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A Comparison of the *Risk Management and Own Risk and Solvency Assessment Model Act* and Insurer Ratings

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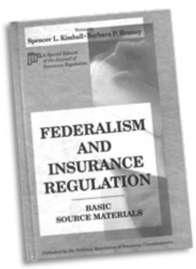

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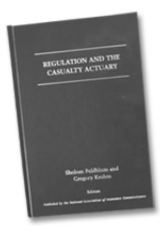

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A Comparison of the *Risk Management and Own Risk and Solvency Assessment Model Act* and Insurer Ratings

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Abstract

The Own Risk and Solvency Assessment (ORSA) requires an increase in reporting for insurers. However, it is possible that many insurers already gather a significant amount of this information for other groups such as rating agencies. This study provides a comparison of the ORSA Summary Report requirements given in the *NAIC Own Risk and Solvency Assessment (ORSA) Guidance Manual* (ORSA Guidance Manual) and the information requested by ratings agencies such as A.M. Best as stated in the *Credit Rating Methodology: Global Life and Non-Life Insurance Edition* to assess the similarities in information needed for ORSA reporting and rating agencies. We find significant similarities between ORSA reporting and the materials needed for credit rating. Given the overlap, the total cost of ORSA compliance may be less, in terms of time and effort, in preparing the ORSA Summary Report compared to firms that have not gathered information for ratings agencies. We analyze the number of insurers subject to ORSA, as well as the percentages that are both subject to ORSA and are rated by A.M. Best. We find that 69% of insurers subject to the ORSA Model Act also are rated by A.M. Best. This is roughly 72% of the insurance market by premium.

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Introduction

The financial crisis of 2008 once again highlighted the importance of solvency prediction for financial services firms. Although the insurance sector was largely on the periphery of the crisis, state insurance regulators were concerned that the failure of a large insurance company or group would pose systemic risk to the overall market (Harrington, 2009). These events led the National Association of Insurance Commissioners (NAIC) to examine the insurance solvency regulation framework through the Solvency Modernization Initiative (SMI) (NAIC, 2012). The SMI was a critical self-examination to update the U.S.' insurance solvency regulation framework. It included "a review of international developments regarding insurance supervision, banking supervision, and international accounting standards and their potential use in U.S. insurance regulation" (NAIC, 2012). The key component within the SMI roadmap was the establishment of the NAIC's Own Risk and Solvency Assessment (ORSA) Model Act, including adoption of the *Risk Management and Own Risk and Solvency Assessment Model Act* (#505) and the *Own Risk and Solvency Assessment (ORSA) Guidance Manual* (ORSA Guidance Manual) (NAIC, 2012).

The ORSA Model Act proposal requires certain insurers in the U.S. to perform a self-assessment of insurer risk and capital management. According to the NAIC, the implementation of the ORSA Model Act ultimately will require insurers to be more focused, purposeful and explicit in the identification and management of risk (NAIC, 2014). Some have described the Model Act as a complement to credit ratings. For example, A.M. Best describes the ORSA Summary Report as a way for insurers to link risk management to overall strategy (A.M. Best, 2015a). Specifically, the Model Act is meant to be part of an insurer's enterprise risk management (ERM) framework (NAIC, 2014). Those insurers that have previously invested in ERM may be at a significant advantage in terms of the preparation time necessary to complete the ORSA Summary Report (A.M. Best, 2014).[1] Further, given that ERM leads to greater value and reduced volatility (Eckles, Hoyt and Miller, 2014), some claim that the benefits derived from ORSA will outweigh any costs associated with the collection of the information needed for the ORSA Summary Report (A.M. Best, 2015a).

