

2011

# Combating the Teleological Drift of Life Insurance Solvency Regulation: The Case for a Meta-Risk Management Approach to Principles-Based Reserving

Robert Weber

Follow this and additional works at: [http://digitalcommons.law.utulsa.edu/fac\\_pub](http://digitalcommons.law.utulsa.edu/fac_pub)

---

## Recommended Citation

8 Berkeley Bus. L.J. 35 (2011).

This Article is brought to you for free and open access by TU Law Digital Commons. It has been accepted for inclusion in Articles, Chapters in Books and Other Contributions to Scholarly Works by an authorized administrator of TU Law Digital Commons. For more information, please contact [daniel-bell@utulsa.edu](mailto:daniel-bell@utulsa.edu).

# Combating the Teleological Drift of Life Insurance Solvency Regulation: The Case for a Meta-Risk Management Approach to Principles-Based Reserving

Robert F. Weber<sup>†</sup>

**Abstract:** *This article presents the recent U.S. “principles-based reserving” (PBR) reform of life insurance solvency regulation as a case study of how regulatory systems can “drift” from their putative objectives when the complexity of the regulated market outpaces the capabilities of traditional regulatory tools to effectuate those objectives. As the life insurance industry developed new products and investment strategies to confront interest rate volatility and the competitive effects of deregulation, regulators perceived the traditional, rigid formula-based methodologies of statutory accounting for reserves – which comprise by good measure life insurers’ largest set of liabilities – as increasingly out of touch with market realities. Under the PBR reform, the statutory accounting system will allow firms to account for their reserves based on their own probabilistic estimates of the future economic value of those liabilities, taking into account past experience and predictive statistical models used in the firms’ internal risk management systems. The statutory reserving regime is a linchpin of life insurance solvency regulation, so regulators should only change it so drastically if they are certain the new approach will promote solvency. The article considers the PBR reform in this context.*

*The article begins by explaining the purpose of solvency regulation in the insurance industry (of which statutory accounting is a central pillar) as a public administrative intervention into the insurance market to remedy corporate governance gaps due to insurers’ unique capital structures. It then distinguishes the statutory accounting system from GAAP accounting by elaborating the former’s traditional conservatism and emphasis on long-term viability and*

---

<sup>†</sup> Westerfield Fellow, Loyola University New Orleans College of Law. The author can be reached at rfweber@loyno.edu.

*solvency over short-term optimization metrics such as share price and earnings. The article then draws on “new governance” and “reliability” theories to analyze the PBR reform as an attempt to restore meaning to the statutory accounting system in the face of the new market complexities and dynamism by tapping into regulated firms’ proprietary risk management systems. The article considers, and finds unlikely, the possibility that firms will themselves adopt a conservative, reliability-focused outlook that privileges long-term solvency over short-term optimization metrics. Under such circumstances, the central task for regulators should be to create a system of “meta-risk management” that aims to encourage the institutionalization of social responsibility and reliability on the part of industry actors. The article explains how the PBR reform is unlikely to embed conservative reliability-focused principles into insurers’ corporate governance structures, and recommends several modifications that might increase PBR’s effectiveness. Whether statutory accounting can in fact recoup its conservative underpinning is but a single manifestation of a larger problematic concerning the viability of public regulatory control in light of the immanent instability of financial capitalism.*

# Combating the Teleological Drift of Life Insurance Solvency Regulation

## TABLE OF CONTENTS

Introduction.....	39
I. Why Life Insurance Solvency Regulation Matters: A Theory of Consumer Protection and Systemic Risk Prevention through Corporate Governance.....	45
A. Life Insurance as Financial Intermediation and the Asset- Liability Mismatch.....	46
B. The Lender Gap in Insurer Corporate Governance (and Why Policyholders Cannot Fill It).....	48
C. Why It Is Important to Address the Corporate Governance Gap: Consumer and Taxpayer Losses, and Systemic Risks to Financial Stability .....	51
II. Statutory Reserve Accounting: What It Is, How It Works, and Why It Is “Conservative” .....	53
A. The U.S. Securities Law Accounting and Disclosure Regime and “Decision Usefulness” .....	55
B. An Introduction to the Internal Logic of Statutory Accounting.....	57
C. Life Insurance Reserves: Why They Are Important, and How They Are Accounted for .....	60
D. A Brief History of SAP Reserving Laws.....	61
III. Increased Market Complexity and Volatility Results in Obsolescence of Statutory Reserve Accounting Rules: Is Risk Management the Solution?.....	63
A. Complexity and Competition Results in New Product Mix .....	65
1. Increased Inter-Sectoral Competition, Interest Rate Volatility, and Deregulatory Zeal .....	65
2. The Product Shift: From Traditional Whole Life to Investment-Oriented Capital Accumulation Products & Annuities.....	68
(a) Life Insurance Products.....	69
(b) Annuity Products.....	73
3. New Products and New Investments Bring New Risks and Instability .....	74
B. Search for Stability in Risk Management & the New Financial Code .....	76
1. The Technological Dimension: New Financial Code and Risk Quantification.....	78
2. The Managerial Dimension: Replacing Short-Term Optimization with a Reliability Perspective .....	80
3. The Legal Dimension: New Governance & Meta-Risk Management .....	90

IV. The NAIC Valuation Manual: Towards a Comprehensive PBR  
Regime ..... 99

A. Preliminary Attempts to Integrate New Products and Risk  
Management into Statutory Reserving Regime ..... 100

1. Asset Adequacy Test..... 100

2. Regulation XXX and Actuarial Guideline AXXX..... 101

3. The VACARVM (Mini-) Revolution ..... 102

B. PBR..... 105

1. Mechanics of PBR ..... 107

2. PBR and Corporate Governance..... 108

3. PBR as New Governance and Meta-Risk Management..... 109

Conclusion ..... 115

## **Combating the Teleological Drift of Life Insurance Solvency Regulation: The Case for a Meta-Risk Management Approach to Principles-Based Reserving**

### INTRODUCTION

In the aftermath the financial crisis of 2008 and 2009, legislators, regulators, journalists, and scholars of financial regulation and corporate law have rightly focused on banks and securities firms. Insurers have received comparatively less attention.<sup>1</sup> While certain aspects of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the Dodd-Frank Act) impact the business of insurance,<sup>2</sup> the new law leaves intact the traditional regulatory framework according to which state insurance commissioners are the lead regulators for the business of insurance.<sup>3</sup> Nevertheless, the life insurance industry is massive. It raises acute policy concerns due to its privileged position as custodian of significant sums of savings, guarantor of income security, and – during certain periods – the largest financier of American corporations.<sup>4</sup> To illustrate, consider that U.S. life insurers hold over \$4.9 trillion in assets, which amounts to over one-third of total projected GDP

---

1. While the bailout of insurance conglomerate American International Group, Inc. (AIG) certainly received its fair share of attention, commentators focused on AIG Financial Products, Inc., a subsidiary engaging primarily in derivatives trading – an activity more closely aligned with the contemporary business models of banks and securities firms.

2. To cite a few provisions in the Dodd-Frank Act that affect the insurance business, the Act forms the consultative and information-gathering Federal Office of Insurance (FOI), provides for the possibility of assessments on large insurers to cover costs of liquidating systemically significant non-insurance companies, and imposes new capital and leverage requirements on thrift holding companies that own insurers. *See* Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, H.R. 4173 § 502(a)(3) (2010) [hereinafter Dodd-Frank Act] (establishing the FOI); *id.* §§ 201-210 (providing for assessments on “financial companies,” including insurers, to fund the Orderly Liquidation Fund); *id.* § 616 (requiring Federal Reserve to impose capital and leverage requirements on all thrift holding companies).

3. For instance, insurers were exempted from both the Volcker Rule, which imposes restrictions on proprietary trading and hedge fund and private equity fund affiliation, and the jurisdiction of the Bureau of Consumer Financial Protection. *See id.* § 619 (2010) (adding Section 13(d)(1)(F) to the Bank Holding Company act to provide exception to Volcker Rule); *id.* §§ 1002(15)(C)(i) & 1027(f) (providing exceptions for insurance products and insurance companies subject to state supervision). For a summary of how insurance remains a state-regulated business, see Susan Randall, *Insurance Regulation in the United States: Regulatory Federalism and the National Association of Insurance Commissioners*, 26 FLA. ST. U. L. REV. 625, 629-40 (1999).

4. *See, e.g.*, 15 U.S.C. § 1011 (2006) (“Congress hereby declares that the continued regulation and taxation by the several States of the business of insurance is in the public interest . . . .”); *United States v. South-Eastern Underwriters Ass’n*, 322 U.S. 533, 540 (1943) (“Perhaps no modern commercial enterprise directly affects so many persons in all walks of life as does the insurance business. Insurance touches the home, the family, and the occupation or the business of almost every person in the United States.”).

for 2010.<sup>5</sup> The total amount of life insurance in force as of year-end 2009 was \$19.1 trillion, which amounts to over 133 percent of total U.S. GDP for that year.<sup>6</sup>

While all may be (relatively) quiet on the federal front, a wide-ranging insurance regulatory reform proposal is poised to revolutionize a central pillar of solvency regulation in the life insurance industry. The reform is a U.S.-based initiative to implement a so-called “principles-based reserving” (PBR) regime. The PBR regime will rely on life insurers’ proprietary statistical models to estimate risks to which life insurers are exposed in the calculation of their policy and annuity liabilities, or “reserves,” which constitute the vast majority of life insurers’ total liabilities. Very broadly, the reform will allow firms to calculate reserves based on their own probabilistic estimates of the future economic value of those liabilities, taking into account past experience and predictive statistical models.

The reform is emblematic of a trend for financial regulators to resort to firm-specific risk modeling and risk management technologies – which have been aptly referred to as the “new financial code”<sup>7</sup> – to gain an “on the ground” understanding of the regulated industries they supervise. While it offers potential benefits by providing regulators with access to better information in dynamic and volatile financial markets, PBR – as currently proposed – compromises the conservatism principle that has guided insurance industry accounting since its inception in the mid-nineteenth century. This article situates the PBR reform in the context of the objectives of life insurance solvency regulation and the economic-historic conditions that putatively resulted in its necessity.

Solvency regulation, the overarching objective of all insurance industry regulation,<sup>8</sup> is fundamentally a corporate governance matter. Insurance companies have a unique capital structure in that they are financed primarily by premium payments rather than equity and debt capital markets. Policyholders provide capital up front to insurers in exchange for a promise to receive payment at a later date and, as such, are analogous to lenders and providers of debt capital to non-insurance firms. However, unlike lenders – who are usually sophisticated, well-organized financial parties with incentives and capabilities to monitor their debtors – policyholders are a widely dispersed group of

---

5. BD. OF GOVERNORS OF THE FED. RES. SYS., FED. RES. STATISTICAL RELEASE Z.1, FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, FLOWS AND OUTSTANDINGS, FIRST QUARTER 2010, at 77 (2010).

6. AM. COUNCIL LIFE INSURERS, LIFE INSURERS FACT BOOK 2009 3 tbl 1.2 (2010).

7. Erik F. Gerding, *Code, Crash, and Open Source: The Outsourcing of Financial Regulation to Risk Models and the Global Financial Crisis*, 84 WASH. L. REV. 127 (2009).

8. See TOM BAKER, INSURANCE LAW & POLICY: CASES, MATERIALS, AND PROBLEMS 639 (2d ed. 2008) (“Traditionally, solvency regulation has been the most important function of state insurance regulation. Nearly everything in the insurance field depends on the insurance company having the ability to honor its commitments.”).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

stakeholders with little motivation or ability to keep track of the companies that insure them. As a result, policyholders do not provide the corporate governance counterweight to the incentives of shareholders and management to commit firms to risky projects that are advantageous to those stakeholders but minimize total firm value. Consequently, insurers are subject to a corporate governance gap that threatens consumer and taxpayer losses (through failed firms and state guaranty funds<sup>9</sup>) as well as systemic risks to the financial system. Solvency regulation is best conceived as a public administrative intervention into the life insurance market to provide the disciplining and monitoring effects that lenders normally would provide.

If solvency regulation is the key pillar of insurance regulation, then statutory accounting principles (SAP) are – along with capital adequacy – the cornerstone of solvency regulation. Insurers are, in distinction to industrial and other financial firms, subject to a *sui generis* set of accounting rules that flow directly from public law. Specifically, the rules come from statutes and regulations enacted or promulgated by state legislators and regulators, usually based on models published by the National Association of Insurance Commissioners (NAIC), the coordinating organization for the state insurance commissioners within the United States. SAP accounting provides a framework for insurers to translate quantifiable metrics from their business into statements representing an insurer's financial position. SAP's internal logic differs in important respects from the generally accepted accounting principles (GAAP) system that governs reporting obligations of firms issuing securities registered with the Securities and Exchange Commission (SEC). In particular, the statutory accounting regime has historically and self-consciously been oriented to a *conservative* statement of financial condition and income, meaning that the regime *intentionally understates* the value of the firm. By so doing, the accounting regime ensures prompt regulatory intervention during times of financial distress through the operation of the capital adequacy regime that empowers and later requires regulators to seize control of firms based on trigger points calibrated to net worth as reflected in SAP financial statements.

This regime stands in stark contrast to the SEC's system of GAAP accounting and mandatory disclosure, which is geared to the "decision usefulness" of information from the perspective of mostly short-term institutional investors. To the extent the SAP rules understate firm values, managers are restricted from transferring funds from the insurer via dividends to the shareholders or through profitable investment in new business opportunities. As an inevitable result, insurers' profitability decreases, and their cost of capital increases, but implicit in the SAP accounting regime was a normative policy commitment that these costs of solvency are worth the

---

9. See *infra* Part I.



incremental improvement to the industry's long-term financial solidity.

From the mid-nineteenth century through the end of the twentieth century, a rigid, formula-based approach to SAP reserve accounting, incorporating conservative assumptions, remained largely unchanged. Starting in the 1970s, increased volatility, complexity, and uncertainty in financial markets pushed life insurers into new product offerings and investment strategies, and the instrumental relationship between regulatory objectives and regulatory tools – that is, between solvency promotion and the traditional SAP rules – was severed.

In particular, life insurers have increasingly (1) offered a product mix that competed with banks and mutual funds in markets for investment-oriented capital accumulation products and (2) invested premiums in higher-risk asset classes. These changes were enabled by advances in theoretical finance applied in practice by harnessing growing computer technology throughout the 1980s and 1990s. Insurers, like all financial firms, used computer technology during this period to develop elaborate information systems that identified and assessed risks, and then automated business processes in light of the systematized results of the risk assessment. The new market conditions and product mix transformed the goal of insurance regulation – the promotion of solvency – into a dynamic, reflexive target, disrupting the relatively harmonic relationship between the reserve accounting rules and the predictable product mix that had previously existed. In light of this disrupted regulatory dynamic, regulators and legislators are struggling to reconstruct a coherent regulatory apparatus by harnessing new financial code and risk management technologies.

It is here that the risk management story merges with the solvency regulation narrative: the promise that firms – especially those like life insurers and depository institutions that face corporate governance gaps and high negative externalities – can build an informational and operational infrastructure that keeps risks in check. In order for risk management to serve as an effective counterbalance to the burgeoning risk profiles of regulated businesses in dynamic industries, it must be institutionalized and embedded in the organization's network of communication and authority. Enterprise risk management seeks to embed the new financial code into defined channels of corporate authority in a manner that permits the firm – itself a highly disaggregated set of individuals, commitments, and contracts<sup>10</sup> – to identify, quantify, and manage itself in light of risks uncovered by coded information technology systems. Institutionalization of a *conservative* approach to risk management can only occur when a firm adopts a long-term view of its viability, premised on continuous self-reflection and improvement as well as

---

10. See FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC FOUNDATIONS OF CORPORATE LAW* 1-33 (1991).

flexibility in setting the firm's goals. Only by adopting what Professor Bill Simon has termed a "reliability" perspective – and concomitantly rejecting undue focus on the optimization of short-term metrics such as earnings targets and cost minimization – will risk management rise to the challenge presented by contemporary financial markets.<sup>11</sup>

The present status of the financial services industry is not propitious for the spread of an authentic "industrial morality" that will institutionalize a reliability perspective and conservative risk management norms.<sup>12</sup> Financial institutions can extract rents from the users of finance by collecting fees or profits from transactions that build systemic risk, which is borne by all users of finance rather than the financial services firms themselves. Managers' rent-seeking behavior is exacerbated by the existence of federal safety nets that attenuate the incentives for counterparties to police financial firms. Moreover, institutional investors pressure managers to realize short-term profitability goals, and often prefer that a marginal dollar is invested in profitable business opportunities rather than risk management systems that may prevent losses well after the investors have sold their stock. Neil Gunningham and Joseph Rees have theorized that for an authentic "industrial morality" to emerge, there must be a convergence of interests between industry and public interests, whether through organic means or through the threat of intrusive command-and-control *diktat* if nothing is done.<sup>13</sup> At present, it is highly unlikely that such a convergence of interest materializes. First, the public and private relationship is one of conflict to the extent that safety nets mean firms do not bear the costs of their own failure. And second, as recently demonstrated by the shortcomings of the Dodd-Frank financial regulation overhaul, the financial lobby has good reason to believe that it can fight off any existential threat to its fundamental business.

The task then turns to identifying new modes of deploying public power to foster the institutionalization of risk management norms. In other words, regulators must enter the business of what John Braithwaite has called "meta-risk management."<sup>14</sup> The PBR initiative – like much of the recent Basel II reform for banks – should be evaluated as an attempt to establish such a system. Financial regulatory reforms, such as these, that aim to bridge widening information asymmetries by harnessing quality information derived from the new financial code and risk management systems can be considered "new governance" initiatives. New governance reforms re-conceptualize the New

---

11. William H. Simon, *Optimization and Its Discontents in Regulatory Design: Bank Regulation as an Example* 2-12 (Columbia Law Sch. Pub. Law & Legal Theory Working Paper Group, Paper No. 9180, 2009), available at [http://lsr.nellco.org/columbia\\_pllt/9180](http://lsr.nellco.org/columbia_pllt/9180).

12. Neil Gunningham & Joseph Rees, *Industry Self-Regulation: An Institutional Perspective*, 19 LAW & POL'Y 363, 376-89 (1997).

13. See *id.* at 376-80.

14. John Braithwaite, *Meta Risk Management and Responsive Regulation for Tax System Integrity*, 25 LAW & POL'Y 1, 1 (2003).

Deal model of expert public regulators imposing regulation on private firms to pursue public regulatory objectives. Because financial regulators are no longer in possession of sufficiently detailed and current information of the complex and dynamic businesses they regulate, the private-public division ceases to be a defining characteristic of regulatory governance. The relevant units of inquiry become the modes of interaction between government and governed, as well as the tools employed in a public process of regulation in which private industry actors and other non-state actors play significant roles.

New governance tools aim to address volatility and uncertainty with flexible lawmaking that emphasizes ready revision in light of experience, continuous learning, and destabilization of norms through monitoring and benchmarking. Finally, new governance contemplates a continuing role for public power, but with a revised role as governance process arranger and, where necessary, a deterrent threat against defection from regulatory objectives. New governance thus proposes a *decentralized* public process involving both public and private entities that is *dynamic, flexible and revisable*, though always bolstered by a *credible, risk-sensitive threat of enforcement*.

PBR is an incomplete new governance solution because it fails to embed reliability principles in regulated firms and, in so failing, distances itself from the core principle of conservatism that has guided insurance financial reporting for over a century. The reform is to be applauded for decentralizing governance by pushing authority for accounting standard-setting down to the regulated firm level. Firms themselves, with their superior access to and ability to process information, are enlisted to restore the logical relationship between the accounting rules and the regulated business that, due to new product mix, had largely disappeared. However, the effectiveness of the PBR reform is limited by the lack of (1) a mandate for regulators to deploy risk-sensitive enforcement threats to encourage an authentic reliability perspective to risk management and (2) an information-sharing forum for regulators and regulatees permitting best practices to be identified promptly and presented prospectively as standards, destabilizing any tendency to focus on easily-quantifiable, short-term metrics alone. Without including these new governance attributes, the logic of the internal modeling and the risk management function will remain oriented toward short-term optimization metrics rather than reliability and conservatism.

This article concludes that the PBR reform is correct to retain a modified, formula-based “standard scenario” floor in the reserve calculation exercise. Until life insurers have adequately embedded authentic conservative risk management norms into their corporate governance infrastructure, a shift to PBR alone would be imprudent. In concluding, the article also proposes that (1) the baseline standard scenario be made more conservative, since regulators have acknowledged its adequacy under most circumstances and (2) the NAIC

## Combating the Teleological Drift of Life Insurance Solvency Regulation

should coordinate its PBR reform with other ongoing initiatives that will increase its flexibility and provide for a more effective enforcement presence. That said, this article's purpose is not to make concrete policy proposals, but rather to elucidate the underappreciated teleological drift of solvency regulation away from conservatism and towards internal firm estimates of economic value and to provide a theoretical framework for reconstituting SAP accounting conservatism through the institutionalization of a reliability perspective.

This article proceeds as follows: Part I of this article explains why solvency regulation in the life insurance industry is best understood from a corporate governance standpoint. Specifically, it notes the governance gap resulting from the absence of lenders and debt holders in the life insurance capital structure, and shows how consumer and taxpayer losses and systemic financial risks can be attributed to it. Part II introduces SAP accounting and distinguishes it from GAAP accounting on the basis of its traditionally conservative internal logic. It discusses in particular the importance of reserve accounting and provides a brief history of U.S. SAP reserving laws. Part III describes how increased competition, interest rate volatility, and financial deregulation combined to force life insurers to revamp their traditional product mix and change their investment strategies, in each case subjecting their balance sheets to new risks that were increasingly not addressed with the traditional SAP reserving formulae. It also situates the risk management revolution in the context of these developments and analyzes it along technological, managerial, and legal dimensions. Within Part III, the risk management function is considered from a new governance and reliability perspective, and the Part explains why the existing attempts by legislators, courts, and regulators to foster the integration of authentic risk management norms into firm culture fall short. Part IV describes (1) the preliminary attempts to address life insurers' burgeoning risk profile in the SAP reserving framework and (2) the PBR reform, including its corporate governance element. It assesses the latter as a potential new governance strategy and finds it lacking.

### I. WHY LIFE INSURANCE SOLVENCY REGULATION MATTERS: A THEORY OF CONSUMER PROTECTION AND SYSTEMIC RISK PREVENTION THROUGH CORPORATE GOVERNANCE

This Part explains the purposes of life insurance solvency regulation from the perspective of corporate governance principles. Sub-Part A illustrates how life insurers, like banks, engage in financial intermediation and are thereby susceptible to an asset-liability mismatch, though the mismatch is slower to emerge for life insurers than for banks. Sub-Part B describes the important disciplining and monitoring role of lenders in corporate governance, and demonstrates why the corporate governance of life insurers – which are funded by policyholders rather than loan and debt markets – suffers from the lack of

lenders in the capital structure. Finally, Sub-Part C illustrates the systemic risks to the financial system and the potential consumer and taxpayer losses that the corporate governance failure poses and, in the process, makes the case for insurance solvency regulation.

#### *A. Life Insurance as Financial Intermediation and the Asset-Liability Mismatch*

Life insurers – like commercial banks, securities firms, and mutual funds – are in the business of financial intermediation. Like any financial intermediary, life insurers intermediate between capital surplus economic units such as households with savings and capital deficit economic units such as expanding firms that lack retained earnings.<sup>15</sup> A life insurer obtains revenues from premium payments and then pools and invests those revenues in securities, real estate, commercial loans, and private and public equity markets.<sup>16</sup> Nevertheless, since a large portion of the assets supporting life policy and annuity reserves economically belongs (and eventually will legally belong) to policyholders,<sup>17</sup> it is appropriate to analogize life insurers with depository institutions such as banks safeguarding investors' savings.<sup>18</sup> These savings are transformed in the life insurer's hands into investment capital, which the life insurer allocates in order to obtain a return without assuming unacceptable levels of risk. While the life insurer performs this capital allocation function on the asset side of its balance sheet, it is subject to claims liability in amounts that are unrelated to fluctuations in its asset portfolio. In other words, life insurers must pay claims when policyholders die irrespective of the performance of their asset portfolios. As such, life insurers suffer, as all financial institutions do, from an asset-liability mismatch: i.e., when claims come due, there is no guarantee that there will be sufficient available funds to honor the claims.<sup>19</sup>

Premiums are to insurance what deposits are to banking: the source of life, but also a barometer of stability and, when confidence wanes, a fickle reminder that financial institutions are only as good as their perceived ability to honor their commitments. When policyholders doubt an insurer's continuing ability to pay claims, new premium income may dry up, which can result – especially when combined with asset price declines – in liquidity pressures.<sup>20</sup>

---

15. RICHARD SCOTT CARNELL ET AL., *THE LAW OF BANKING AND FINANCIAL INSTITUTIONS* 33-40 (2009).

16. *Id.* at 535.

17. In the case of a mutual insurer, over the long run nearly all of the assets supporting the reserves belong to the policyholders. *See* *Fid. & Cas. Co. of N.Y. v. Metro. Life Ins. Co.*, 248 N.Y.S. 2d 559, 567-68 (1963) (explaining how New York law requires distribution of surplus to mutual policyholders on an annual basis).

18. *See* Aigbe Akhige, Stephen F. Borde & Jeff Madura, *Dividend Policy and Signaling by Insurance Companies*, 60 J. RISK & INS. 413, 413-14 (1993).

19. *See, e.g.*, METLIFE INC., ANNUAL REPORT 82 (Form 10-K) (Feb. 26, 2010) (describing importance of asset-liability matching to MetLife's life insurance business).

20. David F. Babbel & Craig Merrill, *Real and Illusory Value Creation by Insurance Companies*,

## Combating the Teleological Drift of Life Insurance Solvency Regulation

Furthermore, insurance policies often carry policy loan privileges requiring life insurers to lend their capital to policyholders against the accumulated cash value of the policies.<sup>21</sup> When interest rates rise and policyholders rush to “surrender”<sup>22</sup> their policies, let their policies “lapse,”<sup>23</sup> or call their policy loan privileges, a life insurer may face a liquidity crunch.

That said, the prevention of liquidity shortages is not the primary objective of insurance solvency regulation because the asset-liability mismatch in the insurance industry is less pronounced than in the banking industry.<sup>24</sup> Life insurers have traditionally been pre-funded through premium payments.<sup>25</sup> In return, they promise to pay claims on insured events that tend to occur according to predictable patterns and often decades hence. Moreover, insurers apply penalty charges on surrenders, which decrease the likelihood of a contagion of withdrawals.<sup>26</sup>

Banks, by contrast, have a much more fickle funding base of overnight interbank lending and demand deposits that support a fundamentally illiquid asset portfolio consisting predominantly of long-term loans. When policyholders perceive weakness in an insurer, they can surrender their policies or let them lapse, but surrender and lapse charges are often high and slow the contagion of funds withdrawal. “Runs” on life insurers are therefore less of an immediate phenomenon than bank runs. For life insurers, it is more accurate to describe the danger as a tendency for a growing asset-liability mismatch to emerge over a longer time horizon.<sup>27</sup> Accordingly, solvency regulation is best conceived as operating along this longer time horizon and along corporate governance dimensions, as a legal regime designed to impose a specific view of corporate stewardship that protects the firm against the emergence of a

---

72 J. RISK & INS. 1, 18-19 (2005).

21. See DICTIONARY OF FINANCE & INVESTMENT TERMS 522 (John Downes & Jordan E. Goodman eds., 2006).

22. *Id.* at 103 (explaining that “cash surrender rate” is amount insurer will return to the policyholder upon cancellation of policy).

23. *Id.* at 376 (explaining that policyholders let their policies “lapse” when they do not make their required premium payments and lose the policy’s protection).

24. In other words, the temporal divergence between the maturity of assets in insurers’ investment portfolio and the expected payout of claims is less pronounced than the divergence between the short-term deposit liabilities and long-term loan assets of banks. See RAY BENNETT ET AL., HOW VALUABLE IS LIQUIDITY? 14 fig.6.1 (2008), available at [http://www.actuaries.org.uk/sites/all/files/documents/pdf/Stanworth\\_text.pdf](http://www.actuaries.org.uk/sites/all/files/documents/pdf/Stanworth_text.pdf).

