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David Hayes

Texas Tech University School of Law

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UTILIZING SOLVENCY II TO IMPROVE INSURER SOLVENCY REGULATION IN THE UNITED STATES

DAVID HAYES

The very serious and extremely costly problem of insurer insolvencies is prevalent throughout the world. Governments have to adopt various regulatory systems to combat the extensive costs associated with these insurer insolvencies. In the United States, solvency regulation is predicated on a risk-based capital (RBC) system. The National Association of Insurance Commissioners (NAIC) created a model RBC system that most states have adopted, at least in some form. Despite the RBC system and the efforts of regulators, insurer insolvencies remain a serious issue in the United States. The continuing insolvencies raise questions about how to improve the RBC system as the United States begins to reform its solvency regulation system.

Utilizing the Coase theorem as an analytical framework, this article identifies the costs associated with the insurance transaction. Furthermore, it explains how regulation seeks to mitigate these costs and avoid insolvencies. The article specifically addresses the RBC system in the United States and the regulatory system currently being implemented in Europe—Solvency II. By examining the RBC system from an economic perspective, this article helps identify the costs, possible shortfalls, and potential areas of improvement associated with the system. As the United States begins its own solvency regulatory reform, it enjoys the luxury of learning from the successes and failures of solvency regulation systems in other parts of the world. Accordingly, this article examines Solvency II and identifies certain characteristics that may be useful in improving the RBC system. This article also explains how implementing specific aspects of Solvency II could help increase total economic welfare and ultimately improve the United States' insurer solvency regulation system from an economic perspective.

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INTRODUCTION

The notion of insurance is fairly basic—a buyer pays money to an insurer in the present who, in return, promises to pay the buyer in the event of certain circumstances. Insurance essentially serves as a safety net for policyholders during a time of need. But one cannot be certain that the insurer will still exist in that time of need. The reality of insurer insolvencies has been prevalent throughout history. These insolvencies generate numerous costs to the insurer, the policyholder, other insurers, and the general public. The extensive costs and the misguided incentives involved in the insurance transaction rationalize solvency regulation for the insurance industry.

The current solvency regulation in the United States is predicated on a risk-based capital (RBC) system.¹ The National Association of Insurance Commissioners (NAIC) created a model RBC system that has been adopted in some form by most states.² The RBC system consists of two main parts: (1) a formula to establish a hypothetical minimum level of capital an insurer must hold and (2) a grant of regulatory authority to state regulators to take action against firms that fall below a specified threshold.³ The logic behind the RBC system is that by requiring companies to hold certain levels of capital related to risk, they will remain financially sound and capable of paying off any potential future claims.⁴

1. J. David Cummins & Richard D. Phillips, *Capital Adequacy and Insurance Risk-Based Capital Systems*, 28 J. INS. REG. 25, 25 (2009).

2. NAT'L ASS'N OF INS. COMM'RS, *Risk-Based Capital General Overview* (July 15, 2009), http://www.naic.org/documents/committees_e_capad_RBCoverview.pdf [hereinafter *Risk-Based Capital*].

3. Cummins & Phillips, *supra* note 1, at 50.

4. J. David Cummins, Scott E. Harrington & Robert Klein, *Insolvency Experience, Risk-Based Capital, and Prompt Corrective Action in Property-Liability Insurance*, 19 J.

The problem of insurer insolvencies is not limited to the United States; rather it is prevalent throughout the world.⁵ Europe is currently in the process of implementing an updated solvency regulatory regime called Solvency II.⁶ Solvency II, the second phase of solvency reform in Europe, seeks to dramatically improve insurance regulation by utilizing a principles-based approach that provides greater flexibility to insurers.⁷ The United States can benefit from the implementation of Solvency II by paying close attention to its successes and failures as a regulatory system.

As the United States begins to reform its own solvency regulatory regime, it should apply the lessons learned from Solvency II to create a more efficient system. Nonetheless, the United States must take caution to not over-regulate. From an economic perspective, regulation is only necessary when it will help facilitate mutually beneficial transactions that would otherwise not occur because of transaction costs.⁸ Although a risk-based system cannot replicate the outcomes of a competitive environment with adequate information, the RBC system can move towards this ideal.⁹

This article aims primarily to recommend potential improvements to the United States' RBC system that would ultimately increase total economic welfare by examining the Solvency II system in Europe. Using the Coase theorem as a theoretical framework, this article analyzes the transaction costs associated with insurance transactions and explains the need for regulation. The article then examines how regulation (the RBC system) intended to make transaction costs negligible, but fell short of its goal. Those that developed Solvency II had the luxury of analyzing the RBC system and could improve upon those limitations. As the United States undertakes its own solvency reform, it will have the opportunity to look to Solvency II for guidance.

I. ECONOMICS OF REGULATION

In his renowned article *The Problem of Social Cost*, economist Ronald Coase demonstrated that the law can act to increase total economic welfare through its ability to reduce transaction costs.¹⁰ Transaction costs are all of the costs (money, time, resources, for-

BANKING & FIN. 511, 512-15 (1995).

5. See Cummins & Phillips, *supra* note 1, at 26.

6. *Id.*

7. *Id.* at 53-54.

