "Systemic Risk and the Inter-Connectedness between Banks and Insurers: An Econometric Analysis," *Journal of Risk and Insurance* 81 (3): 623-652.

Cummins, J. David and Mary A. Weiss, 2013, "Systemic Risk and the Insurance Industry," in Georges Dionne, ed., *Handbook of Insurance*, 2d ed. (Springer).

Cummins, J. David and Bertrand Venard. 2008. "Insurance Market Dynamics: Between Global Developments and Local Contingencies." *Risk Management and Insurance Review* 11 (2): 295-326.

Cummins, J. David, María Rubio-Misas, and DevVencappa, 2014. "Competition, Efficiency and Soundness in European Life Insurance Markets." CAREFIN Working Paper (May 5). Available at http://www.efmaefm.org/0EFMAMEETINGS/EFMA%20ANNUAL%20MEETINGS/2014-Rome/papers/EFMA2014_0380_fullpaper.pdf.

D'Hulster, Katia. 2012. "Cross-Border Banking Supervision: Incentive Conflicts in Supervisory Information Sharing Between Home and Host Supervisors." *Journal of Banking Regulation*. Vol. 13. 300-319.

Dowd, Kevin. 2014. *Math Gone Mad: Regulatory Risk Modeling by the Federal Reserve*. Policy Analysis 754. Cato Institute. <http://www.cato.org/publications/policy-analysis/math-gone-mad>

Eling, Martin and Joan T. Schmit. 2012. "Is There Market Discipline in the European Insurance Industry? Evidence from the German Insurance Market." *Geneva Risk and Insurance Review* 37 (2): 180-207.

Eling, Martin. 2012. "What Do We Know About Market Discipline in Insurance?" *Risk Management & Insurance Review* 15 (2): 185-223.

European Insurance and Occupational Pension Authority. 2015. "Letter from Gabriel Bernardino to Lord Jonathan Hill." February 6.

Europe Economics, 2009. "Retail Insurance Market Study: Final Report." Available at http://ec.europa.eu/internal_market/insurance/docs/motor/20100302rim_en.pdf

Fiechter, Jonathan, et al. 2011. "Subsidiaries or Branches: Does One Size Fit All?" *IMF Staff Discussion Note*.

Gallanis, Peter, 2015. "U.S. Life Insurer Insolvencies and Resolution Case Studies." In *U.S. and Japan Life Insurer Insolvencies Case Studies: Lessons Learned from Resolutions*, Etti Baranoff, editor. The Geneva Association.

Gray, Alistair, Tom Braithwaite and Stephen Foley. 2015. "British Regulator Challenges U.S. Over Berkshire Scrutiny." *Financial Times*, April 20.

Haldane, Andrew and Vasileios Madouros. 2012. "The Dog and the Frisbee." *Speech Given at the Federal Reserve Bank of Kansas City's 36th Economic Policy Symposium*. Jackson Hole, Wyoming, August 31.

Harrington, Scott E. 2004. "Market Discipline in Insurance and Reinsurance." In *Market Discipline Across Countries and Industries*, by Claudio, William Curt Hunter, George Kaufman, and Kostas Tsatsaronis Borio, 159-173. Massachusetts Institute of Technology.

Harrington, Scott. E. 2009. "The Financial Crisis, Systemic Risk, and the Future of Insurance Regulation." *The Journal of Risk and Insurance* 76 (4): 785-819.

Herring, Richard J, 2007. "Conflicts Between Home and Host Country Supervisors." In *International Financial Instability: Global Banking and National Regulation*, edited by Douglas D. Evanoff, George C. Kaufman, and John R. LaBrosse. World Scientific Studies in International Economics.

Insurance Europe. 2008. "Solvency II: FAQs on Group Supervision and Group Support Regime." Feb. 12. http://www.insuranceeurope.eu/uploads/Modules/Publications/1202892091_cea-faqs-on-group-supervision-and-group-support-regime-final.pdf.

Insurance Information Institute, 2015. Top Ten Global Insurance Companies by Revenue, 2013. Available at <http://www.iii.org/publications/commercial-insurance/rankings> .