25. MARY A. WEISS, SYSTEMIC RISK AND THE U.S. INSURANCE SECTOR at 5, available at [http://www.naic.org/documents/cipr\\_weiss\\_systemic\\_risk\\_100223.pdf](http://www.naic.org/documents/cipr_weiss_systemic_risk_100223.pdf)

26. See *id.* at 32-33; Kenneth M. Wright, *The Structure, Conduct, and Regulation of the Life Insurance Industry*, in THE FINANCIAL CONDITION AND REGULATION OF INSURANCE COMPANIES 73, 76 (Fed. Res. Bank of Boston, Conf. Ser. No. 35 1991) [hereinafter REGULATION OF INSURANCE COMPANIES] (“Liquidity was not thought to be a problem, since the steady inflow of contractual premium payments was far in excess of cash surrenders or requests for policy loans.”).

27. See GUILLAUME PLANTIN & JEAN-CHARLES ROCHET, WHEN INSURERS GO BUST: AN ECONOMIC ANALYSIS OF THE ROLE AND DESIGN OF PRUDENTIAL REGULATION 90-93 (2007).

pronounced asset-liability mismatch.<sup>28</sup>

*B. The Lender Gap in Insurer Corporate Governance (and Why Policyholders Cannot Fill It)*

Solvency regulation in the insurance industry is better conceived as an artificial stand-in for the disciplining and monitoring effects of debt that are largely absent in the insurance industry, and without which both shareholders and managers can more easily bind the firm to value-reducing transactions. Non-financial firms are funded through debt and equity capital. These firms' shareholders and lenders – whether banks or bondholders – have interests in monitoring the firms' performance. Lenders, which receive fixed returns in the form of interest payments, are relatively uninterested in the firm's profitability; instead, they are focused on the firm's solvency and long-term viability. As long as the firm remains solvent, lenders expect to be paid and have a senior claim on the firm's assets in the event of nonpayment.<sup>29</sup> Shareholders, on the other hand, care deeply about profitability. When a firm approaches insolvency, its net worth evaporates and the value of the shareholders' equity stake falls. Under such circumstances, a share is the economic equivalent of an out-of-the-money put option on the firm and the cardinal rule of option pricing impacts shareholder motivations (i.e., an option's value increases as the volatility of the underlying reference asset increases). Shareholders therefore begin to prefer risky projects that, despite having a negative net present expected value for the firm, offer the possibility of large profits to redeem their equity investment. For this reason, as the firm approaches insolvency, managers and directors generally owe fiduciary duties not only to shareholders, but also to creditors.<sup>30</sup> The legal duties are no different for life insurers.<sup>31</sup>

---

28. This view of corporate stewardship is at bottom a political reflection of the optimal social balance between increased costs of capital and insurance on the one hand and the economic costs of insolvency on the other. See *infra* note 77 and accompanying text. While theoretically regulators could conduct cost-benefit analyses to determine an objective optimal trade-off point, such analyses are in practice impossible to perform with precision for all but the simplest of problems. See Guido Calabresi, *Transaction Costs, Resource Allocation, and Liability Rules – A Comment*, 11 J. L. & ECON. 67, 70-71 (1968).

29. Given the nature of credit relationships, banks can also expect future revenues from borrowers arising out of future lending facilities, advisory business, and underwriting, syndication and other fee income. See Adam Feibelman, *Commercial Lending and the Separation of Banking and Commerce*, 75 U. CIN. L. REV. 943, 948-49 (2007).

30. See Frederick Tung, *The New Death of Contract: Creeping Corporate Fiduciary Duties for Creditors*, 57 EMORY L.J. 809, 820 (2008).

31. See, e.g., N.Y. INS. L. § 1202 (2008) (providing that directors of insurance companies owe same duties as directors of business corporations); 18 DEL. CODE § 4903 (2008) (“Domestic stock and mutual insurers shall be governed by the applicable provisions of the general statutes of this State relating to private corporations except where such general statutes are in conflict with the express provisions of this title . . . .”); cf. *Fiala v. Metro. Life Ins. Co.*, 776 N.Y.S. 2d 29, 32 (App. Div. 2004) (“[A]n insurance company does not owe its policyholder a common-law fiduciary duty except when it is called upon to defend its insured.”).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

But boards and managers have closer ties with shareholders than lenders, and the threat of opportunistic behavior requires lenders to monitor the firm's solvency. Where lenders are able to assert a governance role in this "zone of insolvency,"<sup>32</sup> they counteract shareholders' high risk preferences and enhance total firm value.

Typically, the terms of the monitoring are described in the loan documentation or indenture and often include compliance with mandatory debt and coverage ratios, observation rights, and negative covenants prohibiting certain transaction such as non-ordinary course capital expenditures, mergers, fundamental changes in business, and changes of corporate control.<sup>33</sup> Banks (acting either for their own account or as administrative agents in connection with syndicated loans) and indenture trustees monitor compliance with the documented restrictions and conditions. These restrictions not only protect lenders against equity's tendency to "bet the house" when a firm approaches insolvency; they also can inure to the benefit of other stakeholders (including shareholders themselves) by circumscribing management's ability to engage in empire-building, rent-seeking, and fraud.<sup>34</sup> Finally, if managers need to access debt markets regularly, they will be subject to market discipline by creditors, who will calibrate a firm's cost of capital for new bond issues or corporate loans to risk levels.<sup>35</sup>

Moreover, as a functional matter many lenders are better equipped than shareholders to exercise a monitoring role. Unlike widely dispersed shareholders, lenders consolidate the monitoring responsibilities in a single actor. Lenders also enjoy informational advantages over shareholders owing to both institutional reasons such as access to a borrower's other accounts and superior analytical capabilities, and contractual reasons such as frequent and granular reporting obligations required in loan documentation. Where the legal system does not empower creditors to exert influence over firm management, monitoring creditors may signal to empowered stakeholders to take corrective action.<sup>36</sup> Empirical evidence shows that, notwithstanding the demonstrable

---

32. *Credit Lyonnais Bank Nederland, N.V. v. Pathe Commc'ns Corp.*, No. 12150, 1991 Del. Ch. LEXIS 215, at \*108 (Del. Ch. 1991).

33. See Frederick Tung, *Leverage in the Board Room: The Unsung Influence of Private Lenders in Corporate Governance*, 57 U.C.L.A. L. REV. 115, 135-38 (2009); Douglas G. Baird & Robert K. Rasmussen, *Private Debt and the Missing Lever of Corporate Governance*, 154 U. PA. L. REV. 1209, 1227-28 (2006). As a practical matter, these rights may be waived, so they function as consent rights.

34. See John Armour et al., *The Essential Elements of Corporate Law* 11 (Univ. Oxford Leg. Stud. Res. Paper No. 20/2009), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1436551](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1436551). Since insurers are contractually committed to pay claims, these disciplining effects are present for insurers in the same manner as debt-funded enterprises.

35. See DANIEL K. TARULLO, *BANKING ON BASEL: THE FUTURE OF INTERNATIONAL FINANCIAL REGULATION* 231-35 (2008); Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance and Takeovers*, 76 AM. ECON. REV. 323, 324 (1986); Frank H. Easterbrook, *Two Agency Cost Explanations of Dividends*, 74 AM. ECON. REV. 650, 654 (1984).

36. See George G. Triantis & Ronald J. Daniels, *The Role of Debt in Interactive Corporate Governance*, 83 CAL. L. REV. 1073, 1079 (1995).



debt-equity conflicts of interest, announcement of a bank loan is followed by abnormal *stock* returns.<sup>37</sup>

The foregoing lender-shareholder-firm relationship is inapposite in the case of an insurer, which has a different capital structure. As noted earlier, insurers are funded primarily through policyholder premiums.<sup>38</sup> Insurers are net providers, rather than users, of debt finance.<sup>39</sup> While insurers can offer so-called surplus notes – deeply subordinated debt-like securities that pay interest and principle, but with a veto right of the relevant insurance regulators to any such payments – through the Regulation S and Rule 144A markets, these notes are too risky to likely ever comprise a substantial portion of an insurer's capital structure.<sup>40</sup> The market for guaranteed investment contracts (GICs)<sup>41</sup> is large, but it comprises less than 5 percent of total life insurance industry reserves.<sup>42</sup> Thus, policyholders are the insurance analogs of lenders: the party with incentives to monitor the firm's solvency and counteract perverse incentives of management. In the insurance context, these incentives can result in riskier investment strategies, expansion of new business lines, and attenuation of underwriting standards. However, policyholders, in distinction to banks and indenture trustees, are often financially unsophisticated and unable to credibly assess the risk of claims nonpayment by their insurers. They therefore face a wider information asymmetry that impedes their ability to monitor and exert price pressure on the insurer.

Moreover, policyholders are frustrated by a collective action problem: no single policyholder is in a position to assume the monitoring burden and associated costs.<sup>43</sup> A capital market failure arises due to the imperfect information exchange between policyholders (in their role as providers of capital) and firms, which results in the disappearance of a key actor in the

37. See Tung, *supra* note 33 at 125-26 & n.37. These observations are limited to private bank loans. There is no evidence that shareholders value public debt.

38. See *supra* note 16 and accompanying text.

39. While insurers are legally empowered (as other corporations are) to incur indebtedness, state law typically restricts the amount they incur. See, e.g., 68 N.Y. JUR. INS. § 145 (2010). Holding companies may issue debt, but the ready supply of investment capital from insurance premiums and annuity considerations minimizes the need for debt capital. For example, as of June 30, 2010, the two largest U.S. life insurance holding companies – MetLife Inc. and Prudential Financial Inc. – had \$452.0 billion and \$410.5 billion, respectively, of reserve liabilities and \$24.7 billion and \$24.6 billion, respectively, of debt outstanding. See METLIFE INC., QUARTERLY REPORT (Form 10-Q) (Aug. 2, 2010); PRUDENTIAL FINANCIAL, INC., QUARTERLY REPORT (Form 10-Q) (Aug. 6, 2010).

40. ROSEMARIE SANGIULO & LESLIE F. SEIDMAN, FINANCIAL INSTRUMENTS 2009: A COMPREHENSIVE GUIDE TO ACCOUNTING AND REPORTING 16.27 (2009).

41. A GIC is a deposit-like contract without mortality or morbidity risk pursuant to which a life insurer guarantees to an investor, typically a pension fund or 401-k plan operator, a specified rate of return over the life of the contract. See DICTIONARY OF FINANCE AND INVESTMENT TERMS, *supra* note 21 at 301.

42. See AM. COUNCIL LIFE INSURERS, ACLI LIFE INSURERS FACT BOOK 2009, 29 tbl. 3.3 (reporting \$181 billion in GIC reserves as of December 31, 2008); *id.* at 28 tbl. 3.2 (reporting \$3.471 trillion in life insurers' policy reserves as of December 31, 2008).

43. See Charles K. Whitehead, *Reframing Financial Regulation*, 90 B.U. L. REV. 1, 11-13 (2010).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

corporate governance equilibrium.<sup>44</sup> Insurance solvency regulation is designed to minimize insolvency risk by imposing a set of restrictions on an insurer's business analogous to covenant protections in privately negotiated credit documentation, and monitoring the insurer's compliance with those restrictions through regular prudential examinations.

### *C. Why It Is Important to Address the Corporate Governance Gap: Consumer and Taxpayer Losses, and Systemic Risks to Financial Stability*

Establishing that insurers lack the monitoring discipline of debt holders does not, on its own, justify a system of solvency regulation. Other industry segments continue to flourish without robust monitoring by debt holders.<sup>45</sup> In what respects does life insurance merit special attention? The preliminary point to be made in this context is a background empirical observation: the presence of banks as monitoring agents likely increases firm values.<sup>46</sup> But more fundamentally, life insurers pose two distinct additional policy concerns. The first concern regards consumer protection. Life insurers are custodians of significant sums of savings. The second concern regards systemic risk: given their central role as purchaser in the fixed income market, a failure of an insurer could trigger fire sales in fixed income securities that results in asset price implosions and credit retrenchment by other intermediaries seeking to recover from their losses.<sup>47</sup> In recognition of these special policy concerns, the law impliedly views insurance managers as agents of society at large in addition to their traditional role as agents of the corporation.

First, solvency regulation is at bottom about consumer protection. Given the implacable trend away from the defined benefit world of job and retirement security and toward the defined contribution world of greater dependence on individual retirement and bequest planning, its importance cannot be overstated.<sup>48</sup> For over half a century, modern portfolio theory has taught that

---

44. A similar corporate governance gap exacerbated the losses for Lehman Brothers and Bear Stearns. Amendments to the bankruptcy laws operated to insulate these firms' sources of short-term funding from credit risk, removing any incentive to monitor them as they piled on unsafe risks. See Mark J. Roe, *Bankruptcy's Financial Crisis Accelerator: The Derivatives Players' Priorities in Chapter 11* 7-9 (2010), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1567075](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1567075). Professor Henry Hu has referred to such counterparties as "empty creditors." Henry T.C. Hu, "Empty Creditors" and the Crisis, WALL ST. J., Apr. 10, 2009, at A13 ("Empty creditors have weaker incentives to cooperate with troubled companies to avoid collapse and, if collapse occurs, can cause substantive and disclosure complexities in bankruptcy.").

45. For instance, start-up companies without established cash flows are usually unable to access debt financing and are accordingly 100% equity financed.

46. See Joanna M. Shepherd et al., *What Else Matters for Corporate Governance?: The Case of Bank Monitoring*, 88 B.U. L. REV. 991, 996 (2008) (demonstrating empirically the value-enhancing effect of bank monitoring).

47. See ROBERT E. LITAN & JONATHAN RAUCH, AMERICAN FINANCE FOR THE 21ST CENTURY 108-12 (1997).

48. See, e.g., 148 CONG. REC. 12, 914 (daily ed. July 15, 2002) (statement of Sen. John Corzine) (noting that the number of employer-sponsored pension plans where employers bear investment risks

capital market investors that diversify their holdings can eliminate firm-specific risks.<sup>49</sup> If investors can diversify risk associated with any particular firm, then a firm's bankruptcy does not compromise the investor's overall returns. Most policyholders have no such luxury. Furthermore, financial intermediaries like insurers are more likely than other businesses to suffer from fraud due to their ready supply of liquid financial assets.<sup>50</sup>

Starting in the early 1970s, U.S. states – which due to political and historical factors are currently the principal regulators of the insurance business<sup>51</sup> – have sought to shore up consumer confidence by establishing insurance guaranty funds.<sup>52</sup> These funds, much like the Federal Deposit Insurance Corporation's (FDIC) backstop of bank and thrift deposits, provide a limited backstop to cover an insolvent insurer's claims.<sup>53</sup> However, unlike the (partially) pre-funded FDIC, the guaranty funds are funded by ex post industry assessments.<sup>54</sup> While the guaranty fund mechanism ensures that no claim will be completely unexhausted, it imposes significant assessment costs that result in higher premiums and, more troublingly, in tough market conditions might even threaten the insolvency of the contributing surviving firms.<sup>55</sup> Moreover, guaranty fund assessments are applied on a risk-neutral basis, so firms with strong risk and operational management are charged the same assessments as a shaky firm that could very well be the next insolvent firm.<sup>56</sup> Another limitation is that guaranty fund assessments may be offset against future premium tax payments, so in effect state taxpayers bear much of the burden.<sup>57</sup> Thus, state guaranty funds are an incomplete solution to solving the consumer protection issues of insurance solvency.

---

declined from 175,000 to 50,000 from 1983 to 2002 and lamenting the political movement to “privatize Social Security”). As a result of this trend, employees qua consumers of financial services – rather than larger, more sophisticated employers – bear risks associated with their retirement assets, including insurance assets.

49. See RICHARD A. BREALEY & STEWART C. MYERS, *PRINCIPLES OF CORPORATE FINANCE* 187-94 (2003).

50. See Whitchead, *supra* note 43 at 10.

51. See Randall, *supra* note 3 at 629-40.

52. Prior to the establishment of the guaranty funds, insurance companies would sometimes organize private bail-outs for insolvent companies in the interests of preserving public confidence in the industry at large. See Spencer L. Kimball, *The Purpose of Insurance Regulation: A Preliminary Inquiry in the Theory of Insurance Law*, 45 MINN. L. REV. 471, 483 n. 47 (1964).

53. See CARNELL ET AL., *supra* note 15 at 547.

54. *Id.* (describing ex post assessments of guaranty funds). The FDIC's total exposure is over \$4 trillion, but only a small fraction of it is pre-funded. In fact, the FDIC's minimum target reserve is only 1.35%. See Dodd-Frank Act, *supra* note 2 § 331.

55. Thus the surviving firms pay twice, in effect. First, they lose business to the now insolvent firm, and second, they must fund the obligations of the insolvent firm as well. In fact, the only firm that pays no assessment is the insolvent firm itself!

56. See NAT'L ASS'N INS. COMM'RS, 520-1 LIFE & HEALTH INSURANCE GUARANTY ASSOCIATION MODEL ACT § 9.C(2) (2010) (providing that assessments are based on the volume of business written on a risk-neutral basis).

57. See Gerard M. Brannon, *Public Policy and Life Insurance*, in *REGULATION OF INSURANCE COMPANIES*, *supra* note 26 at 199, 236.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

Second, life insurers pose systemic risks that can spill over into the larger economy via capital markets. Life insurers are the largest purchasers of corporate bonds in the United States.<sup>58</sup> They also are significant players in the equity and commercial mortgage markets. If a struggling firm needs to sell off significant chunks of holdings, or if a large insurer is placed in receivership and its portfolio is liquidated, any resulting fire sale could result in lower prices and higher yields for the sold securities.<sup>59</sup> As yields rise, corporate borrowers and commercial property developers might cancel projects due to the higher cost of debt capital, and the downward pressure on the prices of outstanding bonds could compromise the balance sheets of other solvent institutions including, in addition to insurers, banks, mutual funds, and pension funds. Risk management technologies such as value-at-risk (VaR) techniques exacerbate the systemic effects of unexpected asset price decreases, as trading units are literally programmed according to largely standardized stop-loss algorithms to dump assets that experience price declines out of step with the model's predictions.<sup>60</sup> A downward spiral of the relevant asset class might result.<sup>61</sup>

This dynamic never occurs in a neatly isolated laboratory. In interconnected financial markets, the conditions requiring the fire sale of the insurer's assets are likely contributing 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. At a minimum, it would be expected that securities markets would lose much of their depth, which would decrease the likelihood that markets could absorb the sell-off without registering steep price declines of the sold securities.

To summarize briefly, life insurance solvency regulation should be conceptualized as a public regulatory intervention into the life insurance market to promote the welfare-enhancing corporate governance benefits that lenders typically provide. In the process, regulation minimizes consumer protection threats, protects taxpayers against bailouts, and curbs systemic risks.

## II. STATUTORY RESERVE ACCOUNTING: WHAT IT IS, HOW IT WORKS, AND WHY IT IS "CONSERVATIVE"

SAP accounting rules, along with capital adequacy regulation, form the

---

58. See BD. GOVERNORS FED. RES. SYSTEM, FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES 71-83 (June 2010).

59. See Scott E. Harrington, *The Financial Crisis, Systemic Risk, and the Future of Insurance Regulation*, 76 J. RISK & INS. 785 (2009); Weiss, *supra* note 25 at 8 (noting that life insurers are subject to runs on their capital accumulation products that complicate efforts to achieve a quick resolution of insolvency and result in funding shortfalls).

60. See Whitehead, *supra* note 43 at 39-40.

61. See *id.*; SIMON JOHNSON & JAMES KWAK, 13 BANKERS 29 (2010) (referring to this vicious cycle as the "financial accelerator").

central pillar of insurance solvency regulation.<sup>62</sup> The recent PBR reform proposes fundamental changes to the mechanics of the accounting rules applicable to insurers and therefore strikes at the structural integrity of the whole solvency regulation apparatus. The objective of a system of accounting rules and public disclosure obligations is to facilitate the flow of financial information so as to permit the recipients of the information, whether markets or regulators, to process it in a socially optimal manner. Mandatory disclosure rules open the flow of information to designated stakeholders – e.g., potential and current debt and equity investors, regulators, tax authorities, and counterparties – and accounting rules dictate the manner in which the information is presented. There is no a priori set of accounting and disclosure rules that reproduces economic reality like a score measures the notes of a concerto. Rather, each selection of accounting and disclosure rules implies a set of regulatory objectives and a conception of the internal logic of the rules – how they interact with each other and with other rules in the regime, and how the markets will process information or how the regulators will respond to the information. In this way, public law constructs and legitimates markets according to public priorities.<sup>63</sup>

Accounting and disclosure rules, by defining the metes and bounds of the information package that is to be disclosed to markets or regulators, are instruments or tools in pursuit of normative commitments as to how markets should allocate capital and its returns, or how regulators in possession of information should be empowered to intervene. As the example of regulatory accounting principles in the thrift industry in the 1980s shows,<sup>64</sup> sometimes the objectives pursued can be the product of misguided political motivations. The point here is simply that the design of such a system of rules is necessarily a *political* or *strategic* endeavor that privileges certain commitments over others.<sup>65</sup> When assessing the effectiveness of an accounting and disclosure

---

62. It might be objected that legal investment portfolio restrictions are equally important to insurance solvency regulation. Because the reserve regulation requires reserves be backed with assets, the investment restrictions can be thought of as a sub-component of the regulation of reserves. See Brannon, *supra* note 57 at 212 (“The most long-standing government policy toward life insurance is reserve regulation, including the control of investment quality.”).

63. See Christopher Arup, *The Global Financial Crisis: Learning from Regulatory and Governance Studies*, 32 LAW & POL’Y 363, 365 (2010); NATIONAL PERFORMANCE REVIEW, FROM RED TAPE TO RESULTS: CREATING A GOVERNMENT THAT WORKS BETTER AND COSTS LESS 62 (1993) (describing “governance” as “setting priorities, then using the federal government’s immense power to steer what happens in the private sector”). This assertion is subject to the public choice theorists’ proviso that not all nominally “public” priorities result from a public deliberative process.

64. See LAWRENCE J. WHITE, THE S&L DEBACLE: PUBLIC POLICY LESSONS FOR BANK AND THRIFT REGULATION 83-87 (1991).

65. See LAWRENCE A. CUNNINGHAM, INTRODUCTORY ACCOUNTING, FINANCE AND AUDITING FOR LAWYERS 29 (4th ed. 2004) (“The principles of accounting are selected not by some scientific process of deduction but rather with a view toward the purpose for which the process is designed, much as the common law.”); William W. Bratton, *Private Standards, Public Governance: A New Look at the Financial Accounting Standards Board*, 48 B.C. L. REV. 1, 8 (2007) (“[D]espite the FASB’s stated objective to reveal hard economic truth about preparer firms, no hard science of financial reporting

## Combating the Teleological Drift of Life Insurance Solvency Regulation

regime – such as that of statutory reserve accounting in the insurance industry – it is necessary to individuate its goals and ask whether the examined rules in fact promote those goals.<sup>66</sup>

Sub-Part A describes the statutory objectives and internal logic of the U.S. federal securities law system of GAAP accounting and mandatory disclosure rules. It will demonstrate that the objective of that system is to allocate capital efficiently on a short-term basis and the internal logic of the system is premised on the assumption that securities markets are informationally efficient. Sub-Part B contrasts GAAP accounting with the SAP regime that is applicable to insurers and which constitutes a central pillar of life insurer solvency regulation. In particular, it highlights SAP accounting's commitment to conservatism in financial reporting and the long-term viability of regulated insurers, in distinction to GAAP's preference for fair value accounting and other accounting methods that are more meaningful to short-term capital markets investors. Sub-Part C explains the importance of reserve accounting to insurance solvency regulation and provides a brief introduction to the concept of reserves. Sub-Part D provides a brief summary of the history of SAP reserve accounting and applicable legal rules.

### *A. The U.S. Securities Law Accounting and Disclosure Regime and "Decision Usefulness"*

Before the mandatory disclosure system of the Securities Act of 1933 and the Securities Exchange Act of 1934 (the Securities Acts), financial reporting was viewed primarily from the perspective of management in its "stewardship" role: that is, the responsibility for properly allocating income among a firm's various stakeholders and preserving the value of a firm's assets.<sup>67</sup> When it came to disseminating information to investors, managerial control over accounting and the lack of standardized, legally-binding accounting norms would often result in sub-optimal accounting disclosures.<sup>68</sup> With the passage of

---

exists to import definitive justification to a given standard. Accounting standards are conventions and financial truth is subject to interpretive shading. The standard setter, no matter how well informed, makes a judgment call."); William W. Bratton, *Shareholder Value and Auditor Independence*, 53 DUKE L. J. 439, 447 (2003) ("Just as politics informs a legislative judgment when conflicting interest groups compete for regulation, politics informs the choice of instructions respecting a system of financial reporting.").

66. See *Shalala v. Guernsey Mem. Hosp.*, 514 U.S. 87, 100-03 (1995) (noting how GAAP accounting's emphasis on conservatism and understatement of income and assets did not coincide with the bookkeeping objectives of the Medicare reimbursement program at issue in litigation; upholding government's selection of alternative accounting methods); *Thor Power Tool Co. v. Comm'r*, 439 U.S. 522, 545 (1979) ("The accountant's conservatism cannot bind the Commissioner [of Internal Revenue] in his efforts to collect taxes.").

67. See Ross L. Watts & Jerold L. Zimmerman, *The Demand for and Supply of Accounting Theories: The Market for Excuses*, 54 ACC. REV. 273, 295-96 (1979).

68. See ADOLPH A. BERLE & GARDINER C. MEANS, *THE MODERN CORPORATION AND PRIVATE PROPERTY* 182-83, 271-74 (2d ed. 1968) (describing management incentives and practices in using accounting discretion to misrepresent financial information to investors); JOEL SELIGMAN, *THE*

the Securities Acts, companies raising capital in public debt or equity markets were required by federal law to make public disclosures of financial information.<sup>69</sup> The SEC was charged with setting the terms of the information packet that issuers and funds were to disclose.<sup>70</sup>

The SEC vested the Financial Accounting Standards Board (FASB) with authority to set legally binding accounting standards for purposes of the Securities Acts financial reports and disclosures.<sup>71</sup> The FASB, in sharp contrast to the pre-Securities Acts stewardship paradigm, has articulated a goal of “decision usefulness” for investors<sup>72</sup> as its guiding principle: “Financial reporting should provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit, and similar decisions.”<sup>73</sup> At the time it issued the statement, FASB stood on firm ground: the efficient capital markets hypothesis (ECMH) – which maintained in its various formulations that security prices reflected all publicly available information – dominated the theoretical and policy discussion among securities markets stakeholders.<sup>74</sup> According to the ECMH, the primary role for accountants and securities regulators was to ensure a proper flow of information to markets, which would quickly reflect, via pricing, the impact of

---

TRANSFORMATION OF WALL STREET: A HISTORY OF THE SECURITIES AND EXCHANGE COMMISSION AND MODERN CORPORATE FINANCE 48-49 (1995). Of course, shareholders could look to an auditor to verify the accounts. Nevertheless, shareholders are a widely dispersed constituency and auditors knew that management was selecting and paying them. In the absence of formal standards, accountants lacked an authority to appeal to when opposing management accounting practices.

69. See JOEL SELIGMAN, *THE TRANSFORMATION OF WALL STREET* 39-40, 99 (1982) (describing the disclosure philosophy of the Securities Acts).

70. See *id.* at 100.

71. The FASB, a private non-profit entity, issues GAAP standards. See Bratton, *supra* note 65 at 444 n.20. Since 1973, the SEC has required that any public financial disclosures required under U.S. securities laws be made in accordance with FASB standards. See STATEMENT OF POLICY ON THE ESTABLISHMENT AND IMPROVEMENT OF ACCOUNTING PRINCIPLES AND STANDARDS, ACCOUNTING SERIES RELEASE NO. 150, 3 SEC Docket 275 (Dec. 20, 1973) (providing that “principles, standards, and practices” of FASB have “substantial authoritative support” and standards contrary to such promulgations are to be considered lacking such support); ADMINISTRATIVE POLICY ON FINANCIAL STATEMENTS, ACCOUNTING RELEASE NO. 4, 11 Fed. Reg. 10,913 (Apr. 25, 1938) (stating that in cases of disagreement between issuer and SEC as to an accounting item, issuer’s interpretation would be accepted only if it was backed by “substantial authoritative support”); see also COMMISSION STATEMENT OF POLICY REAFFIRMING THE STATUS OF THE FASB AS A DESIGNATED PRIVATE-SECTOR STANDARD SETTER, SECURITIES ACT RELEASE NO. 8221, EXCHANGE ACT RELEASE NO. 47,743, 80 SEC Docket 139 (Apr. 25, 2003) (restating formal recognition of FASB pursuant to a directive of the Sarbanes-Oxley Act of 2002).

72. See Bratton, *supra* note 65 at 28-30; Watts & Zimmerman, *supra* note 67 at 295-98.

73. FIN. ACCOUNTING STANDARDS BD., STATEMENT OF FINANCIAL ACCOUNTING CONCEPTS NO. 1: OBJECTIVES OF FINANCIAL REPORTING BY BUSINESS ENTERPRISES § 34 (1978).