8. See R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 15-18 (1960).

9. Cummins, Harrington & Klein, *supra* note 4, at 511-15.

10. Coase, *supra* note 8, at 2-15.

gone opportunities) incurred during an economic exchange.¹¹ Transaction costs may manifest themselves in a variety of ways—costs associated with finding a bargaining partner, enforcement costs, and oversight costs, to name a few.¹² The law can act as a mechanism to reduce transaction costs and increase aggregate economic welfare when implemented efficiently. Conversely, the law can impede economic efficiency if it does not properly economize transaction costs. In a world without transaction costs, the Coase theorem suggests not only that the law will impede economic efficiency, but also that a liability regime is immaterial.¹³ In such a world, the parties involved in a given transaction would bargain until a mutually beneficial outcome is reached, regardless of who shoulders the burden of responsibility for damage.¹⁴ Individuals' self-interests would make liability irrelevant; they would not account for external costs and would rather seek to maximize their own situation. With both parties acting in their own self-interest and without outside incentives, an agreement would maximize economic welfare.¹⁵ Stated more succinctly, absent transaction costs, individuals would maximize total economic welfare by bargaining to mutually beneficial transactions.¹⁶ Under these circumstances the law would only add costs and additional incentives that would stifle economic efficiency. Accordingly, the law would serve no economic purpose in a world without transaction costs.¹⁷

With the introduction of transaction costs into a situation, a liability regime becomes relevant. While individuals remain self-interested, they must now consider transaction costs. Transaction costs may be so burdensome that a party would forego an otherwise mutually beneficial transaction because it is in his or her best interest. For instance, if it is extremely costly to obtain necessary information about a bargaining partner, then a party may choose to forego the bargain all together. Individuals will continue to act in their own best interest; however, altering incentives—by introducing transaction costs—may not lead to the most economically efficient outcome. The disconnect between the ideal outcome and the actual outcome provides an opportunity for the law to impede and improve upon aggregate economic welfare. An advantageous law

11. *Id.* at 15.

12. *Id.*

13. *See id.* at 2-15.

14. *Id.*

15. *Id.*

16. *Id.* at 2-6.

17. Matthew L. Beville et al., *An Information Market Proposal for Regulating Systemic Risk*, 12 U. PA. J. BUS. L. 849, 851 (2010).

must successfully reduce the transaction costs that would otherwise impede mutually beneficial transactions.¹⁸

*A. The Insurance Transaction in a World
Without Transaction Costs*¹⁹

On the surface, it appears that buying insurance should be a simple transaction—the consumer pays a premium to the insurer now and the insurer promises to pay the consumer later subject to a specified event or events. The insurer uses the collected premiums to pay other claims and to invest in order to generate investment income. From the consumer's perspective, it may appear counter-intuitive to pay money now just to receive money later; however, individuals use insurance as a form of protection against adverse circumstances. Consumers willingly give up a certain amount of money now knowing that they will receive money in the future if certain unfavorable conditions come to fruition. Individuals recognize that having money available later will be more valuable to them than having that money now. As a result, people maximize their economic welfare by giving up money while in a richer state knowing that they will receive money when in a poorer state.

The insurance transaction would occur as previously described in a world where everyone has equal information and negligible transaction costs.²⁰ One would expect the policyholder and the insurer to bargain to a mutually beneficial outcome based on their respective incentives. The policyholder would have the incentive to pay a higher premium for a financially sound insurer. A financially stable insurer would be more likely to pay potential claims in full. The insurer would have the incentive to ensure the company does not take excessive risks but remains financially sound. The financial stability and ability to ensure the payment of claims would attract more buyers at a higher price.

Neither party involved in the transaction could take advantage of the other party because of market discipline. If an insurance company took on excessive risk, policyholders would demand lower premiums or purchase insurance elsewhere. Essentially, an insurer could not become unstable or excessively risky because of the market reaction to that risk.²¹ The firms that manage risk most

18. *Id.* See generally Coase *supra* note 8.

19. See generally Coase *supra* note 8; Beville et al., *supra* note 17.

20. See Beville et al., *supra* note 17.

21. See Therese M. Vaughan, *The Implications of Solvency II for U.S. Insurance Regulation* 13-14 (Networks Fin. Inst., Policy Brief No. 3, 2009), available at www.networksfinancialinstitute.org/Lists/Publication%20Library/Attachments/132/2009-PB-03_Vaughan.pdf.

effectively and provide assurance of claims at the lowest possible price would succeed in a competitive insurance market.

Without having to consider transaction costs, parties would simply bargain to a mutually beneficial outcome where the consumer would pay a premium in exchange for assurance that the insurance company will pay any future claims. Recalling the notion that the law serves a minimal economic purpose with negligible transaction costs, it follows that any law regulating the insurance industry would be unnecessary and economically inefficient. Unfortunately, we do not live in a costless transaction world. Transaction costs are very real and often very significant. The presence of transaction costs poses an opportunity for the law to impede and reduce costs in an effort to increase total economic welfare.

B. The Costs Associated with the Insurance Transaction

1. Costs to Parties Directly Involved in the Transaction

Numerous costs associated with an insurance transaction manifest themselves in different ways. Using the Coase theorem framework, any regulation of the insurance industry should fall on the insurer because it's in a better position to mitigate costs. Identifying the associated costs of an insurance transaction creates a clearer picture of when and how the law can intervene to diminish costs and improve economic welfare.

There are many costs imposed on the buyer's side of the insurance transaction. Consumers must monitor the solvency of insurers to ensure they purchase insurance from a firm capable of paying future claims.²² The complexity of the insurance market and the insurance transaction make it very difficult for buyers to monitor the solvency of companies. A buyer could hire a private firm to effectively monitor the solvency of an insurer—a costly alternative for the buyer.

Monitoring the solvency of firms also will produce opportunity costs. Individuals will have to dedicate time and money that could be spent elsewhere in a more economically beneficial manner. A buyer would have strong incentives to monitor the solvency of an insurer, but consumers will ultimately bear the costs of such monitoring.²³ If the monitoring costs prove too high, the consumer may explore other options outside of insurance.

22. See Vaughan, *supra* note 21, at 60.

23. J. David Cummins, Scott Harrington & Greg Niehaus, *An Economic Overview of Risk-Based Capital Requirements for the Property-Liability Insurance Industry*, 11 J. INS. REG. 427, 436 (1993).