International Association of Insurance Supervisors, 2011. Insurance and Financial Stability. November. Available at <http://iaisweb.org/index.cfm?event=openFile&nodId=34379>.

- . 2014a.. "Common Framework for the Supervision of Internationally Active Insurance Groups -- Revised Draft." September.
- . 2014b. "Risk-Based Global Capital Standard Public Consultation Document." December 17. <http://iaisweb.org/index.cfm?event=getPage&nodId=41477#>.
- . 2014c. "IAIS Global Insurance Market Report." December 17. Available at <http://iaisweb.org/index.cfm?event=openFile&nodId=41507>

Kawai, Yoshihiro and Peter Windsor. 2013. "The Globalization of Insurance: A Supervisory Response." *Journal of Risk Management in Financial Institutions* 6 (2): 151-159.

Lengwiler, Yvan and Dietmar Maringer. 2015. "Regulation and Contagion of Banks." *Journal of Banking Regulation* 16: 64-71.

Litan, Robert. 2014. "Source of Weakness: Worrisome Trends in Solvency Regulation of Insurance Groups in a Post-Crisis World." (Economic Studies at Brookings).

Moody's, 2015. "Low Interest Rates are Credit Negative for Insurers Globally, But Risks Vary by Country." (March 26).

Morrison, Alan D and Lucy White. 2005. "Crises and Capital Requirements in Banking." *American Economic Review* 95 (5): 1548-1572.

Morrison, Alan D. and Lucy White. 2009. "Level Playing Fields in International Regulation." *The Journal of Finance* LXIV (3): 1099-1142.

National Association of Insurance Commissioners ComFrame Development and Analysis (G) Working Group. 2014. "U.S. Group Capital Methodology Concepts Discussion Paper." November 16.

Ongena, Steven, Alexander Popov, and Gregory F. Udell. 2013. ""When the Cat's Away the Mice Will Play": Does Regulation at Home Affect Bank Risk-Taking Abroad." *Journal of Financial Economics* 18: 727-750.

Persaud, Avinash D. 2014. "Why We Must Break Up the Financial Herd." *QFinance*, October.

Persaud, Avinash. 2001. "Sending the Herd off the Cliff Edge: The Disturbing Interaction Between Herding and Market-Sensitive Risk Management Practices." *Market liquidity: Proceedings of a Workshop held at the BIS*, vol. 02, pp 223-240. Bank for International Settlements.

Pollack, Alex J. 2012. "Financial Markets and "System Effects: Complexity, Recursiveness, Uncertainty, and Mistakes in Finance." American Enterprise Institute for Public Policy Research, July.

Rodriguez, Jacobo. 2002. *International Banking Regulation: Where's the Market Discipline in Basel II?* Policy Analysis 455. Cato Institute.

Sanati, Cyrus. 2009. "Adding Up A.I.G.'s Backdoor Bailouts." *The New York Times*, March 17.

Schoenmaker, Dirk and Jan Sass. 2014. "Cross-Border Insurance in Europe." *DFS Public Policy Paper Series*. no. 45. November.

Shenn, Jodt, Bob Ivry, and Alan Katz. 2010. "AIG 100-Cents Fed Deal Driven by France Belied by French Banks." *Bloomberg*, Jan. 10.

Tarullo, Daniel K. 2008. *Banking on Basel: The Future of International Financial Regulation*. Peterson Institute of International Economics.

Trowbridge, John. 2013. "The Architecture of Group Supervision." In *Global Perspectives on Insurance Today*, edited by Cecilia Kempler, Michel Flamee, Charles Yang and Paul Windels. Palgrave MacMillan.

Van Roy, Patrick. 2008. "Capital Requirements and Bank Behavior in the Early 1990s: Cross-Country Evidence." *International Journal of Central Banking*. Vol. 4. September. 29-60.

VanHoose, David. 2007. "Theories of Bank Behavior Under Capital Regulation." *Journal of Banking and Finance* 31: 3681-3697.

Wright, William, 2014. "Driving Growth – The Case for Bigger and Better Capital Markets." New Financial. Available at <http://newfinancial.eu/driving-growth-case-bigger-better-capital-markets>.