74. See ROBERT J. SHILLER, *IRRATIONAL EXUBERANCE* 177-79 (2000); Lynn A. Stout, *The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation*, 87 MICH. L. REV. 613, 615-16 n.2-n.6 (1988) (citing judicial, administrative, and political sources advocating for informationally efficient securities markets during the 1970s and 1980s); Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 550 (1984) (describing the ECMH as “the context in which serious discussion of the regulation of financial markets takes place”).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

the information on the fundamental value of the disclosing firm's securities.

Contemporary capital markets are dominated by institutions with short-term investment time horizons, and FASB standards accordingly aim to ensure a flow of information from reporting companies that such short-term investors find useful. Nowhere is this more evident than in GAAP's consistent preference for fair-value accounting, usually over strong objections from management. It suffices for the moment to note that FASB's choices of standards, guided by the mantra of decision usefulness, have allocative consequences and are undergirded by commitments – either implicit or explicit – to certain perceptions of corporations, U.S. capital markets, and the optimization of capital allocation. Specifically, the standards reflect a faith in the abilities of capital market investors to process fair market value data and regulators' acquiescence<sup>75</sup> to short-term optimization metrics.<sup>76</sup>

Notwithstanding the ample objections to the notion that allocative efficiency can be achieved through short-term informational efficiency, the commitment of FASB and the SEC to short-term informational efficiency, even today, is hardly up for debate.<sup>77</sup> It is a regulatory system premised on an objective (efficient capital allocation), an instrument (disclosure and GAAP accounting), and a set of assumptions on how the instruments conduce to the objective (ECMH).

### *B. An Introduction to the Internal Logic of Statutory Accounting*

Traditionally, the system of accounting rules applicable to insurers has utilized a distinctive internal logic to promote the distinctive goal of conservative financial reporting. Insurance operating companies – in distinction to holding companies such as MetLife and AIG – are subject to neither the securities law mandatory disclosure system nor FASB's GAAP accounting rules.<sup>78</sup> Instead, insurers are subject to a sui generis set of conservative accounting rules and standards known as "statutory accounting," or "SAP." The system is statutory because its source of authority is located directly in the realm of public law (specifically, legislation and regulations), as distinguished

---

75. See Zohar Goshen & Gideon Parchomovsky, *The Essential Role of Securities Regulation*, 55 DUKE L.J. 711, 746 (2006) (describing the problem of short-termism among equity investors as "fundamental" but ultimately irremediable through securities regulation).

76. Professor Bill Simon has characterized the focus on short-term unitary metrics such as cost minimization and meeting short-term earnings targets, often without a longer-term view of changing systems, as a "vulgar optimization" perspective to corporate management. See Simon, *supra* note 11 at 7.

77. See, e.g., Goshen & Parchomovsky, *supra* note 75, at 713 ("[S]cholarly analysis of securities regulation must proceed on the assumption that the ultimate goal of securities regulation is to attain efficient financial markets and thereby improve the allocation of resources in the economy.").

78. See 15 U.S.C. § 78l(g) (exempting from the periodic disclosure requirements of the 1934 Act any securities issued by insurance companies filing reports with, and subject to regulation by, state insurance regulators).



from GAAP and International Financial Reporting Standards (IFRS), which are pronounced on authoritatively by private standard setting boards.<sup>79</sup>

SAP's primary objective is solvency protection, rather than accurate estimation of market value or proper income allocation. Accordingly, statutory accounting is generally perceived to be more conservative than GAAP.<sup>80</sup> This last point is crucial and bears emphasis: by focusing on solvency, SAP accounting responds to a different internal logic than GAAP accounting and other forms of financial analysis that focus on market valuation.<sup>81</sup> Stated more technically, SAP's financial reporting logic incorporates informational inputs from the reporting firm's business in a manner to represent the firm's ability to satisfy its obligations at all times. Under SAP, assets are generally valued conservatively and certain illiquid assets such as fixtures are not included at all in the construction of the balance sheet.<sup>82</sup> As for reserves, the mortality and interest rate assumptions are set at levels that are conservative relative to expectations.<sup>83</sup>

To take another example, consider the SAP rule that acquisition costs (i.e., the expenses associated with underwriting new insurance policies, such as agent and producer commissions) are to be expensed when incurred. Because acquisition costs are naturally highest when new policies are underwritten, this policy results in underreporting net income from an economic perspective for periods in which an insurer is expanding or starting new business.<sup>84</sup> Under GAAP, these costs would be expensed as premiums are earned.<sup>85</sup> Thus, the SAP policy of immediate expensing of acquisition costs does not present an accurate picture of a firm's profitability during such period.<sup>86</sup> From the regulators' perspective, though, the inherent conservatism of the rule results in reduced net worth and income and thereby prevents newly formed, or rapidly expanding, insurers from distributing GAAP profits to policyholders or

---

79. It might be argued that GAAP, too, derives its authority from public law by virtue of the SEC's imprimatur of FASB promulgations in the form of Accounting Release No. 150. *See supra* note 71 and accompanying text. While the SEC's role was critical in the development of GAAP, FASB governs the accounting rules for non-SEC-registered firms as well; by contrast, the system of state statutory accounting for insurers flows directly from state law.

80. *See* STEPHEN G. RYAN, FINANCIAL INSTRUMENTS AND INSTITUTIONS: ACCOUNTING AND DISCLOSURE RULES 429 (2007).

81. 3-34 NEW APPLEMAN NEW YORK INSURANCE LAW § 34.02[2] (2d ed. 2010) [hereinafter NEW YORK INSURANCE LAW] (distinguishing GAAP from SAP on the basis of the wider range of concerns of users of GAAP financial statements); *cf.* Edward W. Frees & Siu-Wai Lai, *Examining Changes in Reserves Using Stochastic Interest Models*, 62 J. RISK & INS. 535, 536 (1995) (distinguishing a valuation perspective to statutory reserve accounting, which presumes a sale of book of business on the open market, from a financial strength perspective, which takes a conservative approach).

82. *See* Robert W. Klein, *Insurance Regulation in Transition*, 62 J. RISK & INS. 363, 369 (1995).

83. *See* 3-41 NEW YORK INSURANCE LAW § 41.09[2], *supra* note 81; Brannon, *supra* note 57 at 206.

84. Reynolds Griffith, *A Note on Life Insurance Accounting*, 31 J. RISK & INS. 207, 207-09, 211-12 (1964).

85. *See id.*

86. *See id.*

## Combating the Teleological Drift of Life Insurance Solvency Regulation

investors without establishing a track record of solvent profitability.<sup>87</sup> Again, the distinctive internal logic of the SAP rules conceptualizes the financial reporting exercise as an instrument to promote the solidity of the insurance enterprise.

Since conservative accounting rules shrink the amount of funds available to pursue new business or to distribute to beneficial equity holders via dividends, they necessarily increase the cost of the insurance group's equity capital, which under most circumstances will result in higher prices for insurance consumers.<sup>88</sup> Statutory accounting and its conservatism imply a trade-off between an increase in the cost of capital and insurance prices on the one hand, and the possibility of systemic market disruptions, consumer losses, and taxpayer-funded bail-outs on the other. Writing in the context of bank capital adequacy, Federal Reserve Governor Daniel Tarullo makes a point that is equally applicable to insurance solvency regulation: such a regulatory system "must be defended on the grounds that it produces the optimal social trade-off between the cost of capital and the economic risks of . . . failure."<sup>89</sup> If the insurer's net worth falls below certain thresholds (each representing a "social trade-off"), the insurance commissioner is, depending on the degree of insolvency, permitted or required to suspend or revoke the insurer's license.<sup>90</sup> By adopting conservative accounting rules, the SAP system ensures prompt regulatory intervention during times of financial distress.

The SAP rules delineate the contours of the information package that the commissioner is to use when making this determination. SAP financial statements are also publicly disclosed, and insurance industry rating agencies publish financial strength ratings that take into account, among other things, SAP financial statements.<sup>91</sup> Typically, insurance consumers do not review the SAP reports, but take into account financial strength ratings when pricing insurance.<sup>92</sup> By contrast, GAAP accounting is geared to decision usefulness from the perspective of "present and potential investors and creditors and other users"<sup>93</sup> — a wider array of stakeholders that includes policyholders, bondholders, intermediaries, analysts and other counterparties and creditors. To

---

87. See Brannon, *supra* note 57 at 206.

88. Insurers themselves do not raise equity in capital markets and instead are capitalized by holding company parents. The holding company parents then can issue equity through public and private capital markets. Though the holding companies are not themselves subject to SAP, the conservative SAP rules tie up surplus at the operating company level and in effect restrict the amount of distributable surplus to shareholders at the holding company level.

89. TARULLO, *supra* note 35, at 26.

90. See *infra* notes 102-103, and accompanying text.

91. See A.M. BEST CO., INC., BEST'S CREDIT RATING METHODOLOGIES: GLOBAL LIFE AND NON-LIFE INSURANCE EDITION 2 (2010), available at <http://www.ambest.com/ratings/methodology/bcrm.pdf>.

92. See Jennifer J. Gaver & Steven W. Pottier, *The Role of Holding Company Financial Information in the Insurer-Rating Process: Evidence*, 72 J. RISK & INS. 77, 78 (2005).

93. See *supra* note 73.

summarize, the internal logic of SAP is oriented to a conservative assessment of solvency by insurance regulators and rating agencies, and the internal logic of GAAP is oriented to investors assessing market value.

*C. Life Insurance Reserves: Why They Are Important, and How They Are Accounted for*

The general conservatism of insurance solvency regulation results primarily from the conservative assumptions and methodologies embedded in the SAP reserve accounting rules. The main liabilities life insurers incur are life insurance policy reserves and annuity reserves. U.S.-domiciled insurers also must account for other reserves – such as the unearned premium reserve<sup>94</sup> and the asset valuation reserve<sup>95</sup> – but these reserves, while important, are smaller in magnitude.<sup>96</sup> Policy and annuity reserves are balance sheet liabilities, the value of which is equal to that sum of money which together with interest and future premium payments will be just sufficient to pay the expected future death claims on an insurer's contracts.<sup>97</sup> Stated another way, reserves measure the extent to which the present value of future obligations exceeds the present value of future expected premiums.<sup>98</sup> Calculating life insurance reserve amounts depends on (1) expectations of when policyholders will die, (2) the applicable interest rates by which the reserve will be discounted, and (3) expectations of future premiums and expenses, taking into account lapse and surrender rates.<sup>99</sup>

When calculating expectations of policyholder deaths, insurers and regulators utilize standardized mortality tables, which show, with respect to policyholders of any age, the expected remaining years of life.<sup>100</sup> The insurer can then estimate the amounts required to fund a reserve for a given policyholder by discounting the death benefit amount by the applicable interest

---

94. The unearned premium reserve arises when policyholders purchase insurance with a bulk premium payment that is earned over the course of the policy, with successive amortization from the unearned premium reserve.

95. Life, accident, and health insurers must establish an asset valuation reserve "to offset potential credit-related investment losses on all invested asset categories" subject to limited exclusions. STATEMENT OF STATUTORY ACCOUNTING PRINCIPLES NO. 7, ASSET VALUATION RESERVE AND INTEREST MAINTENANCE RESERVE (Nat'l Ass'n of Ins. Comm'rs 2009)

96. 3-34 NEW YORK INSURANCE LAW § 34.09[1], *supra* note 81, *Liabilities—Life Insurers*.

97. See J.D. HAMMOND & ARTHUR L. WILLIAMS: ESSENTIALS OF LIFE INSURANCE 80 (1968). Notably, the reserve is meant to capture only expected claims. Most contingent policy liabilities (e.g., larger-than-expected loss amounts or punitive damages) are not recognized as liabilities on an insurer's balance sheet, except to the extent they are impliedly the underlying reason for an insurer's capital cushion.

98. See 820-1 STANDARD VALUATION LAW, § 5 (Nat'l Ass'n Ins. Comm'rs 2009) [hereinafter STANDARD VALUATION LAW]; JAMES L. ATHEARN, RISK AND INSURANCE 463 (1977).

99. For a description of lapse and surrender, see *supra* notes 22-23.

100. HAMMOND & WILLIAMS, *supra* note 97, at 74.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

rate over the expected remaining years of the policyholder's life.<sup>101</sup> If the average holder of a traditional policy is expected to live until age eighty-five, then *ceteris paribus* the insurer must maintain a smaller reserve associated with such policies than it would if the average policyholder were expected to live until age seventy. Similarly, if long-term interest rates are expected to be 6 percent instead of 4 percent, then by applying a higher discount rate, reserves will shrink dramatically.

The statutory calculation of reserve liabilities is a crucial element of regulatory compliance for insurers and carries with it economic and corporate governance implications through the operation of the capital adequacy regime. Specifically, fluctuations in reserves affect an insurer's net worth as measured under the statutory accounting rules (known as the "total adjusted surplus") and, by implication, the minimum amount of assets necessary to meet an insurer's required capital levels under the capital adequacy regime.<sup>102</sup> If an insurer's total adjusted capital falls low enough relative to its risk-based capital (RBC), its regulator might be permitted, or even required, to suspend operations or liquidate the insurer.<sup>103</sup> Accordingly, if an insurer experiences an increase in reserves, its total adjusted capital will decrease by that same amount and it will have to replenish its capital base to avoid regulatory intervention. One way of doing so is to retain funds that otherwise would be invested in profitable investment opportunities. Since the return on investment for new business is higher than the return on assets held to support reserves, any decrease in new business due to higher reserve requirements will result in lower total firm returns. Moreover, an insurer might have to suspend distributions to its holding company, thereby inhibiting profitable deployment of funds elsewhere in the group.

### D. A Brief History of SAP Reserving Laws

The most long-standing government policy toward life insurance is reserve

---

101. As a simplified illustrative example, consider a 62-year-old life insurance policyholder that applicable mortality tables predict will live 15 more years. Assuming (1) the policyholder is entitled to a \$200,000 death benefit, (2) the applicable interest rate is 5%, and (3) the policyholder owes no further premiums on the policy, the insurer must establish a reserve in the amount of \$87,259 (i.e.,  $\$200,000 \times (1 / 1.05^{15})$ ). Reserves are calculated for groups of policies rather than for each policy separately, but the concepts involved are easier to illustrate by reference to a single policy.

102. See ATHEARN, *supra* note 98, at 463. More specifically, the reserve calculations flow directly through to the calculation of an insurer's "total adjusted capital," which is defined in the NAIC model law to include statutory capital and surplus as determined in accordance with applicable SAP. 312-1 RISK-BASED CAPITAL (RBC) FOR INSURERS MODEL ACT, §1(M) (Nat'l Ass'n Ins. Comm'rs 2009).

103. An insurer's total adjusted capital level is calculated by subtracting reserves and other liabilities from total assets. The total adjusted capital is then compared to the RBC, which is a hypothetical minimum level of capital at which an insurer should be able to retain its license as a matter of right, all other conditions being satisfied. The steps along the regulator's ladder of intervention are calibrated to minimum ratios of actual capital to RBC (e.g., a ratio of total adjusted capital to RBC of 150% places the insurer at "company action level," which triggers remedial and supplementary reporting obligations on part of the insurer).

regulation.<sup>104</sup> Due to its inherent conservatism and its primary concern with solvency, statutory accounting has never treated the reserve valuation exercise as an effort to construct the best estimate of the *economic* value of claims liabilities. Instead, the accounting rules have required computation of policy and annuity reserves based on statutory and administrative formulae that have remained largely unchanged since the mid-nineteenth century. The statutory formulae dictate the applicable mortality tables, discount rates, and assumptions to use when estimating future expenses and premiums.

Massachusetts enacted the first statutory reserve calculation law in 1858.<sup>105</sup> The newly appointed insurance commissioner Elizur Wright – a noted abolitionist and reformer who had spent much of the 1840s and early 1850s pursuing a newfound interest in insurance by compiling policy valuation tables – set a 4 percent interest rate assumption and selected as the base mortality table an English table published in 1843.<sup>106</sup> Most states followed Massachusetts' lead during the late nineteenth century and early twentieth century; by the 1940s, nearly all states had adopted a reserve valuation law.<sup>107</sup>

In 1943, the NAIC entered the fray by adopting a model standard valuation law (SVL) that prescribed the mortality tables and the methods by which future premiums, expenses, and interest rates would be estimated in the calculation of statutory reserves.<sup>108</sup> Under the SVL, an insurer must hold a specified level of reserves and annually file a certified valuation of its liabilities with insurance regulators in states where it is licensed.<sup>109</sup> To date, all U.S. states have adopted some form of the SVL.<sup>110</sup> The SVL provides that an insurer must establish a minimum reserve computed pursuant to a rigid statutory formula prescribing which mortality tables and interests rates to apply, and which assumptions to use when estimating future expenses and premiums.<sup>111</sup>

The SVL has been amended only sporadically. Remarkably, a table published in 1868 – which differed little from the English 1843 mortality table that Wright utilized in compiling his valuation tables – served as the primary table for calculating individual life insurance statutory reserves in the United States until 1948, when the NAIC replaced it with another standard mortality table published in 1941.<sup>112</sup> Since 1948, the SVL has updated mortality tables roughly every two decades.<sup>113</sup> In the early years, the conservative nature of the

---

104. Brannon, *supra* note 57 at 212.

105. David B. Houston, *Elizur Wright: The Man and His Work*, 26 J. INS. 11, 21-22 (1959).

106. *Id.* at 22-24.

107. See Randall, *supra* note 3, at 632 n.35.

108. See STANDARD VALUATION LAW, *supra* note 98, Legislative History.

109. Larry Bruning, *PBR: A Regulator's Perspective*, 24 J. INS. REG. 3, 3 (2006).

110. See STANDARD VALUATION LAW, *supra* note 98, State Adoption.

111. *Id.* §§ 3.A(2) & 6.

112. See Edwin C. Hustead, *The History of Actuarial Mortality Tables in the United States*, 20 J. INS. MED. 12, 13 (1988).

113. *Id.* at 14 (noting 1958 and 1980 updates).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

mortality tables arose as much by accident as by design. Since mortality rates declined steadily during this period, any snapshot of mortality rates was bound to overstate the rates on a prospective basis.<sup>114</sup> Industry actuaries learned that mortality experience was different across broad categories of product lines,<sup>115</sup> and separate tables were created for industrial life insurance, group life insurance, and individual and group annuities.<sup>116</sup> The interest rates are re-set annually for most annuities and policies pursuant to formulae set forth in the SVL,<sup>117</sup> though interest rates remain fixed for large categories of business.<sup>118</sup> Similarly, the assumptions for policyholder lapse and surrender rates remained static. Though mortality tables and applicable interest rates have changed intermittently over the years, the basic formula for calculating the minimum reserve for a book of business has remained the same.

As long as exposures remained relatively “vanilla,” the rigid formulaic approach worked well for its purpose, which was the establishment of a balance sheet liability that did not understate an insurer’s exposure and ensured timely regulatory intervention if the insurer was approaching insolvency. Throughout the 1970s and until the late 1980s, life insurer insolvencies were infrequent and small in magnitude.<sup>119</sup> That there was a safety margin that likely resulted in the establishment of a reserve in excess of the actual economic market value of the claims exposure was not a cause for concern; in fact, it was instrumental to the achievement of statutory accounting’s goal of conservatism.

### III. INCREASED MARKET COMPLEXITY AND VOLATILITY RESULTS IN OBSOLESCENCE OF STATUTORY RESERVE ACCOUNTING RULES: IS RISK MANAGEMENT THE SOLUTION?

Starting in the 1970s and continuing into the 21st century, the insurance sector – like all sectors of the financial industry – has been subject to jarring technological and competitive upheaval. First, when inflation and interest rates rose dramatically in the 1970s and 1980s, traditional insurance policies lost market share to new savings aggregators – such as money market mutual funds, full-service brokerage accounts, and bank deposit accounts with deregulated interest rates – that made life insurance policies and their relatively modest

---

114. See LOUIS J. LOMBARDI, *VALUATION OF LIFE INSURANCE LIABILITIES* 53 (4th ed. 2009); Juliette M. Burden et al., *XXX Implications*, REINS. NEWS (Soc’y of Actuaries), Aug. 2004, at 1.

115. For instance, an average annuitant has a longer lifespan than an average life insurance policyholder due to a phenomenon economists describe as adverse selection: those who expect to live long naturally are more likely to purchase an annuity.

116. See Hustcad, *supra* note 112, at 12 chart 1.

117. See STANDARD VALUATION LAW, *supra* note 108, § 4b.

118. See *id.* §§ 4 & 4a.

119. See U.S. ADVISORY COMMITTEE ON INTERGOVERNMENTAL RELATIONS, STATE SOLVENCY REGULATION OF PROPERTY-CASUALTY AND LIFE INSURANCE COMPANIES 67-68 (1992) [hereinafter STATE SOLVENCY REPORT]; Wright, *supra* note 26, at 91.

returns less attractive to consumers. As a result, insurers lost access to a reliable low-cost premium funding base. Second, rate volatility ramped up the market risk associated with the assets in insurers' investment portfolios, subjecting them to new sources of risk and uncertainty in their asset portfolios. They responded by altering their business model in fundamental respects. In particular, life insurers (1) increasingly offered a product mix<sup>120</sup> that competed with banks, securities firms, and mutual funds in markets for investment-oriented capital accumulation products and (2) invested premiums in higher-risk asset classes.

As a result, the internal logic of the longstanding system of reserve accounting, which relied on rigid, static formulae that were increasingly unconnected to new business realities, became unraveled, leaving regulators to adopt ad hoc, piecemeal fixes to accommodate new dynamic market conditions and risks. In the process, the overarching public goals of regulation seemed only arbitrarily connected to the system of rules. This upheaval–innovation–regulatory crisis dialectic is by no means unique to the insurance industry,<sup>121</sup> but the life insurance industry provides a clear case study to observe the connection between complex, dynamic markets and regulatory dysfunction.

Sub-Part A outlines in broad strokes the competitive and deregulatory developments that destabilized the insurance industry starting in the 1970s. It also recounts how the industry responded, with particular focus on the changing product mix, and it further describes the resulting new risks and instability and their effects on the internal logic of the traditional SAP reserving regime. Sub-Part B analyzes the risk management technologies – which emerged in the 1990s and were offered as a potential solution to market instability – along technological, managerial, and legal dimensions. It presents the task of embedding risk management into firm culture as a corporate governance concern and considers it as a possible antidote to the regulatory dysfunction, recalling that insurance solvency regulation is best conceived from a corporate governance perspective. In the process, it draws on new governance theory to identify two challenges. The first is a managerial challenge: how can managers institutionalize a “reliability” perspective on risk management by focusing on stability and long-term viability in corporate culture in spite of considerable pressures to optimize only short-term measurable metrics? And the second is a legal challenge: to the extent industry is unable to create an adequate self-regulatory system to institutionalize a reliability-focused risk management infrastructure, what governance tools can public regulators use to construct a

---

120. The use of the term “product” to describe life insurers’ offerings – as distinguished from “policy” – is itself evidence of the revolution in business practices. See BERTRAM HARNETT & IRVING I. LESNICK, *THE LAW OF HEALTH & LIFE INSURANCE* § 1.03[8] (2007).

121. See, e.g., Robert F. Weber, *New Governance, Financial Regulation, and Challenges to Legitimacy: The Example of the Internal Models Approach to Capital Adequacy Regulation*, 62 ADMIN. L. REV. 101 (2010).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

legal regime that fosters risk management and appropriates it for public use?

### A. Complexity and Competition Results in New Product Mix

#### 1. Increased Inter-Sectoral Competition, Interest Rate Volatility, and Deregulatory Zeal

Throughout the 1950s and 1960s, the bulk of U.S. finance was supplied by banks lending money and insurance companies buying bonds, though banks' and insurers' market shares in their traditional assets classes began to wane at the end of this period.<sup>122</sup> Starting in the 1970s, an increasing array of institutional investors such as money market mutual funds began to acquire market share and channel funds to corporations through new capital markets.<sup>123</sup> Insurers themselves began to market mutual funds to their policyholders.<sup>124</sup> Mutual fund mania accelerated a phenomenon of greater retail investment in the stock markets, as a sustained bull equity market in the 1950s continued through most of the 1960s and convinced policyholders that they could obtain better returns outside their whole life insurance policies.<sup>125</sup> As other financial intermediaries cut into life insurers' share of the U.S. savings dollar, these institutions invested funds differently than insurers, and new capital markets developed while old ones changed.<sup>126</sup>

---

122. Banks and insurers together accounted for 80% of financial assets in the U.S. as of 1946 and just under 60% as of 1970. See ROBERT E. LITAN, WHAT SHOULD BANKS DO? 46 fig. 2-8 (1987). By 1985, their combined share was less than half. *Id.* The drop in banks' share is attributable in large part to their loss in market share in the short- and medium-term credit market to commercial paper and bond markets. See *id.* at 45 fig. 2-7 (registering fall in banks' share of short- and intermediate-term nonfinancial corporate credit from nearly 90% in mid-1950s to below 80% by 1970 and around 60% by 1980). As for insurers, their predominant presence in the corporate bond market waned as public pension funds and thrift lenders acquired market share. Compare BD. GOVERNORS FED. RES. SYS., FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, 1955-1964 56 tbl. L.101 & 68 tbl. L.117 (the ratio of life insurers' bond holdings (\$34.1 billion) to the amount of corporate bonds outstanding (\$54.6 billion) in 1955 was 68%) with BD. GOVERNORS FED. RES. SYS., FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, 1965-1974 56 tbl. L.101 & 68 tbl. L.117 (by 1970, the ratio of life insurers' bond holdings (\$74.1 billion) to the amount of corporate bonds outstanding (\$226.6 billion) had fallen to 44%).

123. The first year that money market mutual funds were registered in the Federal Reserve's flow of funds data is 1974, when these funds accounted for under \$3 billion in assets under management. BD. GOVERNORS FED. RES. SYS., FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, 1965-1974 70 tbl. L.121 (\$2.4 billion). By 1981, that figure had ballooned to over \$185 billion. BD. GOVERNORS FED. RES. SYS., FLOW OF FUNDS ACCOUNTS OF THE UNITED STATES, 1975-1984 70 tbl. L.121 (\$186.3 billion); William M. Isaac & Melanic L. Fein, *Facing the Future: Life without Glass-Steagall*, 37 CATH. U. L. REV. 281, 293 (1988).

124. See Wright, *supra* note 26, at 73, 79-80.

125. See *infra* notes 153 & 156 and accompanying text.

126. For instance, the explosive growth of money market mutual funds – which are funded on a very short-term basis and therefore require a short-term asset base – gave birth to the commercial paper market, which allowed corporate borrowers better access to short-term funding. See Donald C. Langevoort, *Statutory Obsolescence and the Judicial Process: The Revisionist Role of the Courts in Federal Banking Regulation*, 85 MICH. L. REV. 672, 679 (1987) (discussing the advent of the commercial paper market and its attractiveness to corporate borrowers).



The most wrenching development for the life insurance industry, however, was the dramatic increase in interest rate volatility ushered in by the Nixon administration's decision to jettison the Bretton Woods system of managed currency exchange rates. In the early 1970s, the United States, buckling under burgeoning deficits due to Vietnam War expenditures and a surge in domestic fiscal commitments, abandoned managed exchange rates.<sup>127</sup> No longer would world trade and finance be conducted by reference to exchange rates firmly tethered to a (largely) fixed amount of gold reserves. As a result, exchange rates floated freely and central banks made frequent recourse to interest rate policy to manage the resulting instability of capital flows and trade balances.<sup>128</sup> Inflation, too, was stoked by the abolition of managed exchange rates, and the 1970s witnessed sustained double-digit inflation.<sup>129</sup> From 1979-1982, the U.S. Federal Reserve tightened interest rates dramatically (the prime rate eventually peaked at a record 21 percent) to stem persistent inflation.<sup>130</sup> Financial institutions were ill equipped to manage the new risk profile to which they were subjected, and profit margins were squeezed.<sup>131</sup>

Meanwhile, policymakers subjected firms to increased inter-sectoral competition as they gradually relinquished public restraint over the financial sector over the course of the quarter century following the collapse of Bretton Woods. Starting in the 1970s, federal financial regulators embraced a deregulatory philosophy, enabling regulated financial institutions to shift into new riskier lines of business to recoup the profitability that new market conditions undermined.<sup>132</sup> In the process, though, inter-sectoral competition drove down margins further.<sup>133</sup>

Congress and federal bank regulators dismantled brick-by-brick the Glass Steagall wall that separated commercial banking from nonbanking financial lines of business.<sup>134</sup> Moreover, federal bank regulators relaxed deposit reserve

---

127. See Duncan Wood, GOVERNING GLOBAL BANKING: THE BASEL COMMITTEE AND THE POLITICS OF FINANCIAL GLOBALISATION 33-39 (2005). In 1971, the United States suspended the gold convertibility of the U.S. dollar. See GEORGE A. WALKER, INTERNATIONAL BANKING REGULATION: LAW, POLICY & PRACTICE 24 (2001). In 1973, the system of pegged exchange rates, which relied on the dollar as a reference currency, collapsed altogether. See *id.* at 25.