From the insurer's perspective, insurers will face costs related to keeping the firm financially sound and maintaining a risk portfolio that appeals to buyers while still generating significant profit. Insurers will not know their costs until they actually incur them, a unique feature of the insurance industry. An extremely costly catastrophe like a hurricane could render a financially sound company unstable. Despite the potential for catastrophes, insurance companies remain profit-driven businesses. Managers are often evaluated on their ability to generate revenue while keeping costs at a minimum, thus maximizing profit. Therefore, managers will want to use available capital to generate investment income to ensure financial stability instead of incurring the costs of holding extra capital. Insurers will have to weigh the marginal benefit of the investment income against the marginal costs of holding capital. Self-interested, people—and insurers—will not consider the external effects of their decisions.²⁴ If the costs of holding capital are too high, the insurer may opt to invest remaining capital instead of holding capital to protect against potential future catastrophes.

The introduction of transaction costs potentially alters the decisionmaking process of the insurer and the buyer. These altered decisions could lead to an increasing number of financially unstable or insolvent firms. Financially unstable companies can quickly become insolvent from “reductions in asset values (for example . . . reductions in the market value of investments) and/or increases in liabilities for claims” (from a catastrophic event like a hurricane).²⁵

The costs associated with insurer insolvency are significant and far-reaching. For the insurer, it will lose future income from investments.²⁶ The insurer's reputation and ability to attract new capital will also suffer dramatically, making a rebuilding effort incredibly difficult. The employees of the insurance company will also face costs when they lose their jobs and are forced to find work elsewhere.²⁷ The loss in salary and the time spent looking for other employment opportunities are extremely costly to the employees. Policyholders also bear the burden of the shortfall when outstanding claims with the insolvent insurer are not paid in full.²⁸ Policyholders that did not have an outstanding claim are forced to find a new insurer which requires time, effort, and money. The switching costs can be significant, and the policyholder may be wearier of insurers.

24. See Beville et al., *supra* note 17, at 850.

25. Cummins, Harrington & Niehaus, *supra* note 23, at 429.

26. *Id.* at 431.

27. *Id.* at 441.

28. *Id.* at 436.

Guaranty funds, state-generated pools of money, protect policyholders with outstanding claims from insolvent insurers to some extent by allowing them to receive a portion of their claim.²⁹ However, the presence of guaranty funds exacerbates the potential for insolvency and more costs.³⁰ Assessments to solvent insurance companies finance the guaranty fund.³¹ This protection of claims alters the incentives of the insurer and the policyholder while simultaneously generating costs.

Recalling a world of perfect information and no transaction costs, insurance companies would have incentives to manage risk efficiently because policyholders would act adversely to unnecessary risk.³² Similarly, policyholders have an incentive to monitor the solvency of the insurance companies to ensure coverage of their claims. However, with the knowledge of guaranty fund coverage of their claims, policyholders have less incentive to both purchase insurance from a financially sound company and monitor the solvency of insurers.³³

From the insurer's prospective, it now has a greater incentive to engage in risky behavior because it is not checked by market discipline. The insurer knows that the guaranty fund will bear any potential insolvency losses.³⁴ As a result, the insurer has the opportunity to increase the value of equity without being penalized by the market.³⁵ Because an insurer will act in its own best interest without considering the external effects, it will likely engage in riskier behavior.

Adding to an already unfortunate situation, an insurer will become even less risk-adverse as its financial condition deteriorates. An insurer can become economically insolvent but still have the cash flow to pay its current claims to allow it to continue operating.³⁶ An already insolvent firm—or one that recognizes looming insolvency—will have added incentive to take extreme risks with the hope of generating large returns. The strategy to essentially

29. Cummins & Phillips, *supra* note 1, at 35.

30. See J. David Cummins, *Risk-Based Premiums for Insurance Guaranty Funds*, 43 J. OF FINANCE, 823, 825 (1988); see also Vaughan, *supra* note 21, at 14-15.

31. Cummins & Phillips, *supra* note 1, at 35.

32. See *supra* notes 13-18 and accompanying text.

33. Vaughan, *supra* note 21, at 14; Martin F. Grace, Robert W. Klein & Richard D. Phillips, *Insurance Company Failures: Why Do They Cost So Much?* 13 (Ga. State Univ. Ctr. for Risk Mgmt. and Ins. Research, Working Paper No. 03-1, 2003), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=463103.

34. Vaughan, *supra* note 21, at 14.

35. Cummins & Phillips, *supra* note 1, at 39-43.

36. Cummins, Harrington, & Niehaus, *supra* note 23, at 429.

“go for broke” prevails with the knowledge that others will bear the costs of failure.³⁷

All of the altered incentives created by the guaranty fund generate costs and prevent parties from reaching mutually beneficial transactions. The risky behavior of the insurer coupled with the reduced incentives for consumers to monitor solvency of insurers creates a less stable insurance industry environment that results in greater costs.

2. Costs to Third Parties

The parties directly involved are not the only ones who bear transaction costs; third parties also feel such costs through external effects.³⁸ For instance, policyholders of solvent insurers partially bear assessments to guaranty funds. Guaranty fund assessments to solvent insurers are not made until the insolvent insurer actually fails; consequently, solvent companies cannot account for assessments ahead of time. As a result, the costs of these assessments may pass onto the solvent firm’s policyholders through rate surcharges or to taxpayers through tax increases.³⁹

If a consumer of a solvent insurer may face costs due to the failure of another insurer, then that consumer will have an interest in monitoring all the other insurers in the state that could cause a guaranty fund assessment to his insurer. The consumer would incur significant costs.