128. See CHARLES W. SMITHSON, MANAGING FINANCIAL RISK: A GUIDE TO DERIVATIVE PRODUCTS, FINANCIAL ENGINEERING, AND VALUE MAXIMIZATION (1998); HAROLD JAMES, INTERNATIONAL MONETARY COOPERATION SINCE BRETTON WOODS (1996).

129. See Alan S. Blinder, *The Anatomy of Double-Digit Inflation in the 1970s*, in INFLATION: CAUSES AND EFFECTS 261 (1982).

130. See CARNELL ET AL., *supra* note 16, at 24.

131. See Arthur E. Wilmarth, Jr., *The Transformation of the U.S. Financial Services Industry, 1975-2000: Competition, Consolidation, and Increased Risks*, 2002 U. ILL. L. REV. 215, 225-27, 408-16 (2002).

132. See *id.*

133. See *id.* at 227-41 (highlighting how banks lost (1) asset market share due to securitization markets and (2) funding advantages due to the commercial paper market); *id.* at 412 (discussing competitive effects on securities firms of commercial banks entry into underwriting market), *id.* at 18-21 (discussing increased presence of bank and securities firms in the annuity and life insurance markets).

134. Though the enactment of the Gramm-Leach-Bliley Act in 1999 formerly abrogated the Glass-

## Combating the Teleological Drift of Life Insurance Solvency Regulation

requirements and Congress removed restrictions on interest rates earned on deposits,<sup>135</sup> permitting banks to compete aggressively for savings by offering investment-oriented products like certificates of deposit.<sup>136</sup> On the asset side of their balance sheet, banks faced intense competition as their corporate borrowers could look to raise money with increasing facility directly from securities markets, which had become deeper in large part due to securities firms' newfound zeal for underwriting fee income.<sup>137</sup> In the process, banks (1) expanded into new business lines such as securitization, insurance sales, loan syndication and, later, derivatives, and (2) increasingly relied on fee-based income rather than credit extension.<sup>138</sup> Bank regulators permitted – indeed, enthusiastically encouraged – these developments to combat what they perceived as a secular decline in profitability of the traditional business of banking.<sup>139</sup>

Furthermore, Congress and bank regulators freed up restrictions that had previously limited the extension of credit to riskier borrowers. Congress, for instance, exercised its preemptive authority in 1980 to exempt any FDIC-insured bank from state interest rate caps on mortgages.<sup>140</sup> Two years later, Congress passed the Garn-St. Germain Depository Institutions Act, which authorized adjustable-rate mortgages, allowed the thrift industry to take on new risks (which it did), and granted the Office of the Comptroller of the Currency the authority to remove restrictions on loan-to-value ratios, maturities, and amortization schedules (which it, too, did).<sup>141</sup> For its part, the Federal Reserve

---

Steagall Act, regulators had by that point already greatly attenuated the force of Glass-Steagall. *See, e.g.,* Saule T. Omarova, *The Quiet Metamorphosis: How Derivatives Changed the "Business of Banking"*, 64 U. MIAMI L. REV. 1041 (2009) (chronicling how the Office of the Comptroller of the Currency authorized banks to deal and trade in many derivatives that had tangential connections to the business of banking); Arthur E. Wilmarth, Jr., *The Dark Side of Universal Banking Financial Conglomerates and the Origins of the Subprime Financial Crisis*, 41 CONN. L. REV. 963, 972 (2009) ("During the 1980s and 1990s, federal regulators opened loopholes in the Glass-Steagall wall in response to growing competitive pressures in the financial marketplace.").

135. Arthur E. Wilmarth Jr., *The Expansion of State Bank Powers, the Federal Response, and the Case for Preserving the Dual Banking System*, 58 FORDHAM L. REV. 1133, 1143-44 (1990).

136. *See* Wilmarth, *supra* note 131, at 240.

137. Franklin R. Edwards & Frederic S. Mishkin, *The Decline of Traditional Banking: Implications for Financial Stability and Regulatory Policy*, 1 FED. RES. BANK OF N.Y. ECON. POL'Y REV. 27, 31 (1995) ("Improvements in information technology, which have made it easier for households, corporations, and financial institutions to evaluate the quality of securities, have made it easier for business firms to borrow directly from the public by issuing securities.").

138. U.S. GOV'T ACCOUNTABILITY OFFICE, FINANCIAL REGULATION: INDUSTRY CHANGES PROMPT NEED TO RECONSIDER U.S. REGULATORY STRUCTURE, GAO-05-61, at 51 (Oct. 2004).

139. *See* Weber, *supra* note 121, at 811-20 (documenting Federal Reserve's commitment to foster competitiveness through financial innovation and complexity backstopped by sound risk management); *Testimony before the U.S. Sen. Comm. on Banking, Housing & Urb. Affairs*, 103d Cong. 26 (1990) (statement of Alan Greenspan, Chairman, Bd. of Governors of the Fed. Reserve Sys.), available at [http://fraser.stlouisfed.org/historicaldocs/782/download/27814/Greenspan\\_19900712.pdf](http://fraser.stlouisfed.org/historicaldocs/782/download/27814/Greenspan_19900712.pdf) ("Increased activities are also required to sustain the profitability needed if banking firms are to attract capital.").

140. *See* Depository Institutions Deregulation and Monetary Control Act of 1980, Pub. L. No. 96-221, §§ 101-108, 94 Stat. 132, 132-41 (1980).

141. Ronald Reagan, Remarks on Signing the Garn-St. Germain Depository Institutions Act of

dismantled the selective credit control regime that had imposed margin requirements on housing and consumer loans, facilitating the free flow of credit at high interest rates.<sup>142</sup> The net effect of these developments was increased volatility of rates and asset prices, and increased competition among financial institutions. The latter prevented insurers from offsetting the former through higher prices, though it is probably more accurate to see the two phenomena as concurrent effects of the deregulatory policies and globalized financial markets.<sup>143</sup>

## *2. The Product Shift: From Traditional Whole Life to Investment-Oriented Capital Accumulation Products & Annuities*

Interest rate volatility can affect insurers on three levels. First, unexpected swings in interest rates significantly complicate the chief task of an insurer: asset-liability matching. Insurers match assets to long-term liabilities to ensure they are able to pay claims as they come due. Prevailing interest rates have effects on the value of assets<sup>144</sup> (bonds, mortgages, and even equities), and these frequent rate movements complicate insurers' efforts to price their products to ensure there will be adequate assets to satisfy future liabilities. Second, interest rate volatility affects the cash value of the savings components of life insurance and annuity products and, from the insurer's perspective, thereby introduces new uncertainties with respect to consumer behavior – that is, how policyholders and annuitants elect to use their lapse, surrender, or policy loan options.<sup>145</sup> Recalling from Part II that one of the key determinants of reserve amounts is an estimation of future premiums, these uncertainties complicate assessments of their reserve requirements. The third problem results

---

1982 (Oct. 15, 1982) (referring to the Act as “the first step in our administration’s comprehensive program of financial deregulation”).

142. See Timothy A. Canova, *Financial Market Failure as a Crisis in the Rule of Law: From Market Fundamentalism to a New Keynesian Regulatory Model*, 3 HARV. L. & POL’Y REV. 369, 376-77 (2008).

143. All the blame for financial instability cannot be placed on the shoulders of the deregulatory policies (except to the extent that much of financial globalization – e.g., abandonment of capital controls – is itself deregulatory) because lawmakers were concerned of the ever-present risk of flight or arbitrage in global financial markets. It is an open question whether financial services firms would direct operations away from the U.S. or engage in arbitrage strategies to controvert the purposes of regulation. With global financial markets, this issue arises in connection with all financial regulation, and it underscores the importance of international cooperation in this area. See, e.g., Colleen M. Baker, *Regulating the Invisible: The Case of Over-the-Counter Derivatives*, 85 NOTRE DAME L. REV. 1287, 1319-21 (2010).

144. See BREALEY & MYERS, *supra* note 49, at 674-78; Burton G. Malkiel, *Risk and Return: A New Look*, in THE CHANGING ROLES OF DEBT AND EQUITY FINANCING U.S. CAPITAL FORMATION 27, 37 (Benjamin M. Friedman, ed. 1986).

145. These “options,” like all options, increase in value as volatility of the underlying reference asset (in this context, the insurance contract) increases. Therefore, rate volatility increases the likelihood that contract holders will exercise their contract options. See U.S. GEN. ACCOUNTING OFFICE, RISK-BASED CAPITAL: REGULATORY AND INDUSTRY APPROACHES TO CAPITAL AND RISK, GAO/GGD-98-153, at 87-88 (1998).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

from an inherent drawback of the traditional fixed-dollar insurance policy during periods of interest rate swings. Interest rate volatility creates uncertainty regarding the long-term purchasing power of traditional life insurance policies. Insurance consumers want their insurance assets – that is, their claim to retirement income under an annuity or a bequest under a life insurance policy – to be sufficient to fund future consumption. If the yields on shorter-term assets classes such as bank bills, certificates of deposit, and bonds are higher, consumer savings will migrate away from traditional life insurance and toward these asset classes. Due to the rampant interest rate volatility and inflation of the 1970s and early 1980s, savers had to become investors or risk the erosion of their wealth. And as investors, they came to prefer higher-yielding and interest-sensitive assets over life insurance assets.

To counteract these problems, insurers developed new investment-oriented life insurance products pegged to inflation or interest rates, or otherwise linked to capital markets.<sup>146</sup> Insurance products began to compete with, and resemble, bank and securities products.<sup>147</sup>

### (a) Life Insurance Products

Investment-oriented life insurance products competed directly with mutual funds, brokerage accounts, and bank certificates of deposit. Prior to the advent of interest-oriented products, life insurers generally offered life insurance coverage with or without a savings component. Their primary business lines consisted of level-premium whole life insurance policies (with savings) and term life policies (without savings).<sup>148</sup> A whole life policy required a large up-front premium payment with continuing payments of unchanging periodic premiums.<sup>149</sup> A policyholder, in addition to receiving a death benefit, would accumulate cash value in the whole life policy and could typically borrow

---

146. See *Low Risk Insurers—An Analyst Tells Why Life Stocks Are Cheap*, BARRON'S, Jul. 13, 1987 (“The life insurance industry was very staid and conservative until the late 1970s. And in a high interest rate and inflationary environment, it found itself unable to compete with new financial instruments. As a result, the consumer savings dollar, which had been flowing to a fairly significant extent to the life insurance industry, began to go elsewhere. At the same time, new upstarts, more aggressive competitors, came into the business in the late 1970s. In fact, they revolutionized a very traditional industry . . . in terms of product.”).

147. See Elizabeth F. Brown, *The Fatal Flaw of Proposals to Federalize Insurance* 8 (Univ. St. Thomas Sch. L. Leg. Stud. Res. Paper No. 07-25), available at <http://papers.ssrn.com/abstract=1008993> (“Both consumers and regulators find it increasingly difficult to discern meaningful differences among insurance, banking and securities products.”); Peter J. Wallison, Am. Enter. Inst., *Convergence in Financial Services Markets: Likely Effects on Insurance Regulation* 17-22, available at [http://www.bipac.net/afc/peter\\_wallison.pdf](http://www.bipac.net/afc/peter_wallison.pdf); Elizabeth Brown, *E Pluribus Unum – Out of Many, One: Why the United States Needs a Single Financial Services Agency*, 14 U. MIAMI BUS. L. REV. 1, 11 (2005) (“In the latter half of the twentieth century, market forces increasingly pushed banks to offer more securities and insurance products and pushed securities and insurance firms to devise new products that were in direct competition with banking products.”).

148. See Brannon, *supra* note 57, at 200.

149. See Wright, *supra* note 26, at 74.

money through so-called “policy loans” against the policy’s accumulated cash value.<sup>150</sup> As long as interest rates were predictable, an insurer could fund the death benefit reserve and invest the premiums at a profit, typically by purchasing long maturity bonds and commercial mortgages – and there was little risk of policyholders exercising their policy loan options or causing their policies to lapse in unpredictable ways.<sup>151</sup> During the 1950s, the industry enjoyed a period of profitability as predictable interest rates allowed insurers to earn investment income, and favorable mortality experience enhanced underwriting income.<sup>152</sup>

The profitable 1950s, during which stock markets entered a long and sustained period of high returns, witnessed a shift in consumer preferences, as term life insurance assumed a greater share of total premiums.<sup>153</sup> Term life insurance offers lower premium payments and no cash value or policy loan component; in effect, it dissociates the savings component of life insurance from the bequest component. The oft-echoed mantra of investment advisers during this period was “buy term and invest the rest.”<sup>154</sup> Usually, the “rest” was invested in one or more of the proliferating mutual funds. Term life insurance increased steadily as a proportion of total ordinary life insurance from 16.2 percent in 1954 to 48.4 percent in 1989.<sup>155</sup> Not surprisingly, life insurance reserves as a percentage of household financial assets decreased over this time period, reflecting that, after purchasing term life insurance, policyholders were indeed “investing the rest” elsewhere.<sup>156</sup> Even with the increased popularity of term life, life insurance product offerings were relatively straightforward: a prospective life insurance consumer could either invest her savings into a whole life policy and receive a death benefit, or invest her savings elsewhere and pay yearly term life premiums and receive a death benefit alone. The advent of investment-oriented products changed this.

There are two broad categories of investment-oriented products: variable life insurance and universal life insurance. Both policy variants are comparable to traditional whole life products in that they accumulate a cash value in the contract’s early years, when the premiums typically exceed the cost of insurance.<sup>157</sup> Universal life insurance, developed in the early 1980s, is a flexible arrangement permitting the policyholder to vary premium payments

---

150. *See id.* at 80-81.

151. *See* Terence Lennon, *Discussion*, in *REGULATION OF INSURANCE COMPANIES*, *supra* note 26, at 97.

152. *See* Wright, *supra* note 26, at 77.

153. *See id.* at 79.

154. Lennon, *supra* note 151, at 98.

155. AM. COUNCIL OF LIFE INSURERS, *LIFE INSURERS FACT BOOK* 27 (1990).

156. *See* Brannon, *supra* note 57, at 203.

157. *See* 1-9 NEW YORK INSURANCE LAW § 9.02[2][c], *supra* note 83, Types of Life Insurance.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

and death benefits on a periodic basis.<sup>158</sup> The cash value is unbundled from the death benefit, and each period expense and mortality charges are deducted, and premiums credited, to the cash value account.<sup>159</sup> Interest is credited on the net amount to yield the period-ending cash value.<sup>160</sup> Insurers may vary both the mortality charge and interest crediting rate over time.<sup>161</sup> The interest rate flexibility permits universal life products to compete by offering interest rates that keep pace with rises in prevailing interest rates and inflation.<sup>162</sup> Economically, the universal life policy can be thought of as a renewable term life insurance policy with a sort of money market account for its cash value.<sup>163</sup>

Variable life insurance products, developed in the late 1970s, provide for death benefits and cash values that vary according to the experience of a portfolio of investments.<sup>164</sup> The policyholder may allocate her premiums among different investments as well as insurance accounts providing for guaranteed principal and interest.<sup>165</sup> Though the cash value component and death benefits may vary with a variable life policy, the insurer typically provides minimum guaranteed death benefits.<sup>166</sup> Because the policyholder bears a sizable investment risk, variable life products are considered securities for purposes of the U.S. securities laws and must be registered with the SEC.<sup>167</sup> A hybrid category – the variable universal life policy – combines universal life's flexibility to choose premium and death benefit amounts with variable life's investment discretion.<sup>168</sup>

The new products quickly came to dominate the market, and by the late 1990s traditional whole life insurance had become a marginal component of life insurance sales.<sup>169</sup> The amounts of variable life and universal life insurance in force in the U.S. increased steadily from their introduction until the late 1990s. U.S. life insurers had \$47 million of variable life insurance in force in

---

158. *Id.* § 9.02[2][c][ii].

159. See Lennon, *supra* note 151, at 97-98.

160. 1-9 NEW YORK INSURANCE LAW § 9.02[2][c][ii], *supra* note 83, Types of Life Insurance.

161. *Id.*

162. 1-9 NEW YORK INSURANCE LAW § 9.02[2][c], *supra* note 72, Types of Life Insurance.

163. HARNETT & LESNICK, *supra* note 120, §1.03[8].

164. See AM. COUNCIL OF LIFE INSURERS, LIFE INSURERS FACT BOOK 174 (2003).

165. 1-9 NEW YORK INSURANCE LAW § 9.02[2][c][iii][1], *supra* note 83, Types of Life Insurance.

166. *Id.*

167. See Revised Procedures for Processing Post-Effective Amendments Filed by Separate Accounts of Insurance Companies, Securities Act Release No. 33-6376 (Jan. 11, 1982).

168. *Id.* § 9.02[2][c][iii][2], *supra* note 72, Types of Life Insurance.

169. See AM. COUNCIL LIFE INSURERS, LIFE INSURERS FACT BOOK 6 tbl.1.2 (2000) [hereinafter 2000 ACLI Fact Book] (documenting that traditional whole life comprised 12.8% of life insurance purchases, by face amount, in 1999); AM. COUNCIL LIFE INSURERS, LIFE INSURERS FACT BOOK 12 (1988) (documenting that amount of traditional whole life insurance as a percentage of total face amount decreased from 33% to 18% from 1977 to 1987, which not coincidentally spanned the period of dramatic interest rate volatility); see also Brannon, *supra* note 57 at 208 ("The experience with sharply fluctuating interest rates in the past 30 years has led to the virtual disappearance of the old, [traditional whole life] policy under which the insurance carrier was insuring a minimum rate of return as well as against mortality.").

1976.<sup>170</sup> By 1981, after the federal funds rate peaked at 20 percent, the amount in force stood just under \$4 billion.<sup>171</sup> Variable life in force continued to grow largely without interruption until 1997, at which point the figure exceeded \$105 billion.<sup>172</sup> Universal life amounts in force and growth rates dwarfed even the impressive variable life figures. By 1981 – the first year for which data are available – life insurers had written just under \$5 billion in universal life coverage.<sup>173</sup> By 1985, that number had increased to \$564 billion.<sup>174</sup> Total amounts in force peaked around \$2.171 trillion in 1995, a level at which they roughly remained for the remainder of the decade.<sup>175</sup>

In New York, where policy forms are submitted to the insurance department for approval,<sup>176</sup> insurance regulators approved the sale of these new insurance products with little commotion. In 1980, the department issued Circular Letter No. 18, which approved for sale life insurance policies for which “indeterminate” premiums would be determined on an ongoing basis, based on current projected assumptions for investment earnings, mortality, lapse rates, and expenses.<sup>177</sup> “Traditionally,” the letter provided, “life insurance policies have had fixed guaranteed premiums established by the policy at issuance.”<sup>178</sup> The letter also required reserves to be computed on the basis of the initial premium scale.<sup>179</sup> Three years later, in Circular Letter No. 4, the department authorized the sale of universal life insurance.<sup>180</sup> The letter itself evidences the nascent tension in integrating the new universal life insurance product into the extant reserve regulatory regime. For example, the letter notes that “[a]t this time, some of the reserving procedures [for these products] are indefinite and rules may be adopted as experience develops.”<sup>181</sup> In the event that the insurer fails to earn investment income sufficient to cover the credited indexed interest rates, “additional reserves may be required.”<sup>182</sup> Moreover, if the indexed interest rates would exceed the statutory valuation interest rates provided for in the SVL, “additional reserves may be necessary.”<sup>183</sup> In 1986, the NAIC issued a model regulation on universal life insurance, but states have only patchily adopted the model, and in any event it does not address reserving

---

170. 2000 ACLI Fact Book, *supra* note 169, at 25 tbl. 1.16.

171. *Id.*

172. *Id.*

173. *Id.*

174. *Id.*

175. *Id.*

176. N.Y. Ins. L. § 3201 (2008).

177. N.Y.S. DEP'T INS., CIRCULAR LETTER NO. 18 (1980).

178. *Id.*

179. *Id.*

180. N.Y.S. DEP'T INS., CIRCULAR LETTER NO. 4 (1983).

181. *Id.* § (C)(k)(1).

182. *Id.* § (C)(k)(2).

183. *Id.*

## Combating the Teleological Drift of Life Insurance Solvency Regulation

at all.<sup>184</sup>

As these dynamic products entered the market, regulators perceived that the assumptions undergirding the SVL and the traditional statutory reserving regime were at best an imperfect fit with the realities of the market. Nevertheless, regulators permitted insurers to completely transform their product mix with little regulatory oversight until they discovered that the dynamic risk profile of the new products was causing insurers to invest in riskier assets to maintain the promised returns and continue profitability.<sup>185</sup>

### (b) Annuity Products

In addition to their bequest-oriented life insurance products – that is, whole life and term life insurance policies – life insurers also write substantial amounts of health and annuity business. Since the 1920s the proportion of life insurer reserves and income associated with life insurance – in distinction to other related business lines such as health and annuities – has steadily decreased.<sup>186</sup> In 1920, 99.4 percent of life insurers' income came from life insurance; by 1985, that figure had fallen to 38.6 percent.<sup>187</sup> From 1945 to 1999, annuity considerations grew at an annualized growth rate of 11.5 percent, compared to 6.5 percent for life insurance premiums.<sup>188</sup> The decreased prevalence of life insurance resulted in large part from the dramatic boom in sales of pension annuities – and, later, guaranteed investment contracts (GICs)<sup>189</sup> – after the Seventh Circuit held in 1948 that pension plans were subject to compulsory collective bargaining in labor contracting.<sup>190</sup> Annuities are attractive retirement planning vehicles because they protect against the possibility of outliving financial resources, including one's own human capital. They also enjoy tax advantages.<sup>191</sup> Annuities compete directly with long-term bank certificates of deposit; the former offer tax benefits, and the latter offer deposit insurance.<sup>192</sup> Variable annuities, which provide for payment amounts that vary according to the investment experience of a separate account, were developed as the first variable-payout life insurance product, and became

---

184. NAT'L ASS'N INS. COMM'RS, 575-1 UNIVERSAL LIFE INSURANCE MODEL REGULATION (2010).

185. See *infra* Part IIIA(3).

186. See KENNETH J. MEIER, THE POLITICAL ECONOMY OF REGULATION: THE CASE OF INSURANCE 3, tbl.1-2 (1988).

187. *Id.*

188. Wright, *supra* note 26, at 80. As a result of annuity growth nearly doubling life insurance growth, annuity exposures came to predominate life insurers' reserves. *Id.* (noting that annuity reserves increased from 25% of life insurance reserves to 220% from 1955 to 1989).

189. See *supra* note 41.

190. See *Inland Steel Co. v. Nat'l Labor Relations Bd.*, 170 F.2d 247 (7th Cir. 1948), *cert. denied*, 336 U.S. 960 (1949).

191. Brannon, *supra* note 57, at 211.

192. See Wallison, *supra* note 147, at 18.



increasingly popular in the late 1980s and 1990s.<sup>193</sup> Fueled in part by tax advantaged retirement planning, consumers increasingly opted for capital markets-linked income protection over the provision of bequests.<sup>194</sup>

### 3. New Products and New Investments Bring New Risks and Instability

In order to match the promised rates of return or guaranteed payouts on the newer, investment-oriented product lines, life insurers changed their investment strategies to embrace riskier assets.<sup>195</sup> Insurers invested in riskier commercial mortgages, shorter-term assets, and riskier debt instruments.<sup>196</sup> Debt maturities decreased, as insurers were chary of tying up their general account with long-term bonds.<sup>197</sup> The quality of commercial mortgages – which constituted, after corporate bonds, the second-largest component of insurers' investment portfolios during the postwar period until the early 1990s – decreased substantially throughout the 1980s and early 1990s as insurers and other mortgage lenders suffered from the savings and loan crisis and the 1990 recession.<sup>198</sup> Most notably, life insurers invested more heavily in riskier, high-yield corporate bonds (i.e., "junk bonds").<sup>199</sup> As the assets supporting insurance liabilities declined in quality, insurance regulators were slow to react to the problem. In 1987, the New York State Insurance Department became the first regulator to institute a cap – at 20 percent of total assets – on high-yield bonds.<sup>200</sup> By that point, it was already too late for many insurers.

---

193. *Id.* at 32-33 (2000); AM. COUNCIL OF LIFE INSURERS, LIFE INSURERS FACT BOOK 38 (1994); AM. COUNCIL OF LIFE INSURERS, LIFE INSURERS FACT BOOK 40 (1988); AM. COUNCIL OF LIFE INSURERS, LIFE INSURERS FACT BOOK 36 (1983).

194. *Cf.* Anthony M. Santomero, *Life Insurance: The State of the Industry*, in CHANGES IN THE LIFE INSURANCE INDUSTRY: EFFICIENCY, TECHNOLOGY AND RISK MANAGEMENT 1, 2 (J. David Cummings & Anthony M. Santomero, eds., 1999) (writing in 1999 that "[t]he single largest share of life insurance premiums is attributable to annuity sales to a generation that is, at least currently, more concerned about protecting income than bequests").

195. *See* Wilmarth, *supra* note 131, at 417 ("Analysts have attributed the sudden rise in failures among life insurers during 1989-91 to declining profit margins and the decision by many insurers to assume greater risks on both sides of their balance sheet."); STATE SOLVENCY REPORT, *supra* note, at 62.

196. *See* Wright, *supra* note 26, at 83-86.

197. U.S. ADVISORY COMM'N ON INTERGOVERNMENTAL RELATIONS, *supra* note 170 (noting that percentage of life insurer assets held in instruments with maturities less than or equal to 10 years increased from 15% to 62% from 1980 to 1991).

198. AM. COUNCIL LIFE INSURERS, LIFE INSURANCE FACT BOOK 101 (1994) (documenting mortgage loan delinquency rates of 1.02%, 2.27%, 3.62%, 5.71%, and 6.37% in 1980, 1985, 1990, 1991, and 1992).

199. *See* GLENN YAGO & SUSANNE TRIMBATH, BEYOND JUNK BONDS: EXPANDING HIGH YIELD MARKETS 36 (2003) (documenting that 15% of life insurer asset purchases in the first six months of 1990 were in below investment grade debt); Wright, *supra* note 26, at 89-90; *The Failures of Four Large Life Insurers: Hearing before the U.S.S. Comm. On Banking, Housing, and Urban Affairs*, 2 (1992) (statement of Richard L. Fogel, Ass't Comptroller Gen., Gen. Gov't Programs), available at <http://www.legistorm.com/showFile/L2xzX3Njb3JlL2dhby9wZGYvMTk5Mi8y/fu121262.pdf> [hereinafter Fogel Testimony].

200. *See* 11 N.Y.C.R.R. § 176.4 (2010) (codifying Insurance Department's Regulation 130).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

In the late 1980s and 1990s, the life insurance industry was roiled by its first ever widespread incidence of insolvencies. From 1975 to 1983, the number of life and health insurer insolvencies averaged about five per year.<sup>201</sup> From 1983 to 1992, the average number increased to 18 per year, with a high of 47 in 1989.<sup>202</sup> In 1990, more than a quarter of all life insurers displayed financial problems that historically required prompt regulatory attention.<sup>203</sup>

Prominent, large insurers were not immune from the wave of insolvencies. In April 1991, insurance regulators seized control of Executive Life Insurance Company (ELIC) and Executive Life Insurance Company of New York (ELICNY), each of which had become insolvent on account of spectacularly improvident investment strategies resulting in each firm holding over 60 percent of total assets in junk bonds.<sup>204</sup> In July 1991, New Jersey insurance regulators placed Mutual Benefit Life Insurance Company in rehabilitation proceedings in the largest-ever life insurer insolvency proceeding, as it dipped below required capitalization levels due to concentrations in risky real estate loans.<sup>205</sup> The life insurance industry losses, in the aggregate, were dwarfed by the collapse of the thrift industry during the same period,<sup>206</sup> but the frequency and magnitude of life insurer insolvencies were unmistakable signs of infirmity in this formerly solid industry. New products and new investments had created a new challenge for the industry and its regulators.