To illustrate potential costs to third parties in another manner, consider the following example. My neighbor, a policyholder with an insolvent insurer, does not have his claim paid in full after a fire destroyed his home. Instead of having enough money to fix his home, my neighbor only has enough to move into an apartment. I am currently interested in selling my house, but it is now next door to a burned-down eyesore of a house. The property value of my house falls because my neighbor did not receive the money from the insurance company to fix his home. Now I feel the effects of an insurer failure. While this may be an extreme example, it is certainly possible. If this is a serious concern for an individual, not only would he need to monitor the solvency of his insurer, but he would also want to monitor the solvency of his neighbor’s insurer. This situation demonstrates that the costs of

37. Vaughan, *supra* note 21, at 14; Cummins, Harrington, & Niehaus, *supra* note 23, at 431-32.

38. See Beville et al., *supra* note 17, at 849.

39. Grace, Klein, & Phillips, *supra* note 33, at 9.

an insurer's insolvency are not limited to the parties directly involved in the insurance transaction.

II. THE NEED FOR REGULATION

The wide range of costs that stem from insurer insolvency—the “[c]ostly monitoring of insolvency risk by policyholders, reduced incentives for policyholder monitoring because of guaranty funds,” the insurer’s incentive to engage in risky behavior due to a lack of liability, etc.,⁴⁰—show the importance of encouraging financial stability in insurance companies. This provides an ideal opportunity for the law to intervene. If regulation can efficiently reduce transaction costs by forcing parties to internalize these costs, then we will see an increase in total economic welfare. However, the marginal costs of implantation and enforcement of an overly burdensome law will outweigh its marginal benefits. As Coase notes in his article, regulators must determine “whether the gain from preventing the harm is greater than the loss which would be suffered elsewhere as a result of stopping the action which produces the harm.”⁴¹

Globally, lawmakers recognized the regulatory opportunity associated with the insurance transaction; their challenge was to create a regulatory system that would reduce transaction costs and facilitate mutually beneficial transactions.

A. *The Risk-Based Capital System*

A competitive market best achieves economic efficiency. Accordingly, regulation should strive to duplicate a competitive market where all parties have relevant information.⁴² This article has illustrated how the insurance transaction would occur in a pure, competitive market and how associated transaction costs prevent the ideal insurance transaction. Regulation can close the gap between the ideal and the reality. Because many costs associated with the insurance transaction stem from the potential of insurer insolvency, regulation should focus on solvency. Specifically, “solvency regulation should: (1) provide proper incentives for insurers to reduce insolvency risk, (2) facilitate, where possible, the rehabilitation of weak insurers,” and (3) encourage regulators to take timely action.⁴³

40. Cummins, Harrington, & Niehaus *supra* note 23, at 432.

41. Coase, *supra* note 8, at 27.

42. Cummins, Harrington, & Niehaus, *supra* note 23, at 432.

43. *Id.*; Martin F. Grace, Scott E. Harrington & Robert W. Klein, *Risk-Based Capital*

The United States sought to develop an effective solvency regulation system during the late 1980s and early 1990s when the country saw a surge of insurer insolvencies in the property/casualty insurance market.⁴⁴ In response to these insolvencies, the National Association of Insurance Commissioners (NAIC) created a risk-based capital (RBC) system to provide a risk-related capital adequacy standard.⁴⁵

While an insurance commissioner at the state level regulates the insurance industry, this article focuses on regulation generally affecting all states. The NAIC does not have any actual regulatory power but it does create model acts that may be adopted by specific states. This article focuses on the NAIC Risk-Based Capital Insurers Model Act (Volume II-312) which applies to property/casualty insurers.⁴⁶ Most states have adopted some form of legislation similar to the NAIC's Risk-Based Model Act.⁴⁷

When lawmakers created the RBC system, the main goals were to have a capital standard related to risk, create a safety net for insurers, create uniformity among states, and provide for timely regulatory authority.⁴⁸ The RBC system attempted to reach these goals through its two primary components: (1) the risk-based capital formula, which calculates a hypothetical minimum capital level that is then compared to the company's actual capital level, and (2) a model law that confers authority to the state insurance regulator to take specific action against insurers that do not meet required levels of capital.⁴⁹

The first component focuses on a formula to establish a quantitative hypothetical minimum level of capital. Property/casualty insurance has a separate RBC formula from life insurance because of different material risks unique to each type. Because this article primarily concerns property/casualty insurance, we will not explore the formula for life insurance.

The property/casualty RBC method uses a generic formula that focuses on six risk factors: asset risk for investments in subsidiaries, asset risk for fixed income investments, asset risk for equity investments, asset risk relating to credit, underwriting risk associated with estimating reserves, and underwriting risks associated

and Solvency Screening in Property-Liability Insurance: Hypothesis and Empirical Tests, 65 J. RISK & INS. 213, 217 (1998).

44. Cummins, Harrington, & Klein, *supra* note 4, at 511-12.

45. See *Risk-Based Capital*, *supra* note 2.

46. See *id.*

47. See *id.*

48. See *id.*

49. Cummins & Phillips, *supra* note 1, at 50.

with net written premiums.⁵⁰ These factors are percentages that will vary for each company. For instance, a company heavily invested in low rated bonds will have a higher fixed income risk factor than a company invested in highly rated bonds. Once determined, each factor is used in conjunction with an amount from the company's statutory financial statements to generate a RBC risk charge.⁵¹

After calculating the risk charges, they are combined and made into a covariance adjustment. A covariance adjustment is necessary because all of these risks are unlikely to be adversely affected simultaneously.⁵² An unfavorable experience with one factor more likely will be offset by a favorable experience with another.⁵³ Consequently, each factor is statistically independent⁵⁴ with the one exception of the asset risk relating to affiliates. After combining the factors and making the covariance adjustment, the final RBC formula is generated:

$$\text{RBC} = \text{R0} + \sqrt{\text{R1}^2 + \text{R2}^2 + \text{R3}^2 + \text{R4}^2 + \text{R5}^2}$$

Where *R0* = asset risk (subsidiaries); *R1* = asset risk (fixed income); *R2* = asset risk (equity); *R3* = asset risk (credit); *R4* = underwriting risk (reserves); *R5* = underwriting risk (net written premiums).⁵⁵

The calculated RBC establishes a primary point of reference for regulatory action. Here the second component of the RBC system—granting authority to the state insurance commissioner to take regulatory action—comes into play. We compare the calculated RBC to a company's total adjusted capital.⁵⁶ This ratio dictates the level of regulatory action that the company will face. The regulatory action levels are as follows:⁵⁷

50. *Id.* at 51.

51. See *Risk-Based Capital*, *supra* note 2.

52. Cummins & Phillips, *supra* note 1, at 51-52.

53. *Id.* at 52.

54. *Id.*

55. *Id.*

56. *Id.*

57. *Id.*; see also *Risk-Based Capital*, *supra* note 2.

Ratio \geq 2.0	No action
$1.5 \leq$ Ratio $<$ 2.0	Company Action Level: The insurer must prepare and file a report that identifies the reasons for the company's financial condition and contains a specific plan to correct the financial condition. Failure to file this report will trigger the "Regulatory Action Level" response.
$1.0 \leq$ Ratio $<$ 1.5	Regulatory Action Level: The insurer must also file an action plan. The regulator is required to analyze the company's operations and issue necessary corrective orders.
$0.7 \leq$ Ratio $<$ 1.0	Authorized Control Level: The regulator is authorized to take control of the insurance company even though the company may still technically be solvent.
Ratio $<$ 0.7	Mandatory Control Level: The regulator is required to take control of the company even if the company is still solvent.

The second component of the RBC system focuses on granting authority to or sometimes even requiring the state regulator to take action against troubled insurers. This component was seen as vitally important for the success of the RBC system.⁵⁸ Prior to RBC, regulators faced legal hurdles when attempting to take action against companies not technically insolvent but financially unstable.⁵⁹

This component of the RBC system was also deemed critically important because it prevented regulatory forbearance where regulators would not take quick action against companies. Previously, regulatory forbearance had resulted from a combination of political pressure from insurers and regulators' lack of authority to intervene in a technically solvent insurance business.⁶⁰ The height of regulatory forbearance occurred during the 1980s savings and loan

58. Cummins & Phillips, *supra* note 1, at 50.

59. Grace, Harrington, & Klein, *supra* note 43, at 217.

60. Cummins & Phillips, *supra* note 1, at 50-53.

crisis. Regulators of the savings and loan institutions eased regulatory requirements during the onset of the crisis. Insurance businesses continued to operate and engage in risky behavior, which increased costs when they eventually failed.⁶¹ By granting authority to regulators, the RBC system largely avoids regulatory forbearance problems.

The regulatory action component of the RBC system was established to prevent failing insurance companies from increasing deficits and taking on higher risk ventures that could ultimately lead to higher guaranty fund assessments upon the insurer's failure. The RBC system creates incentives for the insurance companies to remain financially strong, not excessively risky, and reassures consumers that these companies are monitored.

To further reduce the risk of regulatory forbearance and enhance transparency of the RBC system, the results of the RBC calculation and any regulatory action taken against an insurer are made available to the public.⁶² The availability of this information provides additional incentives for insurers to effectively monitor their solvency and risk.

The RBC system helps identify troubled insurers early in the process and grants the authority to take proper action. A well-designed system would have the potential to reduce the expected costs of insolvencies by providing incentives for insurers to operate safely despite weak market incentives generated by the presence of guaranty funds and information asymmetry between insurers and policyholders.⁶³ Using the Coase theorem analysis, one would want to hold liable the party that can mitigate costs most effectively.⁶⁴ Regulators put liability on the insurance companies because they are in a better position to reduce transaction costs. Through the implementation of controls to help ensure the viability of insurers, consumers will more confidently purchase insurance and willingly pay premiums closer to what one would see in a competitive market.

Through the analysis of costs associated with insurer insolvencies, clearly some sort of solvency regulation is necessary; however, that regulation must not impose more costs than the benefits it generates.⁶⁵ We want the most efficient regulatory system possible. That begs the question about the current solvency regulation:

61. Vaughan, *supra* note 21, at 17-18; Cummins & Phillips, *supra* note 1, at 50.

62. Cummins & Phillips, *supra* note 1, at 60.

63. Cummins, Harrington, & Klein, *supra* note 4, at 512; Cummins, Harrington, & Niehaus, *supra* note 23, at 433.

64. See Coase, *supra* note 8.

65. Cummins, Harrington, & Niehaus, *supra* note 23, at 435-36.

Does the RBC system mitigate transaction costs as effectively as possible?

III. THE SHORTFALLS OF RBC

A prudent, risk-based capital system should help identify financially troubled insurers early enough to either aid in the rehabilitation of insurers or efficiently remove those insurers from the market. It should also provide incentives for insurers to reduce their risk of insolvency by holding more capital.⁶⁶ The RBC system has undergone slight modification since its introduction in 1994.⁶⁷ However, over time a number of inherent shortfalls in the RBC system have emerged.⁶⁸ As new solvency systems continue to develop in other parts of the world, the United States' RBC system has come under even closer examination, revealing some of its downsides.⁶⁹

One of the primary concerns about the RBC system is its inability to predict and prevent insolvencies.⁷⁰ Insolvencies in the insurance industry are continuing at a rather steady pace as "there has not been a statistically significant overall drop in the property/casualty impairment frequency since RBC was adopted."⁷¹ The impairment rate is the number of insolvencies divided by the number of insurers in the market at the beginning of the year.⁷² In April 2010, the State of Florida alone saw at least seven insurance companies fall into financial turmoil.⁷³ While clearly no solvency system can protect against failure absolutely, studies of the insolvencies that have occurred since the adoption of the RBC system revealed a major flaw in the system. "Relatively few insurers that later failed" had ratios of actual capital to risk-based capital that fell within the regulatory action ranges set forth in the RBC system.⁷⁴ In other words, almost all of the companies had a total adjusted capital twice that of the minimum RBC threshold the year prior to insolvency. Because these insurers fell outside of the regulatory guidelines, the assumption arose that they had enough capital to continue operating so no regulatory

66. *Id.* at 433.