The old statutory reserving rules had been drafted when traditional whole life insurance represented the overwhelming majority of business. As late as 1970, the majority of life insurance in force consisted of these traditional whole life products.<sup>207</sup> In light of the new product mix, insurance regulators increasingly perceived the statutory reserve accounting rules as obsolete. As former Iowa insurance commissioner and current NAIC CEO Terri Vaughn put

---

201. See Fogel Testimony, *supra* note 199, at 2.

202. *Id.*

203. See Warren R. Wise, *Discussion*, in REGULATION OF INSURANCE COMPANIES, *supra* note 26, at 231, 233-34.

204. See *id.* at 5 (documenting ELIC and ELICNY held, respectively, 63% and 64% of total assets in junk bonds); Lennon, *supra* note 159 at 100 (stating that according to the New York Insurance Department ELICNY had in fact increased its concentration of junk bonds in 1987 to 70-75% of total assets). The discrepancy in the figures is likely due to differing definitions of "junk bonds."

205. See Frederick Rose, *Executive Life's Bailout Nears the End as Court Approves Transfer of Policies*, WALL ST. J., Aug. 16, 1993, at A4 (noting that Mutual Benefit's insolvency was the largest ever in the industry, and that Mutual Benefit had 700,000 policyholders and \$8.8 billion in assets supporting \$11 billion in liabilities); Susan Pulliman, *Plan Expected by New Jersey Officials To Rehabilitate Mutual Benefit Life*, WALL ST. J., May 11, 1992, at A5E (reporting that Mutual Benefit Life's "assets are to a large degree tied up in illiquid real estate investments" and that its real estate portfolio suffered losses of \$1.3 billion in 1991).

206. See Elijah Brewer III et al., *Why the Life Insurance Industry Did Not Face an "S&L-Type" Crisis*, 1993 ECON. PERSPECTIVES FED. RES. BANK CHI. 12, 13 (1993), available at [http://www.chicagofed.org/digital\\_assets/publications/economic\\_perspectives/1993/ep\\_sep\\_oct1993\\_part2\\_brewer.pdf](http://www.chicagofed.org/digital_assets/publications/economic_perspectives/1993/ep_sep_oct1993_part2_brewer.pdf).

207. See AM. COUNCIL LIFE INSURERS, LIFE INS. FACT BOOK 30 (1972) (documenting 60.4% of insurance in force consisted of traditional whole life policies).

it:

The old rules failed to properly account for the risks in the new products, and the traditional rules-based approach to calculating reserves had to be modified for each new product. After attempting to modify the rules with each product evolution, the regulators concluded a more comprehensive change was needed.<sup>208</sup>

### *B. Search for Stability in Risk Management & the New Financial Code*

Regulators were not alone in struggling to adapt to this new risk profile. By the 1990s, large financial institutions had revamped their information technology systems, which had become unrecognizable from the formerly crude data systems. Regulators began to look to these new systems as a potential solution to solving the perennial obsolescence of their understanding. The principles-based reserving (PBR) reform can be considered an attempt to tether the insurance solvency regime to insurers' risk management systems.

Advances in information technology enabled statisticians and financial economists to apply modern financial theory<sup>209</sup> across aggregates of transactions or events to quantify mathematically the risk associated with any particular position or strategy.<sup>210</sup> A new discourse of "risk management" developed along technological, managerial, and legal dimensions, premised on the newfound confidence of risk managers to collect, organize, and analyze data in a systematized manner using this "new financial code."<sup>211</sup> Professor Ken Bamberger aptly invokes Heidegger's usage of *Gestell* to connote the extent to which these risk measurement systems enframed and altered the perceptions of stakeholders in the financial industry, including regulators.<sup>212</sup>

This new theoretical framework provided the launching pad for the rapid proliferation of new financial products, including derivatives and, in the case of life insurers, investment-oriented life insurance products.<sup>213</sup> While many of

208. Therese M. Vaughn, *The Implications of Solvency II for U.S. Insurance Regulation*, Networks Fin. Inst., Ind. S. Univ., Policy Brief 2009-PB-03, at 8, 15 (2009), available at [http://www.naic.org/Releases/2009\\_docs/090305\\_vaughan\\_presentation.pdf](http://www.naic.org/Releases/2009_docs/090305_vaughan_presentation.pdf) (discussing greater expected incidence of "Type I errors," where a firm destined to fail will be treated as healthy, and Type II errors," where firms are incorrectly identified as troubled).

209. For a discussion of the major theoretical building blocks of risk management, see Steven A. Ramirez & Betty Simkins, *Enterprise Risk Management and Corporate Governance*, 39 LOY. U. CHI. L.J. 571, 579 (2008) and Weber, *supra* note 121, at 807-11.

210. See DONALD R. VAN DEVENTER ET AL., ADVANCED FINANCIAL RISK MANAGEMENT 6-11 (2005).

211. Gerding, *supra* note 7.

212. Kenneth A. Bamberger, *Technologies of Compliance: Risk and Regulation in a Digital Age*, 88 TEXAS L. REV. 669, 676 (2010).

213. See Robert C. Merton, *Future Possibilities in Finance Theory and Finance Practice* 8-17, (Harv. Bus. Sch., Working Paper No. 01-030, 2000), available at <http://www.signallake.com/innovation/FuturePossibilities.01.030.pdf> (predicting that advances in finance theory will lead to innovations in household financial products such as insurance and annuities); Henry T.C. Hu, *Misunderstood Derivatives: The Causes of Informational Failure and the Promise of Regulatory Incrementalism*, 102 YALE L.J. 1457, 1503 (1993) [hereinafter Hu, *Misunderstood Derivatives*] ("The process of financial innovation that emerged in the late 1980s, like other forms of

## Combating the Teleological Drift of Life Insurance Solvency Regulation

these products were first introduced well before the most advanced risk management tools, they both can be causally attributed to the same network of factors, including most prominently increased rate volatility and competition. Furthermore, the products themselves only further stimulated demand for new computer technologies that would allow the institutions to better understand their new risk exposures.

Because risk management grew out of the same complexity that resulted in the rampant product innovation and novel risk profiles in the financial industry, regulators and industry actors believed that it offered the possibility of quantifying, measuring, and implementing responses to uncertain and volatile market conditions. In 2007, the International Association of Insurance Supervisors published guidance on capital requirements and risk management that emphasized insurers' duty to manage risk and regulators' responsibility to ensure that insurers were fulfilling that duty.<sup>214</sup> NAIC CEO Terri Vaughn summarized the regulators' hope as follows:

Companies are responding to the new world of increased complexity by enhancing their risk management systems and doing a better job of assessing risk. They are developing models aimed at better measuring their capital requirements in light of their unique risk profiles. The supervisory system would benefit from leveraging the work that companies are already doing.<sup>215</sup>

By embedding sound risk management practices solidly into their corporate governance infrastructure, firms could ostensibly take calculated and managed risks in light of their objectives without threatening systemic spillovers and other negative externalities. Federal Reserve Governor Dan Tarullo has noted that "risks associated with the complexity and pace of large bank activities cannot be effectively contained even with sophisticated rules" and that therefore "the emphasis increasingly has been on fostering robust risk management systems within the banks themselves."<sup>216</sup> While the supervisory task in the insurance industry differs in important respects from that of the banking industry, the problem Tarullo introduces – that is, innovation and complexity outpacing regulatory fiat – applies equally in the insurance context. While these *potential* benefits of risk management can hardly be overstated, it is, as described below, a fool's errand to expect the financial industry as currently structured to adopt such practices. Instead, if policymakers are to reap these potential benefits, they need to focus on "meta risk management," or the

---

modern technological innovation, has resulted in a constant, rapid flow of sophisticated products."); Henry T.C. Hu, *Swaps, the Modern Financial Innovation Process and the Vulnerability of the Regulatory Paradigm*, 138 U. PA. L. REV. 337-40 (1989) (comparing financial innovation during the 1980s to computer and bio-technological advances and attributing it to "the increasingly conceptual nature of the innovation process," including the use of computers and finance theory).

214. INT'L ASS'N INS. SUPERVISORS, THE IAIS COMMON STRUCTURE FOR THE ASSESSMENT OF INSURER SOLVENCY, at 14 (Feb. 2007), available at [http://www.iaisweb.org/view/element\\_href.cfm?src=1/85.pdf](http://www.iaisweb.org/view/element_href.cfm?src=1/85.pdf)

215. Vaughn, *supra* note 208, at 13.

216. TARULLO, *supra* note 35, at 274.

risk management of risk management.<sup>217</sup> Meta risk management resonates with a broader “new governance” literature that highlights increasing involvement of non-state actors in the governance tools that shape and constitute public policy and regulation.

This Sub-Part will (1) explore the information technology dimension of risk management by describing the new financial code underlying the financial services industry generally, with specific focus on the life insurance sector; (2) describe the managerial dimension of risk management with reference to firm-level attempts to embed risk management into corporate culture, and present a theoretical argument that effective implementation of conservative risk management systems depends on firms adopting a long-term reliability perspective that de-emphasizes short-term optimization metrics such as stock prices, earnings, and cost minimization; and (3) explain the importance of the legal dimension of risk management, and why a precondition for effective risk management in the financial services industry is the installation of an effective system of meta-risk management.

### *1. The Technological Dimension: New Financial Code and Risk Quantification*

Technologically, the perceived capacity to measure financial risks probabilistically was nothing short of revolutionary. It permitted financial institutions to develop, alongside their consultants and service-providers, complex financial modeling technologies that capture, organize, and analyze massive amounts of information regarding the risks and performance of business units and transactions.<sup>218</sup> In particular, these institutions used computer technologies to analyze past experience in order to generate assumptions about future cash flows, which in turn fostered a perception that risk managers had achieved real enhancements in their ability to quantify and manage future risks, including those pertaining to reserve requirements and capital needs. These informational technologies form part of the broader new financial code that undergirds the business of financial intermediation and constitutes a significant repository of wealth and competitive advantage in today’s economy.<sup>219</sup> Institutions invested heavily in new financial code not only to manage their burgeoning risk profiles, but also to gain a competitive edge in a market where poor risk management could reduce returns or even

---

217. Braithwaite, *supra* note 14, at 1.

218. U.S. GEN. ACCOUNTING OFFICE, *supra* note 145, at 73-91.

219. Cf. Ramirez & Simkins, *supra* note 209 at 583 (observing that enterprise risk management, which relies on the use of financial code, “is now developing into a tool that can be used to enhance firm value”); Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1, 3, 13-14 (2004) (discussing conflict between democratization of digital conflict and the “increasing importance of digital content as a source of wealth and economic power”).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

threaten insolvency.<sup>220</sup>

Once the new financial code allowed business and risk managers to identify and quantify future risks, business processes could be automated by implementing firm-wide or unit-wide rules based on the systematized results of the risk assessment.<sup>221</sup> Business processes that were automated according to designed rules could then be tracked ex post in an audit capacity so that senior management could obtain a comprehensive view of risk management.<sup>222</sup> This dynamic system of identification–quantification–automation–audit constitutes the conceptual architecture of risk management technology applied to business on an ongoing basis. As the marginal cost of data processing dropped, data production and data analysis achieved higher degrees of sophistication.<sup>223</sup> The post-Bretton Woods financial complexity paradigm had met its match. Or so it appeared.

These new technologies originated to support the trading desks of Wall Street firms but were quickly applied to other financial business lines, including the life insurance business. Actuarial firms such as Towers Perrin and Milliman, as well as pure software companies, supplied financial modeling software programs that captured, systematized, and organized massive amounts of information regarding the experience of, and the impact of future trends on, insurers' new risk profiles.<sup>224</sup> With a more textured understanding of risks, insurers could implement hedging, product pricing, and capital programs that were more neatly tailored to the risks they faced.<sup>225</sup> Much of the work in implementing a new model consists of data mining from past experience to build a better understanding of the parameters that impact the economic outputs the model tests. For instance, a model estimating economic – as opposed to statutory – reserve requirements will require assumptions regarding policyholder behavior (e.g., lapse and surrender rates) and the expense amounts deployed to write the business. Some software models even gauge firm-specific mortality experience, so that an insurer might discover distinctive and significant patterns in the expected lifespans of its policyholder base.<sup>226</sup>

The new financial code embedded in the insurance industry's financial

---

220. See James Fanto, *Anticipating the Unthinkable: The Adequacy of Risk Management in Finance and Environmental Studies*, 44 WAKE FOREST L. REV. 731, 739 (“[R]isk management could give a firm a competitive advantage over similarly situated institutions and could become a profit center for the firm.”).

221. See Bamberger, *supra* note 212, at 688-93.

222. See *id.*

223. Lower information costs also fueled the increased competition across financial sectors, as competing firms could more confidently cross-sell products formerly the exclusive preserve of other sectors with local trade knowledge. The capital intensiveness of building a financial code architecture also created economies of scale in the financial services industry.

224. See Anthony O'Donnell, *Actuaries Adopt New Risk-Modeling Technologies*, INS. & TECH., Aug. 1, 2007, available at <http://www.insurancetech.com/showArticle.jhtml?articleID=201200822>.

225. See *id.*

226. See *id.*

models was not focused exclusively on past experience. In the words of industry consultant Ed Robbins, insurers must “have a good sense not only of [their] experience assumptions, but also where they’re headed and how they link to each other.”<sup>227</sup> With a set of assumptions regarding past and future experience, insurers – in cooperation with their software developers and consultants – developed stochastic modeling tests, which generate multiple complex and random scenarios, to gauge how the firm would respond to various contingencies.<sup>228</sup> As risk factors became more complex and reflexive, the traditional role of the actuary as an insurance industry mathematician calculating premiums and reserves based on standardized data gave way to an actuarial function that required highly technical information technology expertise.<sup>229</sup>

## *2. The Managerial Dimension: Replacing Short-Term Optimization with a Reliability Perspective*

As risk management technology proliferated, a new field of enterprise risk management (ERM) grew up alongside it. For complex organizations like life insurers, a sophisticated risk quantification program is only as good as it can be successfully implemented or embedded into the organization’s communication and authority networks. ERM seeks to embed the new financial code into defined channels of corporate authority in a manner that permits the firm – itself a highly disaggregated set of individuals, commitments, and contracts – to identify, quantify, and manage the firm in light of risks uncovered by coded information technology systems.<sup>230</sup> This task differs from the age-old responsibilities of hedgers – who have been around for as long as economic actors have navigated risk<sup>231</sup> – in that the objective is active management of

---

227. *Id.*

228. *See id.*

229. *See id.*

230. *See* Michelle M. Harner, *Barriers to Effective Risk Management*, at 4, 40 SETON HALL L. REV. (forthcoming 2010); Ramirez & Simkins, *supra* note 209, at 581 (highlighting the integrated, ongoing, and broadly focused aspects of enterprise risk management); COMMITTEE OF SPONSORING ORGANIZATIONS OF THE TREADWAY COMMISSION, ENTERPRISE RISK MANAGEMENT – INTEGRATED FRAMEWORK 2 (2004), available at [http://www.coso.org/documents/COSO\\_ERM\\_ExecutiveSummary.pdf](http://www.coso.org/documents/COSO_ERM_ExecutiveSummary.pdf) (defining enterprise risk management “a process, effected by an entity’s board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives”) [hereinafter COSO ERM FRAMEWORK]; CASUALTY ACTUARIAL SOCIETY, ENTERPRISE RISK MANAGEMENT COMMITTEE, OVERVIEW OF ENTERPRISE RISK MANAGEMENT 8 (2003), available at <http://www.casact.org/research/erm/overview.pdf> (defining enterprise risk management as “the discipline by which an organization in any industry assesses, controls, exploits, finances, and monitors risks from all sources for the purpose of increasing the organization’s short and long term value to its stakeholders”).

231. For a few indicative examples, see PETER L. BERNSTEIN, *AGAINST THE GODS: THE REMARKABLE HISTORY OF RISK* 92, 306-07 (1998) (citing provisions of the 1800 B.C. Code of Hammurabi contemplating insurance-like instruments similar to modern-day catastrophe bonds and the

## Combating the Teleological Drift of Life Insurance Solvency Regulation

risk exposures in light of firm objectives, and not risk avoidance.<sup>232</sup>

A highly influential ERM framework memorandum identified eight “components” of ERM that amount to a user’s manual on how to embed ERM in an organization: (1) the firm’s internal environment must set the tone for how risk is viewed and addressed; (2) management must identify objectives in order to properly identify risks that compromise the firm’s objectives; (3) events affecting the achievement of firm goals (both risks and opportunities) must be identified and communicated to management for purposes of re-evaluating firm strategy and objectives; (4) risk must be assessed according to probability and impact; (5) management must select responses to identified risks; (6) controls must be established to track firm progress; (7) relevant information must be identified, captured, and communicated in a form and timeframe that enables responsible parties to perform, with information flowing “down, across, and up” the firm; and (8) the entire ERM apparatus must be subject to monitoring and modifications as necessary.<sup>233</sup> Once embedded, these ERM components constitute the channels through which risk-related information flows through the organization. Provided that corporate constituencies buy into ERM and the danger of cosmetic compliance is avoided, ERM offers promise to institutionalize risk awareness by empowering corporate stakeholders to become “strategic thinkers about risk management systems” rather than “rule-following automatons.”<sup>234</sup>

ERM’s focus on process and constant learning draws parallels with what Bill Simon, drawing on Japanese methods of industrial production, has referred to as the “managerialist,” or “reliability,” theory of production.<sup>235</sup> Globalization and information technology visited change on industrial production methods as well as financial services, and the reliability approach to production responded to the challenge of *managing in conditions of volatility*.<sup>236</sup> Key elements of this reliability perspective include an emphasis on and formalization of continuous learning and innovation norms, interdisciplinary collaboration, a preference for intangible group goals over tangible individual goals, multi-factor judgment, and openness to destabilization of norms through benchmarking, root cause

---

use of proto-futures contracts in Medieval Europe and 17th century Japan).

232. See Stephen M. Bainbridge, *Caremark and Enterprise Risk Management*, 34 IOWA J. CORP. L. 967, 967 (2009) (stating that ERM “encompasses determining an appetite for risk consistent with the interests of the firm’s equity owners and identifying, preparing for, and responding to risks”); ASWATH DAMODARAN, *STRATEGIC RISK TAKING: A FRAMEWORK FOR RISK MANAGEMENT* 8 (2008) (reminding that “exposures to some risk is an integral part of success”).

233. COSO ERM FRAMEWORK, *supra* note 230, at 3-4.

234. Braithwaite, *supra* note 14 at 2; see also RISK & INS. MGMT. SOC’Y, INC., *THE 2008 FINANCIAL CRISIS: A WAKE-UP CALL FOR ENTERPRISE RISK MANAGEMENT* 9 (Bill Coffin ed., 2009), available at [www.RIMS.org/ERMwhitepaper](http://www.RIMS.org/ERMwhitepaper) (“Enterprise risk management – to be effective – must fundamentally change the way organizations think about risk.”).

235. See Simon, *supra* note 11, at 3-11.

236. See Michael C. Dorf & Charles F. Sabel, *A Constitution of Democratic Experimentalism*, 98 COLUM. L. REV. 267, 286 (1998).



analysis, and controlled stress.<sup>237</sup> The reliability perspective seeks to develop a systematized response to markets that, because of their volatility and dynamism, are no longer susceptible to traditional top-down managerial control. It aims further to replace management's focus on short-term optimization of measurable metrics such as share price and cost minimization with a focus on quality, reliability, resilience, crisis avoidance, and excellence as primary goals. By shifting the focus in this manner, firms can avoid preoccupation with static norms and more effectively manage dynamic change and the business risks it presents.<sup>238</sup>

Nowhere is the utility of the reliability approach as evident as with organizations with low (or zero) tolerances for failure. Functions for which constituents have a low tolerance for failure – such as air traffic control, nuclear aircraft carrier operation, emergency medical treatment, wildfire-fighting, and hostage negotiation – require what Kathleen Sutcliffe and Karl Weick have termed a “mindful infrastructure.” Such an organizational orientation emphasizes decentralized decision-making, is preoccupied with the possibilities and causes of failure, and resists simplification to a greater extent than most organizations do.<sup>239</sup> On this last point, reliability-focused organizations seek out weak signals and complex interactions between signals that evade first-order inspections and audits but might nevertheless contain valuable information about growing risks.<sup>240</sup> In this manner they problematize the so-called threshold heuristic, which describes the tendency of human actors to discount entirely the probability of low-likelihood, but potentially high-impact, events.<sup>241</sup> These organizations embed “near-miss reporting and analysis” in their organizational culture on the grounds that near misses provide insight into the background conditions that generate threats to continued viability.<sup>242</sup> This mindful infrastructure comprises the nervous system of a reliability-focused

---

237. See William H. Simon, *Toyota Jurisprudence: Legal Theory and Rolling Rule Regimes*, in *LAW & NEW GOVERNANCE IN THE E.U. & THE U.S.* 37, 44-55 (de Burca & Scott eds., 2006). Simon's scholarship resonates with the “directly deliberative polyarchy” and “democratic experimentalism” theorized by Michael Dorf and Charles Sabel, which also explicitly drew inspiration from Japanese industrial production methods. See Dorf & Sabel, *supra* note 236, at 286.

238. See Simon, *supra* note 11, at 7.

239. See KATHLEEN SUTCLIFFE & KARL WEICK, *MANAGING THE UNEXPECTED: RESILIENT PERFORMANCE IN AN AGE OF UNCERTAINTY* 9-17 (2007). Stated another way, reliability-focused organizations avoid “normalization of the unexpected” by “habitually problematizing” it throughout the organization. See Simon, *supra* note 11, at 8. Thus, changes – even if not obviously important – are investigated and root causes discovered and understood rather than ignored.

240. SUTCLIFFE & WEICK, *supra* note 239, at 18 (“The overwhelming tendency is to respond to weak signals with a weak response. Mindfulness preserves the capability to see the significance of weak signals and to respond vigorously.”). Reliability-focused organizations do not necessarily identify weak signals with greater frequency, but they understand their meaning more fully and can deal with them more confidently. *Id.*

241. Richard J. Herring, *Credit Risk and Financial Stability*, in *RATINGS, RATING AGENCIES AND THE GLOBAL FINANCIAL SYSTEM* 345, 355 (Richard M. Levich et al. eds., 2002).

242. See Charles Sabel, *A Real Time Revolution in Routines*, in *THE CORPORATION AS A COLLABORATIVE COMMUNITY* 106, 122-23 (Charles Heckscher & Paul Adler eds., 2006).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

organization that pursues zero failure as an unreachable, but ever-present goal.<sup>243</sup> The reliability perspective – and its embedded mindful infrastructure – provides a useful, if aspirational, management model for financial firms that present externalities to the broader economy and consumers.

The ERM framework invokes concepts that resonate with this reliability perspective to managing. Consider the following:

- Flow of Information to Objective-Setting Management as Destabilization. ERM promotes the identification, and communication to management, of risks and opportunities that impact the objectives that management establishes ex ante. As experience reveals inadequacies or myopias with the ex ante set of goals and is communicated through the firm, ERM destabilizes them through the institutionalization of continuous learning.
- Event Identification as Root Cause Analysis. Reliability theory utilizes root cause analysis to trace identified problems – whether “near misses” or actual system failures – backward through the production process. Practices remote from the perceived problem can sometimes impact performance. ERM is similarly oriented to the identification of events that impact the achievement of a firm’s objectives.
- Information and Communication Flow as Collaborative, Interdisciplinary Exchange. ERM does not provide only for communication of identified risks and opportunities to management. Instead, it promotes a diffusion of information throughout the firm’s stakeholders: “Relevant information should be identified, captured, and communicated in a form and timeframe that enable people to carry out their responsibilities. Effective communication also occurs in a broader sense, flowing down, across, and up the entity.”<sup>244</sup> In this manner, possibilities for productive exchange of ideas and new perspectives ramify throughout the firm.
- Monitoring as Destabilization. ERM requires that “the entirety of [ERM] is monitored and modifications [are to] be made as necessary.”<sup>245</sup> In order to harness the productive potential of the reliability perspective, it is critical that firms engage in self-monitoring and benchmarking, and remain open to changing

---

243. See, e.g., Simon, *supra* note 11, at 8 (describing Toyota’s “Just-in-Time” parts delivery, which eliminates stocks of buffer inventory and end-of-line re-work departments so that all products were placed immediately in the market, thereby eschewing any tolerance for production errors and ensuring that all defects would be reported as soon as possible).

244. COSO ERM FRAMEWORK, *supra* note 230, at 4.

245. *Id.* at 4.

business routines in light of emerging best practices. ERM is expressly oriented to management and third party monitoring as well as modification.

Though this reliability perspective originated in the context of corporate Japan, its conceptual roots might be traced across the Pacific Ocean in the American pragmatist tradition and its belief in the reciprocal determinations of means and ends.<sup>246</sup> Professors Michael Dorf and Charles Sabel extol pragmatism's ability to accommodate the complexities of social organization by "tak[ing] the pervasiveness of unintended consequences, understood most generally as the impossibility of defining first principles that survive the effort to realize them, as a constitutive feature of thought and action, and not as an unfortunate incident of modern political life."<sup>247</sup> The ERM framework is expressly inclined to pragmatism: "There is a direct relationship between objectives, which are what an entity strives to achieve, and enterprise risk management components, which represent what is needed to achieve them."<sup>248</sup> This is the key innovative moment of ERM theory: that a firm may accept the challenge of new risk profiles only by institutionalizing norms of continual self-reflection and flexible objective setting.

For all its promise, proponents of risk management must overcome a high justificatory hurdle: why does risk management matter after 2008's financial crisis? To take an anecdotal example, how is it that Goldman Sachs' risk managers were noticing during the summer of 2007 that 25-standard deviation events – that is, events that according to the risk management models should have occurred once every several trillion lifetimes of the universe – were occurring with regularity?<sup>249</sup> While the predictable ideological fault lines shape the debate about what exactly caused the crisis, there is a consensus concerning firms' collective failure to perceive the difficulty of assessing the risks associated with opaque structured finance assets.<sup>250</sup>

In spite of their risk management systems, financial firms failed to identify and respond to burgeoning exposure to subprime mortgage related assets. In particular, purchasers of residential mortgage-backed securities (RMBSs) and

---

246. Dorf & Sabel, *supra* note 237, at 284.

247. *Id.* at 285.

248. COSO ERM FRAMEWORK, *supra* note 230, at 4.

249. Peter Thal Larsen, *Goldman Pays the Price of Being Big*, FIN. TIMES, Aug. 14, 2007, at 37; Andrew G. Haldane, *Why Banks Failed the Stress Test*, Speech at Marcus-Evans Conf. on Stress Testing, at 5, available at <http://www.bis.org/review/r090219d.pdf>.

250. See, e.g., INT'L MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT: CONTAINING SYSTEMIC RISK AND RESTORING FINANCIAL SOUNDNESS 80-81 (2008), available at <http://www.imf.org/External/Pubs/FT/GFSR/2008/01/pdf/text.pdf> ("[T]he perimeter of risk for financial institutions – that is, the risk assessment of all of an institution's activities, including its related entities – did not adequately take into account the size and opacity of institutions' exposures to SIVs, commercial paper conduits, and their related funding support.").

## Combating the Teleological Drift of Life Insurance Solvency Regulation

collateralized debt obligations (CDOs) – including many life insurers – suffered massive write-downs on those assets.<sup>251</sup> Banks acting as intermediaries retained massive exposures in the form of liquidity puts, credit protection, and reputational obligations.<sup>252</sup> Participants in the credit default swap (CDS) and financial guarantee markets were equally oblivious: those writing CDS and financial guarantees ignored the possibility of default on the underlying reference assets, and those receiving CDS and financial guarantee protection ignored the massive counterparty exposures.<sup>253</sup> It is not merely a failure to recognize risk and exit an existing business; large firms with billions of dollars invested in ERM systems such as Citigroup, UBS, and Merrill Lynch decided to aggressively pursue subprime-related exposures as the crisis came to a head.<sup>254</sup> In 2006 – two years before the credit market freeze in 2008 – Tim Geithner, then-president of the Federal Reserve Bank of New York, ordered a review of how well large banks measured their ability to withstand a severe market downturn; the results were not encouraging, as firms were failing to account for worst-case scenarios in their models.<sup>255</sup> A post-crisis report prepared by a group consisting of major global bank and securities firm supervisors found serious risk management deficiencies in all eleven firms they examined.<sup>256</sup> An OECD-commissioned report individuated several

---

251. See Wilmarth, *supra* note 134, at 1046 (“While banks and insurers have already reported \$1.13 trillion of losses, the IMF estimated that the total writedowns for banks and insurers from 2007 through the end of 2010 would be \$3.1 trillion.”).

252. See BETHANY MCLEAN & JOE NOCERA, *ALL THE DEVILS ARE HERE* 305 (2010) (explaining how Citigroup, Bank of America and other banks absorbed massive amounts of structured investment vehicle (SIV) debt that had been thought to reside off-balance sheet); James Crotty, *Structural Causes of the Global Financial Crisis: A Critical Assessment of the “New Financial Architecture”*, 33 *CAMB. J. ECON.* 563, 567-70 (discussing subprime exposures retained by banks and calling into question the extent to which banks actually “distributed” risk according to the “originate-to-distribute” model of securitization).

253. See Houman Shadab, *Guilty by Association?: Regulating Credit Default Swaps*, 4 *ENTREPREN. BUS. L. J.* 407, 444-52 (2010) (describing how monoline bond insurers and AIG embraced the mortgage-related security business); MCLEAN & NOCERA, *supra* note 252, at 190 (explaining that bank counterparties were attracted to AIG CDS protection due to AIG’s AAA credit rating, despite the facts that much of AIG’s capital reserves were tied up in its subsidiary insurance operating companies and AIG itself was compromising its financial position by assuming unprecedented amounts of subprime-related exposure).

254. See *infra* notes 333-336 and accompanying text (discussing the decision by Swiss bank UBS, with express approval of its risk management function, to pursue subprime exposures right when signs of infirmity in the subprime asset market became evident); MCLEAN & NOCERA, *supra* note 254, at 309-10 (reporting that Merrill Lynch had increased its subprime exposure by \$45 billion and \$50 billion during a one year period over 2006-2007); Gian Luca Clementi et al., *Rethinking Compensation in Financial Firms*, in *RESTORING FINANCIAL STABILITY: HOW TO REPAIR A FAILED SYSTEM* 197, 198-200 (Viral V. Acharya & Matthew Richardson eds., 2008) (documenting how UBS, Merrill Lynch, and Citigroup aggressively pursued subprime-related assets and by the end of the third quarter of 2007 had accumulated \$175 billion in subprime exposures, excluding conduits and other off-balance sheet items); Crotty, *supra* note 254, at 568 (chronicling how Merrill Lynch in 2007 – just as signs of a housing bubble began to appear – made a bullish bet on CDOs and mortgage bonds, which resulted in an exposure of \$41 billion to subprime assets – *more than its entire shareholders’ equity of \$38 billion*).

255. See Robert O’Harrow, Jr. & Jeff Gerth, *As Crisis Loomed, Geithner Pressed But Fell Short*, *WASH. POST*, Apr. 3, 2009, at A1.

256. See generally SENIOR SUPERVISORS GROUP, *OBSERVATIONS ON RISK MANAGEMENT*

communication-related deficiencies in risk management infrastructure as major contributors to the financial crisis.<sup>257</sup> A survey of 500 risk managers by KPMG in October 2008 found that 92 percent of those polled intended to review their risk management practices.<sup>258</sup> As Rodge Cohen of Sullivan & Cromwell explained it in the context of his eleventh-hour sessions with the Federal Reserve and bank executives during the week AIG was nationalized and Lehman Brothers filed for Chapter 11 protection: “If there is a single factor which is the principal source of what has happened, it is the absence of knowledge of how much risk is in the system, and where it was.”<sup>259</sup>

And though the banking and securities sectors fared far worse, the life insurance sector was hardly unscathed. Life insurance groups Lincoln National and The Hartford required capital infusions of \$4.35 billion from the U.S. Treasury to remain afloat.<sup>260</sup> Yamato Life of Japan filed for bankruptcy due to its inability to absorb mounting subprime-related asset losses.<sup>261</sup> ALICO, an AIG-affiliated life insurance company in Japan, received large capital infusions from the AIG parent in what were, in effect, transnational bailouts from the U.S. Treasury (which had previously re-capitalized AIG in September 2008 with public funds).<sup>262</sup> Dutch insurer AEGON received €3 billion in support from the Dutch government.<sup>263</sup> Life insurers’ exposures to variable annuity guaranteed minimum death benefits (GMDB) suffered similar fates, though on a smaller scale, to bank liquidity puts and credit enhancement protection for structured investment vehicles, as the firms’ statistical models failed to predict that massive declines in asset prices would trigger contingent commitments these institutions had made.<sup>264</sup> The massive amounts of public capital deployed to support securities markets and capital flows also served to mitigate the extent of asset price implosions in insurance companies’ asset portfolios.<sup>265</sup> The

---

PRACTICES DURING THE RECENT MARKET TURBULENCE (2008).

257. In particular, the report highlights deficient transmission of information to board members, a silo-approach to risk management that inhibits communication across units and stakeholders, and intra-firm hierarchies that privilege risk takers over risk managers. See Grant Kirkpatrick, *The Corporate Governance Lessons from the Financial Crisis* (OECD 2008).

258. Haldane, *supra* note 249.

259. FT.com, View from the Top, “Interview with Rodgin Cohen,” 2:10–2:50.

260. Leslie Scism, *Insurers’ Bank Deals Draw Criticism*, WALL ST. J., Dec. 11, 2009, at C3.

261. Martin Fackler, *Global Anxiety Catches up to Japan’s Economy*, N.Y. TIMES, Oct. 11, 2008, at B4.

262. Juro Osawa & Shawn Schroter, *AIG Bolsters Japan Unit*, WALL ST. J., Oct. 1, 2008, at B2.

263. See Bart Koster & Steve McGrath, *L&G, Aegon Set Plans on Capital*, WALL ST. J., Feb. 19, 2009, at C2.

264. Tom Hamburger & Ralph Vartabedian, *AIG Woes Could Be Just the Start*, L.A. TIMES, Mar. 30, 2009, at A1 (reporting that absent federal bailout funds AIG’s largest life insurance subsidiaries might have been bankrupt on account of their aggressive expansion into GMDB contracts – pursuant to which life insurers guarantee a variable annuity account value irrespective of the performance of the underlying assets – that resulted in large liabilities when equity market declines caused account balances to plummet).

265. See Francesco Guerrero & Aline van Duyn, *U.S. Banks Gain from Rally in Toxic Assets*, FIN. TIMES, Oct. 18, 2009 (highlighting role of Term Asset-Backed Securities Lending Facility and Public-

## Combating the Teleological Drift of Life Insurance Solvency Regulation

monoline insurance companies, which insure securities against default, spent nearly all of 2008 and 2009 raising capital in dramatic restructurings. These companies traditionally insured municipal bonds, but in the pre-crisis years had aggressively underwritten asset-backed securities and even CDOs, including subprime-related issuances, bolstered by confidence in their internal risk models.<sup>266</sup> In 2010, state insurance commissioners forced insured bondholders to take haircuts because there was not enough capital supporting the monoline insurance contracts.<sup>267</sup>

Viewed from a reliability lens, these recent shortcomings demonstrate the need for a changed risk management perspective that embraces an emphasis on long-term reliability and viability over short-term profit optimization and cost minimization. The central difficulty with achieving such a sea change in perspective is the current industry system's fixation on short-term optimization metrics that are only poor indicators of stability in contemporary financial markets.<sup>268</sup>

A first set of problems stems from the wide gap between the incentives of management and employees and the priorities of the policyholders and taxpayers whom solvency regulation is designed to protect. The price of defection from the short-term perspective is high, especially in light of current compensation practices. From the perspective of financial institutions and the traders, production line managers, and risk managers who work there, it is easy to generate fee and premium income from transactions that increase risks to levels that compromise the integrity of specific institutions and the financial system. This recalls Professor Steve Schwarcz's framing of systemic risk as a tragedy of the commons problem: because the benefits of exploiting finite capital allocations accrue disproportionately to financiers performing the allocation and the costs fall onto the broader class of users of finance, financiers lack incentives to internalize the negative externalities of their actions and their misjudgment of risk might cost the real economy in the long run.<sup>269</sup> To the extent that government safety nets – in the form of deposit insurance, guarantee funds, government guarantees, and in extremis loans – shift downside risk away from the actors that originate the risk, all the worse. A senior official in the Bank of England recounts a pre-crisis meeting with bank risk managers at which one brazen manager suggested that risk management

---

Private Investment Program in buoying security prices during 2009).

266. *A Monoline Meltdown?*, THE ECONOMIST, July 28, 2007.

267. Rolf Winkler & Una Galani, *An A.I.G. Lesson from Wisconsin*, N.Y. TIMES, Mar. 25, 2010.

268. See Dorf & Sabel, *supra* note 237, at 286 (identifying problem of “organizing decentralized, collaborative design and development under conditions of volatility and diversity” in markets “that have become so differentiated and fast changing that prices [and other short-term metrics] can serve as only a general framework and limit on decisionmaking”).

269. See Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 206 (2008); see also Hu, *Misunderstood Derivatives*, *supra* note 213, at 1502 (“Government, rather than the private sector, has the incentive . . . to become informed about systemic risks.”).

teams had no reason to run severe stress tests to test their firms' solvency because if there were ever a severe shock, they would lose their jobs and bonuses and the government would likely step in to save the institution and others suffering from similar difficulties.<sup>270</sup> Tying risk managers' pay to trading (or even firm-wide) profits might raise the profile of risk managers within the firm, but would threaten to exacerbate the fundamental problem: financial firms make more money by taking on more risk, so such compensation practices incentivize risk managers to acquiesce to greater risk-taking.<sup>271</sup> Thus, the opportunity cost of adopting the long-term reliability perspective would increase for risk managers too.<sup>272</sup>

In addition to the rent-seeking opportunities for firm personnel, a second set of problems results from shareholders' interests to impede management's adoption of an authentic reliability perspective to risk management. In this respect, it is helpful to situate the reliability challenge in the context of managerial practice and in particular the pressures managers face from short-term investors to maximize profits. If a shareholder expects to exit a position shortly, it might prefer that a marginal dollar is spent on expanding a high-margin business unit rather than improving risk management.<sup>273</sup> Moreover, risk management investment is expensive, especially given market complexity. According to rational ignorance theory, the costs of weighing and analyzing information can exceed the benefits to be obtained from that information;<sup>274</sup> when short-term profits are readily available elsewhere within the group, firm managers may struggle to justify the substantial information costs to shareholders in light of the net present value of investing in new business. Life insurance groups' public disclosure of risk management practices confirms their focus on shareholder optimization metrics.<sup>275</sup>

Management commitment is a necessary, but not sufficient, condition to the

---

270. Haldane, *supra* note 249, at 12.

271. *Cinderella's Moment*, THE ECONOMIST, Feb. 13, 2010.

272. In this context, it is helpful to consider that the commitments and priorities of industry actors are lexically ordered – that is, most industry actors are at once committed to making money and being socially responsible, but only up to a point, and one priority must be satisfied before another becomes the primary focus. See IAN AYRES & JOHN BRAITHWAITE, RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE (1992) (also noting that industry actors have “multiple selves”). As the opportunity cost of defecting from risk-intensive industry norms increases, non-pecuniary responsibilities become more expensive and will be expected to receive less corporate attention.

273. See TARULLO, *supra* note 35, at 176.

274. See Anuj K. Shah & Daniel M. Oppenheimer, *Heuristics Made Easy: An Effort-Reduction Framework*, 134 PSYCHOL. BULL. 207, 207 (2008).

275. See, e.g., Lincoln National Corp., Annual Report (Form 10-K) (Feb. 27, 2009) (“We analyze and manage the risks arising from market exposures of financial instruments, as well as other risks, in an integrated asset-liability management process that takes diversification into account. By aggregating the potential effect of market and other risks on the entire enterprise, we estimate, review and in some cases *manage the risk to our earnings and shareholder value*.” (emphasis added)); id. (“The Company evaluates these risks individually and, increasingly, in the aggregate to determine the risk profiles of all of its products and to judge their potential impacts on financial metrics *including U.S. GAAP earnings* . . .” (emphasis added)).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

emergence of a reliability perspective. For example, managing in fast-moving markets may inherently frustrate attempts to focus on long-term goals. The rapidity and volatility of financial markets result in many events of potential high impact significance being brought to management's attention. These events often require quick resolutions, and management's focus on longer-term goals such as risk management infrastructure can wane. It is also important to bear in mind the intra-firm compensation-related conflicts of interest, and the fact that firm constituencies other than senior management control access to information. Even assuming a sincere commitment of senior management to risk management, profit center units have little interest in accurate risk profiling of activities that are likely to yield greater compensation.<sup>276</sup>

ERM, then, represents an attractive potential solution, but without adequate industry buy-in and implementation, it will not help solve the complexity dilemma of contemporary finance. For the industry to consent to a new risk management infrastructure absent direct governmental intervention, it must overcome the problems discussed above and *agree to govern itself*. Neil Gunningham and Joseph Rees have developed a theory of the conditions required for effective industry self-regulation: for self-regulation to work, firms must share an "industrial morality" that, in turn, permits the industry to "institutionalize responsibility" for the broader societal ramifications of its conduct.<sup>277</sup> To consent to such a system, industry members often must abandon optimization-style priorities that result in societal negative externalities such as systemic risk and consumer losses. For Gunningham and Rees, a necessary condition for the formation of an industrial morality is a shared set of public and private interests regarding the regulated event.<sup>278</sup> These shared interests may arise organically or through the threat of intrusive command-and-control regulation. In either case, the industry must recognize that it constitutes a "community of fate" that must bind itself to collective self-restraint in the face of short-term pressures to optimize profitability and minimize costs.<sup>279</sup>

The rent-seeking opportunities, compensation-related incentives, and short-term investor pressures discussed above are but a few of many examples demonstrating why the emergence of a community of fate is unlikely among

---

276. See Steven L. Schwarcz, *Regulating Complexity in Financial Markets*, 87 WASH. U. L. REV. 211, 224–25 (2009) (describing how in lead up to crisis traders had incentives to allocate assets to achieve low VaR estimates, notwithstanding the gradual build-up of massive fat tail risk that was not taken into account in the VaR model); TARULLO, *supra* note 35, at 101 ("The various bank divisions had little interest in promoting clear and well-developed risk profiles of their activities, since this might mean more constraints on the very activities that – at least in the short term – were most likely to yields the highest profits.").

277. Gunningham & Rees, *supra* note 12, at 376–89. Stated in traditional economic terms, firms must internalize the negative externalities that their actions create.

278. *Id.* at 389–90.

279. Saule Omarova, *Wall Street as Community of Fate: Toward Financial Industry Self-Regulation*, 159 U. PA. L. REV. (forthcoming 2010).



financial firms. Other factors include industry concentration and, most importantly, the ever-expanding safety net.<sup>280</sup> While public awareness of systemic risk as a negative externality has certainly increased in recent years, this awareness is unlikely to translate into credible threats of intrusive regulation of finance, as the electorate is unsurprisingly focused on highly salient and uncomplicated issues such as CEO bonuses and “repayment” of TARP loans.<sup>281</sup> The negotiation and passage of the Dodd-Frank Act has borne this out; apart from a watered-down variant of the so-called Volcker Rule requiring divestiture of proprietary trading and fund operations, the Act stopped short of fundamental transformation of the industry’s profit centers.<sup>282</sup> In the short term, self-regulation of risk management according to a reliability perspective is unlikely to emerge.

Nevertheless, it might still be possible for regulators to promote a corporate governance infrastructure that taps the potential of risk management to act as a counterweight to uncertainty and risk proliferation. As noted above in Part I, the purpose of insurance solvency regulation is to install a substitute for lender market discipline. Because the disciplinary effects of debt are, at bottom, a corporate governance concern, it is here that the risk management story converges with the solvency regulation narrative: if solvency regulation aims to correct flaws in corporate governance, and if traditional solvency regulation is outdated due to market complexity, can corporate law and insurance law and regulation shape corporate governance norms so as to promote solvency?

### *3. The Legal Dimension: New Governance & Meta-Risk Management*

It is one matter to state a normative case for a reliability perspective on risk management over short-termism, but it an entirely separate matter to design a legal system that fosters the emergence of such a perspective.<sup>283</sup> The challenge is especially pronounced in the context of dynamic markets characterized by high regulator-regulatee information asymmetries such as the derivatives or securities markets. In such markets, the only choice for regulators may be to rely on risk management techniques at the firm-level. Regulators are then charged with “regulating the exercise of judgment.”<sup>284</sup> The challenge for

---

280. See generally JOHNSON & KWAK, *supra* note 61.

281. See, e.g., David Lawder, *White House Slashes U.S. Bailout Cost Estimate*, REUTERS, Sept. 20, 2010, <http://www.reuters.com/article/idUSN3013769220100930> (reporting on the Obama Administration’s zeal to report near full repayment of TARP funds in advance of 2010 mid-term elections); Ian Bremmer & Sean West, *AIG and “Political Risk”*, WALL ST. J., Mar. 20, 2009, at A15 (chronicling populist uproar over proposed bonuses to AIG employees at expense of more pressing but technical issues such as stress-testing of banks and reduction of moral hazard).

282. A full examination of the Dodd-Frank Act is outside the scope of this article and much of the new regulatory structure’s force will depend on implementing administrative measures and rules, but it appears at present that financial firms have called the public’s bluff.

283. See Omarova, *supra* note 279, at 30-31.

284. Bamberger, *supra* note 212, at 381.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

policymakers is to implement what John Braithwaite, drawing on Peter Grabosky's concept of "meta-monitoring," has referred to as system of "meta risk management" – that is, the risk management of risk management.<sup>285</sup> To meet this challenge, policymakers must take a broad view of causality, and attribute causal significance not only to individual actions but also to firm culture, or a firm's "attitudinal setting."<sup>286</sup>

To provide some theoretical context on this point, meta-risk management resonates with new governance theory, a wide-ranging set of ideas that highlights increasing involvement of non-state actors in the governance tools that shape and constitute public policy and regulation. New governance re-orientes traditional administrative law scholarship by focusing on the tools and methodologies of governance – by whomever implemented – rather than the *dramatis personae* of the regulator-regulatee game. The starting point for inquiry into regulatory problems is an understanding of the regulatory toolkit rather than an *ex ante* distribution of power among purely private and purely public actors. In the process, it calls into question the New Deal regulatory paradigm according to which hierarchically-ordered and expert public regulators exercise legislatively delegated authority to pursue statutorily-defined regulatory objectives by implementing the "best" solutions to problems.<sup>287</sup> New governance recognizes that contemporary economic and other social systems are subject to constant evolution; accordingly, expertise and regulatory objectives must be flexible and shifting rather than static.<sup>288</sup> In this respect, it is deeply pragmatic and experimental, and it applies a reliability-focused perspective to public problem solving. Three attributes of the new governance literature are of particular relevance to the regulation of complex, dynamic financial markets: (1) retention of a public role in lawmaking and enforcement as a background threat, or "benign big gun"; (2) decentralization of governance through active pursuit of non-state actor knowledge to supplement, and sometimes replace, public administrative expertise; and (3) a dynamic, flexible, and dialogic lawmaking process.

First, by retaining residual command-and-control powers, regulators wield

---

285. See Braithwaite, *supra* note 14, at 1.

286. Donald C. Langevoort, *Chasing the Greased Pig Down Wall Street: A Gatekeeper's Guide to the Psychology, Culture and Ethics of Financial Risk-taking*, 95 CORNELL L. REV. (forthcoming 2010); Cristie Ford & David Hess, *Corporate Corruption and Reform Undertakings: A New Approach to an Old Problem*, 41 CORNELL INT'L L.J. 307, 310 (2008); Robert Baldwin & Julia Black, *Really Responsive Regulation*, 71 MOD. L. REV. 59, 68-70 (2008) (discussing "attitudinal settings").

287. See, e.g., JAMES M. LANDIS, *THE ADMINISTRATIVE PROCESS* 13 (1938) (comparing administrative agencies to corporate boards of directors on the grounds that "in their essentials they resemble the powers conferred upon the executive committee of a board of directors in the hope of building a system which, under the guidance of this committee, may more nearly approximate a given desideratum").

288. See David M. Trubek & Louise G. Trubek, *New Governance and Legal Regulation: Complementarity, Rivalry and Transformation*, 13 COLUM. J. EUR. L. 539, 542 (2007) ("[A]ll solutions should be regarded as provisional.").

what Ian Ayres and John Braithwaite have referred to as a benign big gun: that is, a background threat in the form of rarely deployed, but available, severe sanctions, which serves to incentivize regulated market actors to avoid defecting from regulatory objectives.<sup>289</sup> Because new governance vests discretion over public regulatory objectives and outcomes to private parties, the legitimacy of the system requires retention of a public regulatory presence.<sup>290</sup> In other words, the state is not dead; it remains a critical juncture of new governance networks, just not as an authoritative, directing regulator in a command-and-control system.<sup>291</sup>

The concept of penalty defaults from contracts is analogous here. Contract law provides for penalty defaults, in the form of background sanctions that no party is likely to prefer, to induce contracting parties to engage in efficient contracting.<sup>292</sup> The penalty default thus encourages responsible ex ante contracting and deliberation rather than ex post litigation. In this respect, the background threat might substitute or supplement the industrial morality that, as discussed in Part IIIB(2), is unlikely to materialize absent government involvement.<sup>293</sup> The threat must also be formalized and enforced, which will give it a salience that general background threats of legislation lack due to industry's successful lobbying track record.<sup>294</sup> Regulators must have access to a sliding-scale, incremental enforcement toolkit that is itself risk-sensitive so as to allow regulators to calibrate enforcement efforts based on the reasons for and consequences of a firm's defection from the regulatory objective.

Second, by enlisting non-state actors' knowledge in the regulatory process,

---

289. AYRES & BRAITHWAITE, *supra* note 272, at 19-53; see also Cary Coglianese & David Lazer, *Management-Based Regulation: Prescribing Private Management to Achieve Public Goals*, 37 LAW & SOC'Y REV. 691, 694-96, 726 (2003) (emphasizing importance of "governmental enforcement presence" for "management-based regulation" – a new governance-style model under which "firms are expected to produce plans that comply with general criteria designed to promote the targeted social goal" – to work).

290. See AYRES & BRAITHWAITE, *supra* note 272, at 19-53.

291. See, e.g., Louise G. Trubck, *New Governance and Soft Law in Health Care Reform*, 3 IND. HEALTH L. REV. 137, 159-60 (2006) (describing the state's role in new governance initiatives as "disaggregated but necessary").

292. See Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L. J. 87, 97-98 (1989) (characterizing the common law rule that courts will enforce only contracts with certain and definite terms as an incentive for contracting parties to make their expectations express in their contract).

293. Note, however, that a benign big gun comprises more than a system of sanctions designed to make actors responsible for negative externalities. It is an institution that appeals to and encourages the professional integrity and law-abidingness of industry actors rather than assumes that they all require heavy-handed sanctioning and supervision. See KEITH HAWKINS, *LAW AS LAST RESORT: PROSECUTION DECISION-MAKING IN A REGULATORY AGENCY* 253-55 (2002) (describing how most regulatory inspectors believe that regulators pursue "principled compliance"); AYRES & BRAITHWAITE, *supra* note 272, at 19-27 (describing a benign big gun approach to regulation that aims to appeal to the social responsibility of actors to obtain voluntary compliance, but also stands ready to deploy deterrent threat sanctions of increasing severity to motivate purely economically motivated "rational actors" and incapacitate chronic law violators). To borrow Justice Holmes' construction, it engages both "good men" and "bad men" as such.

294. In 2007, there were five financial services industry lobbyists per member of Congress. John Plender, *How to Tame the Animal Spirits*, FIN. TIMES, Sept. 29, 2009, at 11.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

the role of centralized agency expertise is marginalized, as the nodes of governance ramify throughout the regulated markets. Policymaking and regulation are thus conceived “not as [a top-down ordering process] to be done by autonomous regulators but rather as a process of mutual problem-solving among stakeholders from government and the private sector.”<sup>295</sup> The expertise and knowledge of private actors can be “harness[ed] . . . to serve public goals”<sup>296</sup> and public lawmaking is oriented toward a collaborative, consensus-seeking form of governance.<sup>297</sup> In new governance, there are multiple public and private legal entities, but there is one *public process*.<sup>298</sup> The dynamic financial system is a paradigmatic example of a market that is susceptible to governance improvements by involving regulatees – who, after all, enjoy superior access to information and analytical capabilities – to a greater extent.<sup>299</sup> The decentralization of governance also brings more perspectives to the fore, especially if third-party non-state actors participate, and in the process formalizes a forum at the governance level where the reliability principle of norm destabilization can flourish.<sup>300</sup>

Finally, new governance – again picking up on reliability themes – emphasizes flexibility, process revision, continuous learning, monitoring through error detection and benchmarking, and peer review. Flexible systems of regulation must be “open to diverse forms of articulation”<sup>301</sup> and

---

295. Joanne Scott & David M. Trubek, *Mind the Gap: Law and New Approaches to Governance in the European Union*, 8 EUR. L.J. 1, 5 (2002).

296. Jody Freeman, *The Private Role in Public Governance*, 75 N.Y.U. L. REV. 543, 549 (2000).

297. Bradley C. Karkkainen, *Reply: “New Governance” in Legal Thought and in the World: Some Splitting as Antidote to Overzealous Lumping*, 89 MINN. L. REV. 471, 474 (2004) (referring to new governance as “consensus-oriented”); Dorf & Sabel, *supra* note 236, at 355 (explaining “experimentalist” governance as “link[ing] benchmarking, rulemaking, and revision so closely with operating experience that rulemakers and operating-world actors work literally side-by-side – but, to repeat, in plain view of the public – and thus, largely overcome the distinction between the detached staff of honest but imperfectly informed experts and the knowledgeable but devious insiders they regulate”).

298. See Orly Lobel, *The Renew Deal: The Fall of Regulation and the Rise of Governance in Contemporary Legal Thought*, 89 MINN. L. REV. 342, 452–53 (2004) (“[T]he governance model offers a framework that enables us to view the different sectors—state, market, and civil society—as part of one comprehensive, interlocking system. The focus is on government interactions with private actors in public action.”); Freeman, *supra* note 296 at 564 (lamenting that traditional accounts of administrative law rely on “the illusion of a public realm” defined in contraposition to the private realm of markets).

299. The issue of compensation arises again in connection with new governance’s emphasis on tapping analytical capabilities of private firms. At present, private firms – especially financial firms – offer compensation packages that can be multiples of the salaries of public regulators. Even if, however, the variance between regulatory and industry compensation fell, the proximity problem would remain: no matter how well-equipped the regulators are, if markets that pose systemic risks are constantly changing, there will always exist an epistemic gap between what regulators know and what they need to know to pursue their objectives.

300. See *supra* Part IIIB(2); see also Charles F. Sabel & William H. Simon, *Destabilization Rights: How Public Law Litigation Succeeds*, 117 HARV. L. REV. 1015 (2004) (advocating for the “destabilization” of chronically underperforming public institutions to, among other things, induce participation of wider array of stakeholders in decision making processes).

301. Lobel, *supra* note 298, at 391.

“conversational” in nature.<sup>302</sup> As Professors Julia Black and Robert Baldwin put it, regulation must be “really responsive” not only to changing market dynamics, but also to the institutional and functional contexts within which regulation operates, including firm attitudes, internal logics of regulatory tools and strategies, institutional environments, performance indicators, and changes in all of these factors.<sup>303</sup> If regulatory tools and strategies in current use are proving unsuccessful in achieving desired objectives, they must be modified.<sup>304</sup> Importantly, if implemented effectively, this perspective allows for a one-way ratchet in the direction of continuous improvement and adoption of rolling best practices.<sup>305</sup> By pairing an amplified set of perspectives with an openness to continual re-assessment of process and objectives, all facilitated through effective government inducement, new governance provides a useful theoretical framework within which to situate attempts to construct a system of meta-risk management in the financial services industry.

However, the new governance approach to risk management is fraught with normative complications regarding the utilization of firm-specific financial modeling technologies for public regulatory purposes.<sup>306</sup> These difficulties can be roughly categorized into two sets of concerns. First are the inherent shortcomings of risk management systems (and the statistical models undergirding them) that result from the disjoint between what we know and what we think we know. Part of this problem relates to cognitive biases and intellectual limitations,<sup>307</sup> and part of it relates to the limits of predictive mathematics in a world of uncertainty.<sup>308</sup> Life insurance groups themselves recognize the limitations of their risk management systems.<sup>309</sup> Second, in addition to the ever-present specter of industry capture, regulators themselves

---

302. JULIA BLACK, RULES AND REGULATORS 37-44 (1997).

303. See Baldwin & Black, *supra* note 286, at 68-69.

304. See Robert Baldwin & Julia Black, *Really Responsive Risk-Based Regulation*, 32 LAW & POL’Y 181, 200 (2010).

305. See Robert A. Kagan et al., *Explaining Corporate Environmental Performance: How Does Regulation Matter?*, 37 LAW & POL’Y 51, 52 (2003) (advocating a regulatory praxis that emphasizes the encouragement of “beyond compliance” over compliance enforcement); Dorf & Sabel, *supra* note 237 at 350-54 (describing the promise of “prospective rolling best-practice rule[s]” because “the best alternative solution available by a distant date would (re)set the standard from that time on”).