67. See Cummins & Phillips, *supra* note 1, at 26.

68. See Vaughan, *supra* note 21, at 2, 13-23.

69. *Id.*

70. Cummins & Phillips, *supra* note 1, at 67.

71. *Id.* at 29.

72. *Id.* at 27.

73. Whitney Ray, *Florida Insurance Insolvency*, WJHG NEWS, (Apr. 22, 2010), <http://www.wjhg.com/home/headlines/91854424.html>.

74. Grace, Harrington, & Klein, *supra* note 43, at 226; Cummins, Harrington, & Klein, *supra* note 4, at 526.

action was taken. Unfortunately, this assumption proved incorrect when these insurers collapsed.

Some argue that the RBC system was never intended to actually predict and prevent insolvencies, but rather to provide regulators with authority to act on troubled companies.⁷⁵ If this system merely encourages regulatory authority, then the law is completely misguided. Imposing minimum costly capital standards is unnecessary and inefficient if the purpose of RBC is only to provide regulatory authority. The law needs to focus on the area associated with the greatest costs in the insurance transaction—insurer insolvencies.

The costs that the RBC system imposes elicit other concerns. Aside from the obvious costs of implementation, oversight, and enforcement, other costs exist associated with potential misclassification of companies.⁷⁶ Firms likely to fail may be classified and treated as financially sound (Type I error), while healthy firms may be classified as troubled and face regulatory action (Type II error).⁷⁷ Type I errors can result in insurer failure and all the associated costs previously discussed.⁷⁸ Type II errors generate costs due to wasted time and resources for both the insurer and the regulator. Both Type I and Type II errors produce numerous extraneous costs to the insurers, the policyholders, the regulators, and the market as a whole.

The RBC system has also been characterized as a “one size fits all” system.⁷⁹ It relies solely on a rule and factor based formula.⁸⁰ Although these factors vary according to risk, a company has no opportunity to utilize internal models more tailored to it to demonstrate viability to a regulator.⁸¹

Another potential concern, the RBC system does not account for some very significant risks, such as catastrophe risk or operational risk.⁸² Moreover, it relies on statutory accounting values when determining risk charges.⁸³ Due to their level of uncertainty, accounting values do not necessarily provide a good indication of actual market value.⁸⁴ Regulators will still not know whether an

75. Cummins & Phillips, *supra* note 1, at 67.

76. Vaughan, *supra* note 21, at 15.

77. *Id.*

78. *Id.*

79. Cummins & Phillips, *supra* note 1, at 58.

80. *Id.* at 50-51.

81. Vaughan, *supra* note 21, at 16.

82. Cummins & Phillips, *supra* note 1, at 60.

83. *Id.* at 58-59.

84. *Id.* at 59.

insurer overstates its capital through a manipulation of reported assets and liabilities.⁸⁵

A final shortfall of the RBC system lies in its failure to consider the quality of management and corporate governance of a firm.⁸⁶ Quality of management and corporate governance could prove imperative in a company's ability to remain financially healthy. Qualitative aspects of a firm serve as strong determinants of insolvency risk.⁸⁷

IV. SOLVENCY II

Solvency II has been under development for a number of years, allowing the developers the opportunity to analyze other solvency regulatory regimes in the world. As one would expect, Solvency II addresses many of the shortfalls of the United States' RBC system. To gain a clear understanding of how Solvency II addresses those shortfalls, this article will examine the background of the regime.

Solvency II, a large scale reform to the insurance regulation system in Europe, will come into effect by the end of 2012.⁸⁸ This regulatory system will provide a principles-based approach to solvency regulation for countries throughout Europe.⁸⁹ Solvency II is premised on three different levels or "pillars" of regulation.⁹⁰ Pillar 1, the quantitative element, focuses on an insurer's economic balance sheet. Pillar 2 is concerned with supervision and governance, and Pillar 3 pertains to public transparency promoting market discipline.⁹¹ Although addressed independently, the pillars must operate together for an effective regulatory scheme.

A. Pillar I

The first pillar provides rules and requirements for insurers' assets, liabilities, and capital.⁹² While a general requirement maintains that insurers should only invest in assets where the risk can be properly identified, measured, monitored, etc., insurers

85. See Grace, Harrington, & Klein, *supra* note 43, at 217; Vaughan, *supra* note 21, at 17.

86. See Cummins & Phillips, *supra* note 1, at 39-43.

87. Conference of Insurance Supervisory Services of the Member States of the European Union, Frankfurt, Ger., Dec. 2002, *Prudential Supervision of Insurance Undertakings*, 9, DT/UK/232/02/REV6 (by Paul Sharma) [hereinafter *Sharma Report*].

88. Tim Scott, *An Introduction to Solvency II*, 21 *INS. L.J.* 71, 71-72 (2010).

89. Cummins & Phillips, *supra* note 1, at 58.

90. Scott, *supra* note 88, at 73.

91. *Id.*

92. *Id.* at 76-86.

have some independence in determining what types of risks and investments they will take.⁹³

Nonetheless, insurers must to ensure that their investment portfolio remains financially sound. To ensure financial stability, Pillar 1 requires insurers to hold a target level of capital based on market value, called the Solvency Capital Requirement (SCR).⁹⁴ The SCR represents the amount of capital that would be required for an insurer to be 99.5% confident that it can continue to meet its liabilities.⁹⁵ Accordingly, companies with a higher risk profile will have a higher SCR and be required to hold more capital.⁹⁶ Each company will annually calculate its own SCR using a standard formula, an approved internal model, or a combination of both.⁹⁷ The SCR standard formula incorporates the following six risk components to generate an insurer's SCR: non-life underwriting risk (which includes catastrophe risk), life underwriting risk, health underwriting risk, market risk, counterparty risk, and operational risk.⁹⁸

One of the more important innovations of Solvency II is allowing an insurer to utilize an internal model to determine its SCR.⁹⁹ Internal models should be more accurate and provide a better understanding of a specific insurer's financial situation than a standard model.¹⁰⁰ A supervisor must approve an internal model before it can be used.¹⁰¹

No matter how the SCR is calculated, an insurer must strive to hold capital at least equal to that amount. If an insurer falls below its SCR, it could face sanctions and lead to discussions with a supervisor.¹⁰² A firm below its SCR can continue to operate and will still be deemed solvent, but a dip below the SCR level may be an indication of potential financial trouble in the future.¹⁰³

While an insurer must hold the SCR as the target capital, it must also hold at least the Minimum Capital Requirement (MCR).¹⁰⁴ The MCR should be the amount of capital needed for an

93. *Id.* at 77.