306. See Weber, *supra* note 121, at 850-55.

307. Evidence suggests that human intellection abhors uncertainty and will more readily act based on knowledge systems that privilege the measurable and mask uncertainty. Under these circumstances, we are inclined to “normalize the unexpected.” Simon, *supra* note 11, at 4-5. In this context, see also Herring, *supra* note 241, at 355 (discussing the “availability heuristic” and the “threshold heuristic”).

308. See Weber, *supra* note 121, at 857-58.

309. See, e.g., HARTFORD FINANCIAL SERVICES GROUP, INC., ANNUAL REPORT (Form 10-K) (Feb. 12, 2009) (highlighting to investors the risk that “unanticipated policyholder behavior, combined with adverse market events, produces economic losses beyond the scope of the risk management techniques employed, which . . . may have a material adverse effect on our consolidated results of operations, financial condition and cash flows”); LINCOLN NATIONAL CORP., ANNUAL REPORT (Form 10-K) (Feb. 27, 2009) (including as a separate “risk factor” pursuant to Item 503(c) of Regulation S-K the possibility that “risk management policies and procedures may leave us exposed to unidentified or unanticipated risk, which could negatively affect our businesses or result in losses”).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

are subject to cognitive biases that impede their realization of regulatory objectives when dealing with complex regulated markets.<sup>310</sup> These concerns are real, but this Part – and this article in general – is concerned with a broader issue: whether public law can encourage the embedment of a reliability perspective to risk management such that the difficulties described here can be managed with a view to the long-term viability of both the firm and the financial system.

The international bank capital adequacy framework is the most far-reaching effort by regulators to engage in meta-risk management, but its track record, while still relatively undeveloped, has not been impressive. In 2004, the Basel Committee on Banking Supervision (the Basel Committee) published its most recent comprehensive framework for bank capital adequacy rules (known as “Basel II”).<sup>311</sup> Enhancing risk management best practices was a key objective of the Basel II reform.<sup>312</sup> Basel II is comprised of three “pillars”: Pillar 1, which is a precursor to the PBR reform, specifies minimum capital requirements; Pillar 2 concerns the supervisory review process; and Pillar 3 sets forth new market disclosure requirements intended to enhance market discipline alongside regulation and supervision.<sup>313</sup> Pillar 1 allows banks to adopt an “internal ratings based” (IRB) approach when determining their regulatory capital requirements, pursuant to which banks are permitted to use proprietary statistical models to estimate the magnitude and probability of losses associated with loan book positions in light of credit risks.<sup>314</sup> Eligibility for the IRB approach, which generally results in lower capital requirements and compliance costs, is contingent on banks satisfying certain criteria related to, among other things, risk management.<sup>315</sup> Pillar 3 is premised on the idea that modest disclosure of assumptions, mechanics, and backtesting results of models will expose disclosing banks to “market discipline.”<sup>316</sup>

But more important for purposes of this article is Pillar 2, which sets out the

---

310. Weber, *supra* note 121, at 850-55, 860-63 (discussing regulators’ susceptibility to certain cognitive biases, such as “social contagion,” excessive faith in market efficiency, and a tendency to privilege information derived from systems purporting to quantify risk rather than accurately describe uncertainty); Avinash Persaud, Regulatory Capture, Remarks at Gresham College (June 28, 2005) (“[R]egulatory capture today is . . . much more subtle and sophisticated than in the past. . . . It’s about big business persuading regulators about certain principles that seem eminently sensible, although on further examination . . . are hollow and bankrupt.”); cf. Stephen Choi & Adam Pritchard, *Behavioral Economic and the SEC*, 57 STAN. L. REV. 1 (2003) (explaining how the SEC can be gripped by cognitive biases that inhibit its effectiveness).

311. See BASEL COMM. ON BANKING SUPERVISION, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS – A REVISED FRAMEWORK (COMPREHENSIVE VERSION) (2006), available at <http://www.bis.org/publ/bcbs128.htm> [hereinafter BASEL II FRAMEWORK].

312. See TARULLO, *supra* note 35, at 174-76; Richard Herring, *The Rocky Road to Implementation of Basel II in the United States*, 35 ATL. ECON. J. 411 (2007).

313. See BASEL II FRAMEWORK, *supra* note 311, at 1-11.

314. See Weber, *supra* note 121, at 827-29.

315. See BASEL II FRAMEWORK, *supra* note 311, at 88-120.

316. See Weber, *supra* note 109, at 829-30.

supervisory framework for the Basel II regime.<sup>317</sup> To borrow from Bamberger, Pillar 2 *regulates the exercise of management's judgment* in implementing an IRB approach.<sup>318</sup> Specifically, it sets forth four principles to guide bank regulators when supervising the adequacy of a bank's risk management infrastructure:

- Principle 1: Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels.<sup>319</sup>
- Principle 2: Supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as the ability to monitor and ensure their compliance with regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process.<sup>320</sup>
- Principle 3: Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum.<sup>321</sup>
- Principle 4: Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.<sup>322</sup>

The Basel II framework elaborates further on these principles and includes specific obligations for banks to institute policies to “identify, measure, and report” all material risks.<sup>323</sup> Where a risk cannot be measured precisely, “a process should be developed to estimate risks.”<sup>324</sup> Further, a bank must perform stress tests to “identify possible events or changes in market conditions that could adversely impact the bank.”<sup>325</sup> This requirement is the first generally applicable legal obligation to perform stress tests, and it embeds a self-critical, counter-factual analysis in the risk management function. The commentary for Principle 1 also makes clear that the board of directors has responsibility to establish systems for assessing risks and monitoring compliance with internal

---

317. BASEL II FRAMEWORK, *supra* note 311, at 158 (“The supervisory review process of the Framework is intended not only to ensure that banks have adequate capital to support all the risks in their business, but also to *encourage banks to develop and use better risk management techniques in monitoring and managing their risks.*” (emphasis added)).

318. *See supra* note 284.

319. BASEL II FRAMEWORK, *supra* note 311, at 159.

320. *Id.* at 162.

321. *Id.* at 164.

322. *Id.* at 165.

323. *Id.* at 160.

324. *Id.*

325. *Id.* at 159.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

policies, as well as risk exposures and “how the bank’s changing risk profile affects the need for capital.”<sup>326</sup> In performing this latter obligation, the board is required to conduct periodic reviews to ensure the “integrity, accuracy, and reasonableness” of the risk management system.<sup>327</sup> Independent review is necessary and, “where appropriate,” internal and external audits should be conducted.<sup>328</sup>

Among other things, Principle 2 requires bank regulators to evaluate the degree to which a bank has established and maintained a “sound internal process to assess capital adequacy” that emphasizes “the quality of the bank’s risk management and controls.”<sup>329</sup> If supervisory reviews reveal shortcomings, regulators are instructed to “take appropriate action.”<sup>330</sup> Principle 4 addresses the arsenal of “appropriate actions” that regulators should resort to when enforcing Pillar 2’s supervisory norms. Principle 4 envisages wide discretionary powers for bank regulators:

Supervisors should consider a range of options if they become concerned that a bank is not meeting the requirements embodied in the supervisory principles outlined above. These actions may include intensifying the monitoring of the bank, restricting the payment of dividends, requiring the bank to prepare and implement a satisfactory capital adequacy restoration plan, and requiring the bank to raise additional capital immediately. Supervisors should have the discretion to use the tools best suited to the circumstances of the bank and its operating environment.<sup>331</sup>

Pillar 2 is an early and incomplete attempt at a new governance-style system of meta-risk management aiming to foster a reliability-focused approach to risk in firm culture. Principle 1 sets minimum standards for risk management corporate governance, but leaves the specific articulation of those standards’ fulfillment up to the regulatees’ discretion. The provisions relating to monitoring and reporting, as well as the requirement to conduct self-critical stress tests, are designed to promote destabilization and flexibility, and a bank’s capital needs are to be continually re-assessed internally in light of observed experience. The system relies on the background threat of enforcement to function. The failure of the SEC’s similar internal models-based capital adequacy regime for large securities firms is a case study in the ineffectiveness of internal models-based capital adequacy regimes when staffing resources are lacking and agencies are not equipped with a sliding scale of enforcement authority (that is, the enforcement powers are so draconian that they are never used at all).<sup>332</sup> Pillar 2 of Basel II, by contrast, emphasizes the need for prompt

---

326. *Id.* at 208.

327. *Id.* at 209.

328. *Id.*

329. *Id.* at 162.

330. *Id.* at 163.

331. *Id.* at 165.

332. 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) (pointing out that the SEC assigned only three staff to



intervention with a sliding scale of enforcement mechanisms. The access to multiple enforcement tools allows regulators to calibrate enforcement to the institutional context of each regulated firm, subject of course to applicable due process and equity norms.

Notwithstanding its potential, the supervisory track record of bank regulators' Pillar 2 duties, while admittedly undeveloped at this stage, is not encouraging. For example, in 2005, Swiss bank UBS and its supervisor the Swiss Financial Market Supervisory Authority (FINMA) had already transitioned to Basel II when UBS decided to pursue aggressively the mortgage securitization business.<sup>333</sup> UBS's risk management department utilized a model that assumed that the so-called "super senior" risk that UBS retained on its balance sheet in securitization transactions could only lose 2 percent of its value.<sup>334</sup> Under the IRB approach, its Basel II capital requirements plunged and UBS piled on its super senior exposure. By 2007, it had \$50 billion in exposure,<sup>335</sup> not coincidentally, within two years UBS had booked about \$50 billion in asset write-downs and was shored up only by a series of taxpayer-funded capital infusions.<sup>336</sup> FINMA never employed the sliding scale of sanctions to curb UBS's risk-taking. The experience of UBS and other large European banks that were already subject to Basel II cautions that the legal availability of enforcement mechanisms does not necessarily translate into their effective use. When regulators are captured, either literally or through the operation of more hegemonic forces, or when there are staffing or expertise deficiencies, enforcement will be ineffective. The benign big gun will be more "benign" than "big gun."

A further factor limiting the Basel II framework's effectiveness as a meta-risk management tool is its lack of emphasis on continuous learning, benchmarking, and rolling best practice revision. The regime is flexible for banks, but not for regulators. The provisions in Pillar 2 specifying the channels through which information will flow do not contemplate the type of information gathering and sharing necessary for the emergence of an authentic new governance-style regime. Instead, regulators are instructed to cooperate with regulators from other jurisdictions when a banking group is subject to regulation in multiple jurisdictions, and to avoid duplicative compliance.<sup>337</sup> The information will flow between regulated banks and their regulators, but regulators will only be able to compare risk management techniques and

---

each CSE firm and that the SEC technically lacked the basic authority to order a firm to increase its debt-to-equity ratio).

333. GILLIAN TETT, *FOOL'S GOLD: HOW UNRESTRAINED GREED CORRUPTED A DREAM, SHATTERED GLOBAL MARKETS AND UNLEASHED A CATASTROPHE* 161–63 (2009).

334. *Id.* at 162.

335. *Id.* at 242.

336. Goran Mijuk, *Prescription for UBS: Hard Work*, WALL ST. J., Sept. 2, 2009, at C2.

337. See BASEL II FRAMEWORK, *supra* note 311, at 219.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

internal capital models within that jurisdiction. Though the Basel Committee has established an Accord Implementation Group and a Capital Interpretation Group to foster uniformity in the implementation and interpretation of Basel II,<sup>338</sup> at present there is no formal structure for information exchange among regulators on risk management matters. Moreover, there is no requirement that a single jurisdiction's bank regulators establish an internal information-sharing unit; to the extent that bank supervisors are allocated to particular banks (as occurs in the U.S.), there is a danger that each set of supervisors operates in a self-contained silo such that the umbrella regulator lacks a forum to compare risk management best practices from different banking groups. As such, there is no structural mechanism to ensure the prompt identification and communication of the most effective risk management techniques among regulators and regulated firms, preventing any meaningful benchmarking. As a result, the system is not flexible and it lacks openness to the destabilization of norms and objectives in light of new experience and knowledge.

Thus, Basel II only addresses one of the three new governance attributes discussed in this Part adequately: by utilizing regulated firms' financial code and risk management technologies in the capital adequacy framework, it invites private actors into the capital adequacy regulatory framework and increases the quality of information at regulators' disposal. However, notwithstanding its emphasis on providing such authorities to bank regulators, the regime is not at present bolstered by a credible commitment to risk-sensitive enforcement. Moreover, though it is less rigid than the crude Basel I regime, it lacks structural commitment to process revision, rolling best practices, benchmarking, and continuous reassessment for which a meta-risk management regime should provide.

### IV. THE NAIC VALUATION MANUAL: TOWARDS A COMPREHENSIVE PBR REGIME

In spite of the ample recent experience of faulty risk modeling technologies, U.S. insurance regulators are poised to transition to a Basel II-style approach to statutory reserve accounting. In recent years insurance reserve accounting has undergone several changes ranging from traditional command-and-control initiatives to nascent new governance-style reforms. These reforms evince a gradual teleological drift – of which the NAIC's PBR reform is a final expression – away from conservative understatement of net worth, which had been the primary means by which regulators promoted a sound and solid insurance sector. Insurance regulators hope that the PBR reform will reconstitute a logical relationship between the reserve accounting regime and the newly complex insurance business. However, under the reform the internal

---

338. Weber, *supra* note 121, at 865 n. 324.

logic of that regime will now depend on the regulated firms' financial models and risk management systems, and will be conservative only to the extent that those models reflect an institutionalized reliability perspective regarding the financial reporting function that emphasizes conservatism and long-term solvency as business objectives. For reasons discussed in Part III, the pressures to gauge performance by reference to short-term optimization metrics impede the development of such a perspective.

Since adopting the PBR reform, the NAIC has published draft corporate governance requirements, which when finalized will be binding on boards of directors and senior managers of life insurers subject to the PBR reform. The NAIC is to be applauded for recognizing the fundamental link between solvency regulation, corporate governance, and risk management, but the requirements as drafted in current proposals fall well short of the mark. Sub-Part A summarizes preliminary reforms to remodel the statutory reserve accounting rules to accommodate new market realities. Sub-Part B will evaluate the PBR framework, and explain how its corporate governance requirements represent a welcome, but ultimately incomplete, effort to institute an effective system of meta-risk management.

#### *A. Preliminary Attempts to Integrate New Products and Risk Management into Statutory Reserving Regime*

##### *1. Asset Adequacy Test*

In response to growing awareness of the riskiness and illiquidity of life insurers' investment portfolios in the late 1980s and early 1990s, the NAIC in 1991 incorporated an asset adequacy test – modeled on the New York State Insurance Department's Regulation 126 – into the SVL.<sup>339</sup> The asset adequacy test requires life insurers to submit to regulators an actuarial report certifying that the insurer's aggregate reserves make “adequate provision for” the likely benefits and expenses – taking into account the assets held by the company in support of the reserves – that will emerge from the insurer's business.<sup>340</sup> The test applies in addition to the formulaic reserve calculation.<sup>341</sup> That is, the baseline formulaic method in effect constitutes a floor: an insurer can establish greater reserves, if required by the actuarial opinion, but at a minimum it must

---

339. See STANDARD VALUATION LAW, *supra* note 98, §3.A(2).

340. *Id.*

341. In addition to the methodological preference for actuarial discretion over statutory prescription, two major differences in subject matter distinguish the asset adequacy test from the baseline formulaic method. First, the asset adequacy test is applied to an insurer's aggregate business and not on a policy-by-policy (or “seriatim”) basis like the formulaic method. Second, under the asset adequacy test, actuaries are to consider only assets held backing reserves, and not assets comprising the company's surplus.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

establish reserves under the baseline formulaic method.

The asset adequacy test is essentially a measurement of the insurer's asset-liability match. The test eschews formula-based reserving and vests substantial discretion in the actuary to determine the adequacy of the reserves. The statute itself does not even specify the time horizon as to which the asset adequacy test is to be performed.<sup>342</sup> The professional actuarial associations are charged with interpreting the "adequate provision" requirement on a rolling, ongoing basis in light of experience.<sup>343</sup> The asset adequacy test thus leaves discretion as to how to gauge "adequate provision" to the company actuaries in possession of the best information regarding the assets and liabilities, and for this reason might be considered an early new governance initiative.

### *2. Regulation XXX and Actuarial Guideline AXXX*

While the mortality tables and applicable interest rates have changed intermittently over the years, the basic formulae for calculating policy and annuity reserves have remained the same. Most states have adopted the so-called Regulation XXX<sup>344</sup> and Actuarial Guideline<sup>345</sup> AXXX, which impose formula-based reserve calculation methodologies for term life insurance and universal life insurance policies with secondary death benefit guarantees. Developed by the NAIC, Regulation XXX and Actuarial Guideline AXXX were designed to take account of the increasing importance of the term and universal life insurance markets.<sup>346</sup> The SVL and its assumptions were a poor fit for these business lines, which posed a different set of risks and required different reserve valuation techniques.

These new formulaic reserve calculation methods have increasingly come under attack from the industry and investment bankers for their sui generis methodologies which correspond to neither the firms' internal risk management function nor GAAP. Most notably, insurers have been offloading so-called "excess" or "redundant" reserves required under Regulation XXX and Actuarial Guideline AXXX onto the capital markets via complex regulatory arbitrage transactions known as reserve financing transactions.<sup>347</sup> Other

---

342. COMM. LIFE INS. FIN. REP. AM. SOC'Y ACTUARIES, LIFE PRACTICE NOTE 1995-1, at 5 (1995), available at <http://www.actuary.org/pdf/practnotes/life1.pdf>.

343. See STANDARD VALUATION LAW, *supra* note 98, §3.A(2).

344. 830-1 VALUATION OF LIFE INSURANCE POLICIES MODEL REGULATION (Nat'l Ass'n Ins. Comm'rs 2009) [hereinafter REGULATION XXX].

345. Actuarial guidelines are issued by the Life and Health Actuarial Task Force of the NAIC to address unanticipated issues that are not directly covered by either the SVL or model regulations. See NAT'L ASS'N INS. COMM'RS, ACCOUNTING PRACTICES & PROCEDURES MANUAL, App. C (2009) (noting that actuarial guidelines "are not intended to be viewed as statutory revisions but merely a guide in applying the statute"). They are incorporated by reference into, and are thereby given binding effect by, the SVL. *Id.*

346. See *supra* Part IIIA(2).

347. Thomas E. McGuinness et al., *Financing XXX Reserves for the Long Term: Focus Turns to*

insurers simply increase rates or decrease business.<sup>348</sup> Industry and the investment bankers that facilitate XXX and AXXX reserve financing label them “redundant” because, relative to GAAP and reasonable economic assumptions, they exceed the extent of the liability.<sup>349</sup> Two lessons can be learned from the experience with XXX and AXXX reserve accounting rules: (1) insurers had developed sophisticated regulatory arbitrage capabilities that allowed them to circumvent the intended effects of the accounting rules; and (2) implicit in the industry’s laments that the reserve requirements were excessive in light of the economic value of the contractual liabilities was a different conception of the internal logic of reserve accounting, one that looked to economic value (rather than conservatism) as the touchstone of reserving.

### 3. *The VACARVM (Mini-) Revolution*

In 2008, the NAIC approved Actuarial Guideline No. 43, or the Variable Annuity Commissioners Reserve Valuation Method (VACARVM).<sup>350</sup> VACARVM is a principles-based initiative regarding the SVL standards for the valuation of reserves for variable annuities and other contracts involving guaranteed benefits similar to those offered by variable annuities. In issuing VACARVM, the NAIC framed the issue in terms of the dysfunction that new product innovation had visited upon the extant statutory reserving regime: “For many years regulators and the industry have struggled with the issue of applying a uniform reserve standard to these contracts and in particular some of the [associated] guaranteed benefits.”<sup>351</sup> It noted further that the SVL “make[s] assumptions about product design, contractholder behavior and economic relationships and conditions,” which, in light of “the economic volatility seen over the last few decade [and the] increase in the complexity of these products,” can distort the results of statutory reserve accounting.<sup>352</sup>

VACARVM requires insurers, for the first time, to compute reserves based on the results of proprietary statistical model tests designed to gauge how an insurer’s business will respond to designated scenarios. Specifically, reserves are to be based on a minimum floor determined using a standard scenario, plus the excess over this minimum floor, if any, of a reserve calculated using a projection of the assets and estimated liabilities supporting these contracts over

---

*Letters of Credit*, DEBEVOISE & PLIMPTON FINANCIAL INSTITUTIONS REPORT 1 (Winter 2009).

348. Elizabeth K. Brill et al., *Modernization of U.S. Life Insurance Regulation: PBR for Life Insurers*, DEBEVOISE & PLIMPTON FINANCIAL INSTITUTIONS REPORT 3, 3 (Oct. 2009).

349. See Alex Cowley & J. David Cummins, *Securitization of Life Insurance Assets and Liabilities*, 72 J. RISK & INS. 193, 218-19 (2005).

350. NAT’L ASS’N INS. COMM’RS, ACTUARIAL GUIDELINE VACARVM – CARVM FOR VARIABLE ANNUITIES (2008) [hereinafter VACARVM Regulation]. In 2009, the Life and Health Actuarial Task Force integrated the VACARVM Regulation into the Valuation Manual. See *infra* notes 369-374, and accompanying text.

351. VACARVM Regulation, *supra* note 351, at 1.

352. *Id.*

## Combating the Teleological Drift of Life Insurance Solvency Regulation

a broad range of stochastically generated scenarios and using prudent estimate assumptions.<sup>353</sup> This latter test is referred to as the Conditional Tail Expectation (CTE).<sup>354</sup>

Under the CTE, an insurer constructs a weighted statistical risk model of exposure associated with its variable annuity business. The insurer will subject its asset (investment) and liability (annuity) cash flows to a series of modeled scenarios regarding, among other things, interest rates, annuitant behavior, asset performance in light of credit and market risks, and mortality experience.<sup>355</sup> The insurer then constructs a statistical distribution of outcomes and determines the Conditional Tail Expected Amount (CTEA), defined as the numerical average of the largest 30 percent of the outcomes.<sup>356</sup> By using only the largest outcomes, CTE ensures that so-called tail risks, where low probability events can have a large impact, will be taken into account.<sup>357</sup> Company actuaries will direct the cash flow modeling and conduct the test without any concrete direction from any public regulatory guidance. In this respect, VACARVM breaks from the long tradition, dating to the days of Elizur Wright, of statutory formula-based reserving methodologies.<sup>358</sup>

In place of statutory formulae, VACARVM sets forth five principles to guide company actuaries.<sup>359</sup> Principle 1 sets the risk-focused tone for the other principles: “The objective of the approach used to determine the [CTEA] is to quantify the amount of statutory reserves needed by the company to be able to meet contractual obligations in light of the risks to which the company is exposed.”<sup>360</sup> Brief descriptions of the other principles follow:

- **Principle 2:** Calculation of the CTEA amount is based on analysis of asset and liability cash flows produced by applying a stochastic cash flow model to equity return and interest rate scenarios. When running the scenarios through the model, insurers are to use a “Prudent Estimate” approach, meaning that company actuaries should utilize equity returns and interest rates assumptions that are “at the conservative end of [their] confidence interval as to the true

---

353. *Id.*, at 1-2. The standard scenario is a formulaic methodology that prescribes assumptions. *See id.* at 20-30.

354. Insurers may utilize an “Alternative Methodology” in lieu of the CTE to determine reserves for certain variable annuity contracts (1) without guaranteed minimum benefits or (2) with only guaranteed minimum death benefits. *See id.* at 10.

355. *Id.* at 3-4.

356. *Id.* at 7. Thus, if outcomes are normally distributed, the CTEA will approximate the 88<sup>th</sup> percentile. *Id.* at 2. For books of business with fatter tails, the CTEA will exceed the 88<sup>th</sup> percentile, and vice versa.

357. The CTE method differs from the internal models-based methods of Basel II and the E.U.’s Solvency II regime for insurers in that it takes into account the extreme tails of loss distribution.

358. *See supra* Part IID.

359. *See* VACARVM Regulation, *supra* note 350, at 2-3.

360. *Id.* at 2 (emphasis added).

underlying probabilities for the parameter(s) in question.”<sup>361</sup>

- Principle 3: Principle 3 sets up a conceptual meta-framework for setting assumptions. Generally, assumptions are to be made conservatively. But if each parameter is determined conservatively, the total risk measure may be distorted even more than normal conservative actuarial practice would require. Actuaries should therefore try to choose assumptions and modeling technologies that approximate what would likely be the conservative estimates of the CTEA were it possible to calculate results over the joint distribution of all future outcomes.<sup>362</sup>
- Principle 4: Principle 4 reminds actuaries that the CTEA is the result of a model, not a certain prediction of future results. While a stochastic cash flow model attempts to approximate economic reality, it ultimately suffers from the inherent limitations of modeling technologies.<sup>363</sup>
- Principle 5: Principle 5 is a general and broad anti-abuse principle. It provides that actuaries are not to permit insurers to obtain reductions in the CTEA through the use of assumptions, methods, models, or derivative and other risk management transactions that serve solely to reduce the CTEA without also reducing risk. In other words, the insurer should not be permitted to “retrofit” its business in any respect to achieve more favorable reserve amounts under the CTE.<sup>364</sup>

The CTE vests considerable discretion in the company actuaries to direct the reserve calculation exercise. While a detailed and technical explication of the principles is outside the scope of this article, it should be readily apparent that the CTE represents nothing short of a revolution in statutory reserve accounting. Included in Principle 4 is a pithy distillation of the sea change in regulatory technology: “[T]he actual statutory reserve needs of the company arise from the risks to which the company is (or will be) exposed in reality.”<sup>365</sup> The assumption underlying the VACARVM principles-based approach is that statutory reserves should reflect the risk profile of an insurer’s business. Formerly, the statutory reserving formulae were said to be conservative and their proponents touted their historic success as evidence of their soundness. This regime functioned well while the life insurance industry was a relatively staid business. As the industry embraced new business models with new risks,

---

361. *Id.*

362. *Id.* at 2-3.

363. *Id.* at 3.

364. *Id.*

365. *Id.*

## Combating the Teleological Drift of Life Insurance Solvency Regulation

both regulators and industry perceived the statutory formulae as inadequate. With VACARVM, insurance regulators attempted for the first time to tether the solvency regulatory regime directly to the processes that propelled the modern financial services business in the first place – by entrusting the reserve calculation, albeit only partially, to the risk models firms had developed for use internally. By setting a minimum floor, the standard scenario serves to constrain some of the discretion granted to company actuaries and managers, but the reserve amounts calculated pursuant to the standard scenario widely recognized to be insufficient in most scenarios.<sup>366</sup>

### *B. PBR*

In September 2009, the NAIC adopted a revised SVL that would provide for a PBR approach for all life insurance (unlike VACARVM, which applies only to variable annuities) under which prospective reserve requirements will be determined by reference to an insurer's internally modeled assumptions and methodologies.<sup>367</sup> In March 2010, the NAIC unveiled key draft components of the so-called Valuation Manual, which will be incorporated by reference into the SVL and will provide the backbone for the new PBR framework.<sup>368</sup> While the Valuation Manual is very much a work in progress, it is clear that the PBR framework will not prescribe reserve formulae, mortality tables, interest rates, or assumptions regarding policyholder behavior. Instead, the insurer will perform extensive internal tests employing stochastic statistical modeling techniques to test the impact of random changes in key variables – to be determined by the insurer rather than public regulatory prescription – as the basis for setting reserves.<sup>369</sup> Under the PBR approach, an insurer will account for reserves on an aggregate, not cumulative seriatim, basis across all its business and will take into account hedging strategies.<sup>370</sup> Importantly, as presently drafted, the Valuation Manual, much like the standard scenario under

---

366. See Vaughn, *supra* note 208, at 8.

367. NAT'L ASS'N INS. COMM'RS, LIFE & HEALTH ACTUARIAL TASK FORCE, VALUATION MANUAL - VM-00, at 5, available at [http://www.naic.org/committees\\_lhaff.htm](http://www.naic.org/committees_lhaff.htm) (2010) ("A principle-based valuation is a reserve valuation that uses one or more methods or one of more assumptions determined by the insurer pursuant to requirements of the SVL and the Valuation Manual. This is in contrast to valuation approaches that use only prescribed assumptions and methods.") [hereinafter Valuation Manual]. The revised SVL provides that the PBR approach will only apply to business written after the operative date of the Valuation Manual. See STANDARD VALUATION LAW, *supra* note 98, §12.A.

368. See LIFE & HEALTH ACTUARIAL TASK FORCE, NAT'L ASS'N INS. COMM'RS, SPRING 2010 MEETING SUMMARY, available at [http://www.naic.org/meetings1003/summary\\_lhaff.htm](http://www.naic.org/meetings1003/summary_lhaff.htm)

369. See Valuation Manual, *supra* note 367, VM-20: REQUIREMENTS FOR PRINCIPLES-BASED RESERVES FOR LIFE PRODUCTS §§ 2-6; *id.*, VM-21: REQUIREMENTS FOR PRINCIPLES-BASED RESERVES FOR VARIABLE ANNUITIES § 2.D.

370. The aggregate calculation, based on internally modeled assumptions, is troublesomely similar to the situation that gave rise to securitization of subprime mortgages. Rather than calculating reserves on a policy-by-policy basis, insurers will be able to treat the composite of their contracts as a distinct pool of contracts, much like underwriters of RMBSs and CDOs avoided meaningful risk assessments of individual mortgagors by treating a pool of mortgages or bonds as a well-diversified composite.



the VACARVM guideline, provides for a new formula-based reserve calculation floor called the “aggregate net premium reserve” (ANPR) amount.<sup>371</sup>

The revised SVL will, when adopted by the states, cement the Valuation Manual (and stochastic testing and internal models) in the realm of public law. The Valuation Manual will provide for most of the details regarding the PBR approach. Once a state adopts the SVL amendments, the reserving standards set forth in the Valuation Manual will become binding on insurers subject to that state’s jurisdiction.<sup>372</sup> Importantly, the NAIC is expected to adjust the Valuation Manual’s standards periodically to adapt to evolving business practices on a rolling basis without requiring iterative legislative approvals.<sup>373</sup> The PBR approach will only become legally binding on insurers domiciled or writing business in a state that has adopted the NAIC’s amendments to the SVL, though the amendments are structured so as to ensure that the PBR approach will only take formal effect after there is a broad legislative and regulatory consensus as to its appropriateness.<sup>374</sup> As NAIC pronouncements, the September 2009 amendments to the SVL do not themselves have legal force, but they create a ready-made NAIC-sanctioned template that in modern U.S. insurance regulation is usually a necessary first step to formal legal adoption in the various states.<sup>375</sup> In the meantime, the NAIC’s Life and Health

---

371. In addition to the discretion-limiting effects of setting a floor, there are tax reasons for including a formula-based reserve calculation method as a floor. See Karen Rudolph, *PBA Items from NAIC Winter National Meeting*, THE FIN. REPORTER 18, 19 (Mar. 2010).

372. See STANDARD VALUATION LAW, *supra* note 98, §11A (“For policies issued on or after the operative date of the valuation manual, the standard prescribed in the valuation manual is the minimum standard of valuation.”).

373. See Valuation Manual, *supra* note 367, VM-00 at 4-5 (discussing how the Life and Health Actuarial Task Force is “charged with the maintenance of the Valuation Manual”).

374. Under the terms of the new SVL, the PBR approach will take effect on January 1 of the first calendar year as of which all of the following have occurred: (1) the Valuation Manual is adopted by the NAIC by a vote of the greater of 75% and 42 of the NAIC’s member insurance commissioners; (2) the new SVL, or substantially similar legislation, is enacted by states representing more than 75% of the direct life and health premiums written in 2008; and (3) the new SVL, or substantially similar legislation, is enacted in at least 42 U.S. states. Under the terms of the revised SVL, the PBR approach would apply only on a prospective basis, and extant formula-based reserving methods would still apply to in-force blocks of business.

375. In the September 2009 vote before the plenary NAIC membership, New York and Wisconsin voted against the relevant amendments to the SVL. The New York State Insurance Department oversees life insurers representing 36% of life insurance premiums. Fred Anderson, Chair of LHATF NMPBR Experience Reporting Subgroup, Comments at National NAIC Meeting (Apr. 9, 2010). Historically, New York was the largest life insurance market and its comparatively well-resourced regulators have acted as leaders among the regulatory community. See, e.g., Wright, *supra* note 26, at 76 (describing the effects of New York’s insurance investment laws). New York’s importance can be traced to the so-called Appleton Rule, named after insurance superintendent Henry Appleton, which in 1907 provided that non-New York insurers were required to “comply substantially” with the New York insurance laws and regulations as a condition to doing business in the state. See U.S. ADVISORY COMMITTEE ON INTERGOVERNMENTAL RELATIONS, *supra* note 195 at 56. New York’s objections to the SVL – chief among which is a potential weakening of solvency requirements in light of the 2008-09 financial crisis – are therefore particularly noteworthy. See N.Y.S. INS. DEP’T, 151ST ANNUAL REPORT OF THE SUPERINTENDENT 33 (2009) (“The Life Bureau [of the N.Y. Insurance Department] has reservations

## Combating the Teleological Drift of Life Insurance Solvency Regulation

Actuarial Task Force – the subcommittee charged with developing principles-based reserve accounting standards – has circulated in exposure draft form most of the key components of the Valuation Manual.

The draft Valuation Manual provides the following anodyne summation of its purpose:

As insurance products have increased in their complexity, and as companies have developed new and innovative product designs that change their risk profile, the need to develop new valuation methodologies or revisions to existing requirements to address these changes has led to the development of the Valuation Manual.<sup>376</sup>

But the Valuation Manual and the PBR approach do much more than “address these changes”; they fundamentally re-orient the statutory reserve calculation exercise away from conservatism.

### *1. Mechanics of PBR*

Section 12 of the revised SVL sets forth the conceptual framework for the Valuation Manual. Section 12 provides, among other things, that PBR methods should (1) quantify levels of benefits and funding and associated risks “at a level of conservatism that reflects conditions that include unfavorable events that have a reasonable probability of occurring” and (2) incorporate assumptions, risk analysis methods, and financial models and management techniques that are consistent with, but not necessarily identical to, those utilized within the insurer’s own internal risk management function.<sup>377</sup> Section 12 purports to pursue the conservatism objective by requiring consideration of “unfavorable events.” Nevertheless, the methodologies and assumptions utilized pursuant to Section 12 will be “consistent with,” but not necessarily identical to, the firm’s own internal risk management function. As noted in Part I, however, shareholders and managers – particularly in today’s equity capital markets where short-term investors predominate – should have a very different risk tolerance than regulators. Section 12 provides no guidance as to the perspective by which conservatism is to be adjudged.

The Valuation Manual provides more specific guidance on how a firm is to develop assumptions and methods for use in the PBR approach. For example, when developing modeling assumptions for risk factors to which statistical credibility may be appropriately applied (such as mortality), firms are to combine firm-specific experience data and other applicable data in a manner that is consistent with statistical theory and accepted actuarial practice.<sup>378</sup>

Like the VACARVM guideline, the Valuation Manual prescribes a CTE

---

about potentially weakening solvency requirements under a principles based approach in light of the dramatic changes being experienced in the financial industry due to the economic crisis.”).

376. *Id.*, VM-00 at 3.

377. See STANDARD VALUATION LAW, *supra* note 98, § 12.A.

378. VALUATION MANUAL, *supra* note 368, VM-20: REQUIREMENTS FOR PRINCIPLES-BASED RESERVES FOR LIFE PRODUCTS § 9.A.6.

method based on the largest 30 percent of the model's outcomes.<sup>379</sup> Thus, the conservatism in the PBR approach derives from the ambiguous provisions in Section 12 and the CTE calibration, which is, as with VACARVM, stacked in favor of high-reserve outcomes. While the CTE method will be conservative vis-à-vis the insurers' internal models, whether it is conservative in the abstract will be an empirical question to be resolved in light of future experience. The stronger an insurer's commitment to reliability perspective to risk management, the surer a regulator can be that the CTE method will not diverge wildly from a true conservative valuation.

## 2. PBR and Corporate Governance

The PBR approach places responsibility on an insurer's management to calculate reserves based on actuarial and financial assumptions of its own choosing. To regulate this exercise of discretion,<sup>380</sup> Section 12 of the revised SVL requires insurers to comply with new NAIC principles for corporate governance and oversight of the actuarial function and to develop a "principle-based valuation report" that complies with the Valuation Manual standards.<sup>381</sup> Furthermore, just as the SEC is considering limiting the effect of Section 404 of the Sarbanes-Oxley Act,<sup>382</sup> the NAIC has created a Sarbanes-Oxley Section 404-inspired requirement that an insurer file with its board of directors and the insurance commissioner an annual certification as to the effectiveness of the internal controls with respect to PBR accounting.<sup>383</sup>

The Valuation Manual itself includes guidance on corporate governance for insurers. While the current draft is clear that the guidance does not expand the existing legal duties of the board, senior management, and the appointed actuaries – who have always had statutory responsibilities to oversee their respective spheres of activity within an insurance enterprise – it does provide specific guidance on what those responsibilities entail in connection with the PBR framework.<sup>384</sup> Board members are instructed to provide "general oversight" over senior management's remediation of any material weakness in the insurer's PBR internal controls, the infrastructure (consisting of policies, procedures, controls, and resources) in place to implement PBR processes, and

---

379. *Id.* § 5.

380. *See supra* note 284 and accompanying text.

381. *See* STANDARD VALUATION LAW, *supra* note 98, § 12.

382. In July 2010, Congress exempted non-accelerated filers from the requirements of Section 404 of the Sarbanes-Oxley Act of 2002. *See* Dodd-Frank Act, *supra* note 2, § 989G. It also instructed the SEC to conduct a study on how to reduce Section 404 compliance costs for issuers with market capitalizations between \$75,000,000 and \$250,000,000. *See id.* § 989G(b).

383. Specifically, the internal controls must be designed to ensure that (1) all material risks are included in the internally modeled valuation and (2) the valuation was conducted in accordance with the Valuation Manual. *See* STANDARD VALUATION LAW, *supra* note 98, § 12.

384. Valuation Manual, *supra* note 367, VM-G: CORPORATE GOVERNANCE GUIDANCE FOR PRINCIPLE-BASED RESERVES, *passim* (2009).

## Combating the Teleological Drift of Life Insurance Solvency Regulation

the documentation of board consideration of such matters.<sup>385</sup>

The Valuation Manual also provides guidance for senior management in its exercise of responsibilities to build a PBR framework infrastructure, including the adoption of internal controls and the review of modeling assumptions and methodologies as well as risk tolerance levels.<sup>386</sup> In addition, the Valuation Manual places on management the responsibility for adequately resourcing the actuarial function to perform its enhanced modeling tasks.<sup>387</sup>

Notwithstanding the extensive prescriptions set forth in the corporate governance requirements, nowhere in the requirements does the NAIC insist that the corporate governance infrastructure adopt a conservative reliability-style perspective that focuses on the long-term viability of the enterprise. The absence is indicative of a tonal shift in the expectations of the reserving function. Just as Section 12 requires consistency between the assumptions and methodologies used in the PBR valuation with those used in the internal risk management function, the corporate governance guidance de-emphasizes the former conservatism lodestar of statutory accounting.<sup>388</sup> For example, management is instructed to

determin[e] that . . . [a] process exists that ensures that models and procedures produce appropriate results relative to principle-based valuation objectives (such process to provide reasonable assurance that the principle-based modeling does not produce a bias toward underestimation of such reserves, and that principle-based reserves are reasonable and adequate under the circumstances).<sup>389</sup>

Though the parenthetical applies illustratively and not by way of limitation, it is noteworthy that the two examples of valuation objectives are (1) avoiding underestimation of reserves and (2) “reasonable and adequate” provisions. The focus is squarely on the economic value of reserves – a quantifiable, observable optimization target – rather than intentional overstatement of reserves for the sake of conservative financial reporting and the assurance of prompt regulatory intervention.

### *3. PBR as New Governance and Meta-Risk Management*

The PBR framework uses life insurers’ risk management systems to improve the quality of information used in the reserve calculation, but it falls short of establishing a system of meta-risk management to regulate the exercise of discretion because it (1) fails to promote a dynamic process of continuous improvement and rolling best practices and (2) leaves the public regulatory enforcement role curiously undefined and the entire framework vulnerable to a

---

385. *Id.* § 4.

386. *Id.* §§ 5-8.

387. *Id.* §§ 5(i) and 7.

388. *See generally supra* Part II.

389. Valuation Manual, *supra* note 367, VM-G: CORPORATE GOVERNANCE GUIDANCE FOR PRINCIPLE-BASED RESERVES §7(ii).

legitimacy deficit. Accordingly, it requires either modification or abrogation if regulators are committed to a conservative, reliability-focused solvency regime.

First, the decentralization of governance promises to be a first step in bridging the information asymmetries between regulators and regulatees that initially caused the dysfunction in the reserve accounting rules. Firms themselves, with their superior access to and ability to process information, have been enlisted to restore the logical relationship between the accounting rules and the regulated business that, due to new product mix, had largely disappeared. The *potential* for quality, up-to-date information is certainly enhanced.

Moreover, by inviting regulated insurers to the governance table, the reserve accounting exercise will now (1) capture risk factors that the former formula-based regime did not take into account and (2) improve the quality and quantity of the information based on which the reserve amounts will be calculated. Two qualifications are in order here. First, a requirement that insurers produce an assessment report of its own risk profiles, in narrative form, might benefit the quality of the information. On the one hand, it will force self-reflection, which might counteract management tendencies to focus on price and other optimization signals at the expense of weak, complex, multi-factor signals.<sup>390</sup> On the other hand, it will provide a framework for discussions with regulators, and might also consolidate disparate information flows and make them more comprehensible to regulators. Regulators could even condition the use of internal models on acceptance of such a report, as is done with the E.U.'s new Solvency II insurance capital adequacy framework<sup>391</sup> as well as certain environmental<sup>392</sup> and resource extraction<sup>393</sup> regulatory regimes. By requiring periodic sunset reviews of the report, regulators would foster the reliability norms of destabilization and continuous re-assessment. The second qualification is more conceptual, and it recalls Baldwin and Black's position<sup>394</sup> that "really responsive" regulation responds not only to changing market dynamics, but also to the institutional contexts within which regulation operates: mere access to better information is insufficient to recoup the internal logic of SAP accounting. A regime must aim to institutionalize responsibility for risk management and internal model preparation. Though the PBR framework advisedly addresses this as a corporate governance matter, the

---

390. See *supra* notes 240-241 and accompanying text.

391. The E.U. requires just such a report, called the Own Risk and Solvency Assessment (or "ORSA") as part of its internal models-based Solvency II capital adequacy framework.

392. See David M. Trubek & Louise G. Trubek, *New Governance and Legal Regulation: Complementarity, Rivalry and Transformation*, 13 COLUM. J. EUR. L. 539, 542, 558 (2007) (discussing Wisconsin's environmental "Green Tier" permitting process).

393. U.S. DEP'T OF THE INTERIOR, INCREASED SAFETY MEASURES FOR ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF 27 (2010) (announcing intention to require "safety case" development and pre-approval by regulators before oil companies are permitted to drill).

394. See *supra* note 303.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

framework is curiously undeveloped along the new governance dimensions of flexible lawmaking and risk-sensitive enforcement.

As regards flexible and reliability-focused lawmaking, consider that as presently drafted, the PBR framework does not provide for a forum for regulators to develop on a rolling basis a discussion regarding best practices in risk management and internal modeling. The framework permits nimble responses to market changes *from the perspective of management's goals*.<sup>395</sup> But without a forum to identify best practices and share them with other regulators, the framework risks devolving into separate supervisory silos with no cross-learning and little revision of standards. This is especially troubling in the context of U.S. insurance regulation, because the central justification for its decentralized form of regulatory federalism is the multiplicity of perspectives it enables. The problem of regulatory resources is one that this article has so far elided, but lowering the cost of information gathering would go a long way to addressing structural regulatory staff and resource deficits.<sup>396</sup>

The NAIC already has in place an infrastructure to create such a forum. For example, the NAIC has developed a forum for multiple state regulators that supervise different insurers within a holding company structure to coordinate their examinations and reviews.<sup>397</sup> A “lead state” is designated and will serve as coordinator to ensure that other regulators are adequately informed about the affairs of the entire holding company group.<sup>398</sup> The NAIC’s Financial Analysis Working Group (FAWG) serves as a forum for insurance regulators to share information on insurers operating nationally or large insurance groups, and also to identify emerging trends and financial issues in the sector.<sup>399</sup> FAWG also serves as a peer review space, where regulators can review, provide input, and voice concerns over other states’ methods.<sup>400</sup>

In this respect FAWG is analogous to the so-called Level 3 committees of the E.U.’s Lamfalussy process for financial regulation rulemaking. The Level 3 committees are comprised of E.U. member state securities, bank, and insurance regulators and they are responsible for implementation of E.U. financial legislation and regulations.<sup>401</sup> The Level 3 committees conduct mandatory peer review of member states’ implementation efforts, and even create ad hoc

---

395. Thus, the reserving methodologies will be adjusted pursuant to the channels of corporate authority without formal hearing and notice requirements typical of administrative law.

396. See Daniel Schwarcz, *Regulating Insurance Sales or Selling Insurance Regulation?: Against Regulatory Competition in Insurance*, 94 MINN. L. REV. 1707, 1768-69 (2010).

397. Michael T. McRaith, III, Dir. of Ins., Remarks before the U.S. H. R. Subcomm. on Capital Markets, Ins., and Gov’t Sponsored Enters., 13 (June 16, 2009).

398. *Id.*

399. *Id.*

400. Vaughan, *supra* note 208, at 10.

401. See Elliot Posner, *The Lamfalussy Process: Polyarchic of Networked Financial Rule-Making in the E.U.*, in EXPERIMENTALIST GOVERNANCE IN THE EUROPEAN UNION 43, 47-54 (2010).

groups to address specific shortcomings.<sup>402</sup> In their composite, these peer review interactions permit the identification, on a rolling basis, of best practices and create a forum to exert moral suasion on underperforming regulators. In the PBR context, the NAIC should create a FAWG-like forum, but with mandatory participation as contemplated by the Lamfalussy process, in order to ensure constant learning at the regulator level, as well as dialogue with, and dissemination of best practices to, industry. The October 2010 NAIC proposal to create a regulatory “feedback loop” is a welcome first step in this direction and the FAWG could serve as a model for how to formalize such a structure.<sup>403</sup> Proposals to centralize data collection (or, in NAIC parlance, “experience reporting”<sup>404</sup>) at the NAIC or with an independent statistical agent,<sup>405</sup> while certainly right-minded suggested solutions to the lack of horizontal (regulator-regulator) and vertical (regulator-regulatee) information flows, run contrary to the decentralization norm and might in the long run prove sclerotic and prefer standardization over diversity and destabilization. The recent track record of rating agencies cautions against deputizing private industry statistical agents.<sup>406</sup>

In addition to facilitating these horizontal and vertical information flows, the PBR framework should be amended to encourage enhanced market discipline and industry cross-learning through public disclosure. Large banks subject to Basel II and its “market discipline”-based Pillar 3<sup>407</sup> are funded to a greater extent than life insurers by sophisticated financial institutions with incentives and analytical capabilities to review their counterparties’ statistical models for information on their credit risk. As such, a life insurer’s cost of capital would likely be less responsive to public disclosure financial models (and the governance implications of market discipline less pronounced) than a large bank.<sup>408</sup> Nevertheless, an expanded role for market disclosure would give insurance groups better access to the models their competitors use, which could facilitate greater cross-learning. Consumer interest groups, too, would be able to test assumptions underlying the models and thus foster a “tripartite” model involving industry, regulators, and affected constituents, which would bolster the legitimacy of the PBR regime and improve its results by expanding the

---

402. *See id.*

403. *See* PRICEWATERHOUSECOOPERS, LLP, NAIC MEETING NOTES NAIC 2010 FALL NATIONAL MEETING at 18, available at <http://www.pwc.com/us/en/insurance/assets/fallnaic2010.pdf>.

404. Valuation Manual, *supra* note 367, VM-50 EXPERIENCE REPORTING REQUIREMENTS, *passim*.

405. *See* Vaughan, *supra* note 208, at 21; Bruning, *supra* note 109 at 10-11.

406. *See, e.g.*, Arthur E. Wilmarth, Jr., *Reforming Financial Regulation to Address the Too-Big-to-Fail Problem*, 35 BROOKLYN J. INT’L L. 707, 722-26 (2010) (describing conflicts of interest in the “issuer-pays” business model and cautioning against the dangers of stamping credit ratings with a “regulatory imprimatur”).

407. *See supra* notes 313 and 316.

408. Recent proposals to require financial institutions to issue hybrid debt that converts to equity to serve as an *in extremis* capital buffer would subject these institutions to enhanced market discipline, but are outside the scope of this article. *See, e.g.*, Damian Paletta, *The Idea to Prevent the Next Banking Bust?*, WALL ST. J., Sept. 27, 2010, at A2.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

perspectives brought into the regulatory process.<sup>409</sup> As with Basel II, there are competitive implications of this data sharing, but achieving the proper balance of solvency protection is fundamentally a trade-off of short-term competitiveness and long-term solidity.<sup>410</sup> As presently drafted, the Valuation Manual will provide for public disclosure only for “aggregate industry report” data, which reflects an undue emphasis on short-term competitive advantage.<sup>411</sup>

Another factor that limits the flexibility and reliability focus of the PBR regime is the absence of mandatory stress testing of the statistical models used to calculate reserve amounts. By requiring firms to expose their statistical models to controlled stress, even perhaps in regulator-organized industry-wide dynamic stress tests,<sup>412</sup> regulators force firms to institutionalize the destabilization norms and the preoccupation with failure that characterize reliability-focused firms.<sup>413</sup> Stress tests should be mandated both on the basis of internal scenarios and scenarios provided by regulators, and firms should be required to conduct “reverse stress tests” that are designed to identify scenarios that would cause financial distress.<sup>414</sup> This latter set of stress tests would share a common set of scenario assumptions and would accordingly be subject to benchmarking at the FAWG-like regulators’ forum. Firms should also be required to address stress test results in regular reports the regulators. The NAIC has recognized the importance of mandatory stress testing and considered its adoption in other contexts,<sup>415</sup> but has so far not appreciated fully its vital role in promoting a reliability perspective that will enhance the PBR regime.

In addition to its failure to promote a flexible, reliability-focused approach to lawmaking, the PBR regime as presently structured does not provide for a risk-sensitive enforcement role for regulators acting as “benign big guns.” In the abstract, the challenge is to guide regulators in deploying risk-sensitive enforcement threats designed to encourage a reliability perspective to risk management. More concretely, regulators should possess the authority and

---

409. See generally AYRES & BRAITHWAITE, *supra* note 272, at 54-100.

410. See *supra* notes 89-90 and accompanying text.

411. Valuation Manual, *supra* note 367, VM-50 EXPERIENCE REPORTING REQUIREMENTS § F.2.c.1.

412. See Haldane, *supra* note 249 at 15-16 (referring to such tests as “hybrid stress test-cum-war game[s]”); CENTER FOR ECONOMIC POLICY RESEARCH, THE FUNDAMENTAL PRINCIPLES OF FINANCIAL REGULATION 63 (2009) (“Completely new [stress testing] techniques, perhaps based on models and endogenous risk spillover measures . . . need to be devised to explore the implications of endogenous risk for the system.”).

413. See *supra* note 240 and accompanying text.

414. See INT’L ASS’N INS. SUPERVISORS, GUIDANCE PAPER ON ENTERPRISE RISK MANAGEMENT FOR SOLVENCY PURPOSES ¶ 37 (2010), available at [http://www.iaisweb.org/\\_temp/2\\_2\\_6\\_Guidance\\_paper\\_on\\_enterprise\\_risk\\_management\\_for\\_capital adequacy\\_and\\_solvency\\_purposes.pdf](http://www.iaisweb.org/_temp/2_2_6_Guidance_paper_on_enterprise_risk_management_for_capital adequacy_and_solvency_purposes.pdf)

415. See, e.g., NAT’L ASS’N INS. COMM’RS, CONSULTATION PAPER ON REGULATORY CAPITAL REQUIREMENTS AND OVERARCHING ACCOUNTING / VALUATION ISSUES FOR THE SOLVENCY MODERNIZATION INITIATIVE (2009), available at [www.naic.org/documents/committees\\_ex\\_isftf\\_1003\\_capital\\_req.doc](http://www.naic.org/documents/committees_ex_isftf_1003_capital_req.doc).



tools to intervene through appropriate actions to prevent a life insurer's insolvency before it happens.<sup>416</sup> Again the regulators' staff and resource deficit becomes relevant: regulators will achieve their objectives more readily to the extent they are able to institutionalize responsibility on the part of regulated firms, rather than monitor and enforce compliance. Here as well the NAIC currently has tools that can be coordinated with the PBR framework to improve its utility as a meta-risk management governance tool. In particular, the NAIC's Hazardous Condition Regulation, which has already been adopted in all states and the District of Columbia, authorizes regulators to impose twelve prescribed sanctions, along a sliding scale of severity, to address risky behaviors and characteristics of insurers.<sup>417</sup> In conjunction with recent NAIC initiatives to provide for risk-sensitive examination efforts focused on prospective risks, risk management, and corporate governance, the Hazardous Condition Regulation creates an enforcement regime with flexible sanctions and information provision outside the context of the rigid capital adequacy regime.<sup>418</sup> The PBR should incorporate similar regulatory flexibility so that insurance regulators (1) are provided with authority to enforce best practice reliability-type risk modeling where appropriate but (2) can also make discretionary judgments concerning punishment and inducement. Thus, with respect to this latter goal, the PBR framework should clarify that the regulator has discretion to provide positive incentives for, e.g., smaller companies struggling to meet best practices and deterrent punishment for, e.g., a large intransigent firm with a strong commitment to managing risks in pursuit of short-term earnings optimization at the expense of reliability. Given the wide discretion granted to life insurers in setting their reserve requirements, the right to judicial review of agency orders provided for in the Hazardous Condition Regulation should be relaxed under this proposed PBR enforcement authority.<sup>419</sup>

Given the limitations of the principles-based framework as currently drafted, the inclusion of the ANPR formula-based floor<sup>420</sup> is well-advised. Before transitioning to a full principles-based framework, regulators should be satisfied that the internal models incorporated into the reserve accounting exercise are using conservative assumptions and methodologies and are not instead premised on short-term optimization metrics. However, the ANPR is merely intended as a baseline floor that will be set much lower than the

---

416. Principle 4 of Basel II's Pillar 2 provides a framework model for such authority. *See supra* notes 322, 330, and 331 and accompanying text.

417. NAT'L ASS'N INS. COMM'RS, MODEL REGULATION TO DEFINE STANDARDS AND COMMISSIONER'S AUTHORITY FOR COMPANIES DEEMED TO BE IN HAZARDOUS FINANCIAL CONDITION 385-1 (2010).

418. Recall that under the RBC capital adequacy regime, regulators generally lack enforcement flexibility; their actions are calibrated to trigger points such that as an insurer's RBC level declines, regulators are required to seize control of the insurer. *See supra* note 103.

419. *See* Hazardous Condition Regulation, *supra* note 417, § 5.

420. *See supra* note 371 and accompanying text.

## Combating the Teleological Drift of Life Insurance Solvency Regulation

traditional formula-based methodologies that regulators have used for over a century. Until insurance regulators (1) deploy risk-sensitive enforcement threats to encourage an authentic reliability perspective to risk management and (2) promote a more robust informational infrastructure among regulators, regulatees, and affected third parties so that best practices can be identified promptly and presented prospectively as standards, the ANPR standard scenario should be designed to set a higher level in order to assure solidity.

### CONCLUSION

This article presents the story of PBR as a case study of how regulatory systems can drift from their initial objectives when market complexity outpaces the capabilities of traditional regulatory tools to effectuate those objectives. It has for some time been commonplace to note that the New Deal administrative state is a relic and that regulatory strategies need to be re-conceptualized to include private actors in the governance of complex and dynamic social systems such as financial markets. Such reforms are unavoidable as regulators struggle to manage information flow in light of product and investment complexity. Of course, on the margins policymakers can and should utilize command-and-control techniques to counteract instability in financial markets, but the long-term trend of regulatory practice will likely be in the direction of increased informational intensiveness. What have received less attention are the channels through which private information is transmitted through a governance framework to achieve public regulatory objectives.

In the case of life insurance and PBR – and, for that matter, financial safety and soundness regulation more generally – until such time as the preconditions for industrial morality are in place, the primary regulatory task must be to foster a meta-risk management regime that institutionalizes responsibility on the part of market participants. Otherwise, policymakers will replace arbitrary regulatory regimes (such as the continuing application of 19th century reserving methodologies with which Elizur Wright would be familiar) with illegitimate ones that are designed to promote the short-term interests of regulatees rather than public objectives. Ultimately, the PBR story sheds light on the immanent instability of financial capitalism. Whether this instability continues to wreak havoc on savings, investment, and fiscal health or is re-invented as responsible financial innovation that contributes to economic – and, by implication, human – flourishing will depend in large part on the extent to which public regulators are creative and committed enough to achieve this task.