94. *Id.* at 79.

95. *Id.*

96. René Doff, *A Critical Analysis of the Solvency II Proposals*, 33 GENEVA PAPERS ON RISK & INS. 193, 196 (2008).

97. Scott, *supra* note 88, at 79.

98. *Id.* at 80-81.

99. Martin Eling et al., *The Solvency II Process: Overview and Critical Analysis*, 10 RISK MGMT. & INS. REV. 69, 73 (2007).

100. *Id.*

101. Scott, *supra* note 88, at 79.

102. Eling et al., *supra* note 99, at 73.

103. *Id.* at 82.

104. *Id.*

insurer to be 85% confident that it will be able to continue to meet its liabilities.¹⁰⁵ While a firm's falling below its MCR does not necessarily destine it to fail, falling below this level exposes policyholders to an unacceptable risk of failure making the insurer prudentially insolvent.¹⁰⁶ Consequently, a firm breaching its MCR will face intervention from a supervisor.

Not only must an insurer have a necessary quantity of capital, but it must also have a necessary quality of capital. On a basic level, an insurer's capital will fall into one of three tiers, with tier one being the highest quality of capital. To satisfy the SCR an insurer must hold more than one-third tier one quality capital and less than one-third of tier three quality capital. To satisfy the MCR, at least half of an insurer's capital holdings must be of tier one quality and no capital may be of tier three quality.¹⁰⁷ These requirements are only the minimum; some believe that these percentages should be much higher.¹⁰⁸

B. Pillar II

Pillar II focuses on governance, risk management and supervision.¹⁰⁹ Pillar II achieves its focus through the "supervisory review process" (SRP) and the "own risk and solvency assessment" (ORSA). The SRP is a common and relatively basic supervision of an insurer. The ORSA is a more unique and compelling version of supervision. ORSA requires a firm to look internally and address its overall solvency, compliance with the capital requirements, and any deviations in its risk profile from the assumptions underlying the SCR standard formula or the internal model.¹¹⁰ The ORSA is beneficial for a firm's decisionmaking process, but it is also useful to help a supervisor better understand the risk profile of a firm.¹¹¹ ORSA puts the onus on a firm to provide some self-supervision and governance rather than relying solely on an outside regulator.¹¹² A firm's management will ultimately have the responsibility of maintaining a prudent risk portfolio instead of following specific, pre-defined requirements.¹¹³

105. *Id.*

106. *Id.*

107. *Id.* at 82-86.

108. *Id.* at 85.

109. *Id.* at 86.

110. *Id.*

111. Vaughan, *supra* note 21, at 6.

112. Nikolaus von Bomhard, *The Advantages of a Global Solvency Standard*, 35 GENEVA PAPERS ON RISK & INS. 79, 87 (2010).

113. *Id.*

C. Pillar III

Pillar III is premised on making insurer information transparent and available to the public. Insurers must produce an annual solvency and financial condition report (SFCR), to which the public has access.¹¹⁴ The SFCR will contain a description of the insurer's business, performance, governance, risk profile, quantity and quality of capital, assets and liabilities, and a variety of other information.¹¹⁵ Any major changes to an insurer's SFCR triggers a requirement that the insurer update the report for the public.¹¹⁶ In theory, the increased transparency should lessen the need for regulation because market discipline will force appropriate behavior.¹¹⁷ Whether this will happen in practice, however, is not entirely clear.¹¹⁸

V. USING SOLVENCY II AS A GUIDE FOR SOLVENCY REGULATION IN THE UNITED STATES

No solvency regulatory system will be perfect; all systems will have costs and shortcomings. Nonetheless, the RBC system can be improved to be more efficient and effective. The upcoming implementation of Solvency II in the European Union has acted as a catalyst for the United States to re-evaluate the RBC system. The NAIC began its Solvency Modernization Initiative (SMI) in June of 2008 which entails a complete review of the solvency framework in the insurance industry.¹¹⁹ The SMI considers a number of possible revisions relating to management risk, use of internal models, corporate governance, and uses of economic capital among many others.¹²⁰ While numerous potential ways to improve the RBC system exist, this article focuses on three main characteristics of Solvency II that could improve the RBC system by reducing transaction costs and improving overall efficiency.

The first recommendation for improvement to the RBC system involves permitting insurers to utilize internal models to determine appropriate levels of capital. The standard RBC formula

114. Scott, *supra* note 88, at 87.

115. *Id.*

116. *Id.*

117. Eling et al., *supra* note 99, at 81.

118. See Scott, *supra* note 88, at 87.

119. NAT'L ASSOC. OF INS. COMM'RS, *Solvency Modernization Initiative* (Sept. 3, 2009), http://www.naic.org/documents/committees_ex_isftf_smi_overview.pdf. The SMI project is expected to be completed by the end of 2012.

120. *Id.*

could remain in place, but firms with the capability should have the option to develop and use internal models instead. Internal models are generally accepted as more accurate and useful to a firm.¹²¹ As a result, firms using internal models can hold capital sufficient for that firm's risk profile and not incur the costs associated with holding too much or too little capital. This will allow the firm to operate more efficiently and without a stifling one-size-fits-all approach.

Admittedly, "internal models may be more accurate but [they] have correspondingly high transactions costs."¹²² Developing the model, approving the model, and providing supervision to ensure a firm does not stray from the model incurs costs. The costs associated with an internal model could prove especially harmful to smaller insurers.¹²³ The smaller firms may face the options of choosing a standard model (that may not adequately address their risk profile) or exiting the market (dropping out or undergoing acquisition).¹²⁴ Loss of these insurers creates a smaller market and thus a less efficient market.¹²⁵ Nonetheless, the larger firms will most likely be able to afford to develop internal models that accurately reflect the firm's risk profile and help protect it from insolvency. While almost all insolvencies are costly, a large firm becoming insolvent is particularly harmful because of the number of people affected. Ultimately, the determination of whether internal models would be beneficial will hinge on whether their marginal benefit will outweigh their marginal costs. Luckily, the United States will have the opportunity to analyze the effectiveness of internal models as Solvency II becomes reality.

Secondly, this article recommends adding a qualitative element, similar to Pillar I and II of Solvency II, to the RBC system. Currently the RBC system relies solely on a quantitative system for determining levels of regulatory action. However, "effective regulatory monitoring systems must go beyond a reliance on capital" and require consideration of qualitative characteristics.¹²⁶ Implementing a system that provides a determination of the quality of capital a company holds will help firms not only hold enough capital, but also hold the right capital.¹²⁷ The tiered system in Solvency II ensures a sound risk profile; something similar in the

121. See Vaughan, *supra* note 21, at 11.

122. Eling et al., *supra* note 99, at 79.

123. *Id.*

124. *Id.*

125. *Id.*

126. Vaughan, *supra* note 21, at 17.

127. Scott, *supra* note 88, at 82.

United States could help reduce insolvencies by adding another incentive for firms to have a financially stable risk profile.¹²⁸

Solvency II also incorporates a consistent monitoring and “evaluation of management quality and provide[s] incentives for the adoption of improved risk management.”¹²⁹ Implementing something similar in the United States would provide regulators the authority to intervene in firms that display indicators of impending problems. For instance, excessive growth, excessive use of reinsurance, or inconsistent investment strategies could be signals of financial distress. Early regulatory intervention will lead to dramatic cost savings from reduced risk-taking and increased transparency of the firm.¹³⁰ Additionally, identifying potential management problems at the outset could prevent the manifestation of problems that otherwise might develop.¹³¹

The reduction of operational risk could arise as a secondary effect of qualitatively assessing management. Operational risks could include a variety of different risks such as losses due to fraud, employee misconduct, or failure to meet obligations; business disruptions and system failures; and management of execution, delivery, and process.¹³² All firms face some level of operational risk; however, “firms with serious flaws in their management or governance systems are particularly vulnerable to potentially catastrophic operational events.”¹³³ A qualitative assessment would provide insurers incentives to have quality management and provide authority for a regulator to intervene if necessary. The higher quality of management will lower the operational risk and lead to cost savings.¹³⁴

The final improvement recommendation is to make the results of the RBC system more easily accessible to the public as suggested by Solvency II’s Pillar III. As the system currently stands, the firm’s publically available, statutorily required financial statements report the results of the RBC ratios.¹³⁵ In reality, most investors and insurance purchasers will neither access this information nor know how to interpret it.¹³⁶ Making the results of the solvency assessments more readily available to the public would provide market discipline to weaker insurers and would discourage

128. Doff, *supra* note 96, at 196-98.

129. Cummins & Phillips, *supra* note 1, at 44.

130. Grace, Klein, & Phillips, *supra* note 33, at 31.

131. See Sharma Report, *supra* note 87, at 60-63, 70.

132. Cummins & Phillips, *supra* note 1, at 42.

133. *Id.*

134. *Id.* at 43.

135. *Id.* at 60.

136. *Id.*

regulatory forbearance.¹³⁷ Creating a more public system would help reduce the information asymmetries between the insurer and the buyer that generate many transaction costs. A world where consumers are provided with greater information and tools to monitor insurers' solvency is more similar to the ideal situation where transaction costs are negligible.

Any solvency regulation will have its shortfalls, but the previously discussed recommendations could improve the current RBC system from an economic standpoint. The SMI makes it clear that the issue of solvency regulation needs to be addressed. SMI is an excellent step toward improving the United States solvency regulation system, but it will face numerous challenges in the current highly politicized landscape.¹³⁸ The recent reforms in the healthcare and financial industries have created a strong backlash against any regulatory reform. These recommendations require significant changes to the RBC system that insurers would likely resist strongly. However, changes to reduce transaction costs will ultimately increase efficiency and total economic welfare.

CONCLUSION

We should watch the developments of NAIC's Solvency Modernization Initiative with great interest as many of the SMI ideas worthy of being explored in much greater depth have the potential to greatly improve solvency regulation in the insurance industry. The three recommendations proposed in this article are steps that could lead to an overall improved system. These ideas effectively address costs that remain with the current RBC system. Although these changes would likely impose additional costs, the benefits would greatly outweigh the incurred costs.

Modification to the current RBC system appears imminent. Whether those modifications will be significant or minimal is yet to be seen. The effectiveness of Solvency II in the European Union could provide one indication of the potential magnitude of changes to the RBC system. The United States has the opportunity to analyze the strengths and weaknesses of the European Union solvency regulations and incorporate that analysis into modifications of the RBC system. While the political and cultural differences could create resistance to adopting certain aspects of Solvency II, an economic analysis showing reduced transaction costs and increased aggregate economic welfare could overcome this. The United

137. See Grace, Harrington, & Klein, *supra* note 43, at 21.

138. See Grace, Klein, & Phillips, *supra* note 33, at 32.

States would be wise to fully understand the changes being made elsewhere in the world as it explores changes to its own solvency regulation system.