A major criticism of the Model Act is the cost and effort required of insurers in preparing the annual ORSA Summary Report (Willis Re, 2012). One-third of publicly traded insurers in the U.S. view ORSA "as a material risk factor in their annual reports," indicating that insurers are concerned with the cost and effort associated with the ORSA reporting requirements (Walker, Pooser and Walker, 2015). An ORSA Summary Report that does not sufficiently comply with

1. There are a variety of ERM frameworks, including COSO ERM and ISO 31000. To the extent that an insurer bases ERM framework on either COSO ERM or ISO 31000, this would affect the scope of data needed for the explanation of ERM. However, since it is not mandated that insurers use one or the other, we did not include that discussion in this paper.

guidelines and standards also may increase the likelihood of regulatory scrutiny for an insurer (Pooser and Walker, 2015). However, there is potential that, to a certain extent, insurers currently collect some of the information needed to complete the ORSA Summary Report. For example, A.M. Best notes that most companies required to submit ORSA Summary Reports already have ERM processes in place. Additionally, much of the quantitative and qualitative information required for the ORSA Summary Report is likely also required for assessments by organizations such as rating agencies.

The purpose of this study is to explore the extent of overlap between the information that insurers currently report to ratings agencies and the information required to complete the ORSA Summary Report.[2] First, we start with a qualitative analysis of ORSA Summary Report requirements compared to the reporting requirements for A.M. Best.[3] Both require a combination of qualitative and quantitative information. While the level of detail required in the ORSA Summary Report may be broader than the reporting requirements for A.M. Best, in some cases, there may be a significant overlap between the reporting requirements of ORSA and that of ratings agencies, such as A.M. Best. If the information required by the ratings agencies is similar to the information requested in the ORSA Summary Report reporting standards, then we hypothesize that there is a reduced marginal cost in terms of the time and effort to collect the information reported in the ORSA Summary Report.[4] Second, we analyze the number of insurers that are affected by the Model Act. Of those that are impacted, we evaluate the number of insurers that are rated by A.M. Best. We find that 69% of insurers subject to the Model Act also are rated by A.M. Best. The overlap of insurers subject to the Model Act and those rated by the rating agencies provides initial evidence that these insurers may experience a potential reduced marginal cost in meeting the ORSA Summary Report requirements.

The remainder of this paper proceeds as follows. The next section provides a detailed background on the ORSA Model Act and ratings agencies, specifically A.M. Best. The third section describes a comparison of factors for the ORSA

2. The question of the added value of the ORSA Summary Report or the effectiveness of this report is an important question. However, it is not the focus of the paper. We are focused on the overlap in information required for the ORSA Summary Report and rating agencies to determine whether there is reduced marginal cost for insurers that are rated by A.M. Best. Additionally, the scope of the ORSA Summary Report is broader than that of the A.M. Best analysis. Even so, we conjecture that if an insurer has collected information in more detail for A.M. Best, then it should incur lower compliance costs due to reduced time and effort associated with the collection of the information for the ORSA report given the overlap in data.

3. As discussed later, there are several major rating firms, each with different requirements. However, A.M. Best was selected as the focus of this study given the signification percentage of insurers rated by the agency, as well as the transparency of its rating guidelines.

4. “One consideration for insurers is that preparation of an ORSA Summary Report may provide a platform for the consistent reporting of risk data to other entities such as the SEC and ratings agencies” (Pooser and Walker, 2015). We recognize that the additional time may be spent compiling the ORSA Summary Report and not in the collection of the information needed for it.

Summary Report and the information collected by A.M. Best. The fourth section presents the results of our analysis. The final section offers concluding remarks.

Background

ORSA

The ORSA Model Act was adopted by the NAIC in 2012. The Model Act provides a framework for individual states to produce and enact ORSA regulatory reporting requirements. Individual states may make changes to the language contained in the Model Act. The effective date of the Model Act was Jan. 1, 2015 (NAIC, 2014). Insurers in states that adopted the Model Act were required to submit the first annual ORSA Summary Report by the end of 2015. The ORSA Summary Report is described as a confidential, annual internal assessment conducted by the insurer and is associated with the insurer's current business plan and sufficiency of capital resources to support firm risks (NAIC, 2014).

Currently, there are 40 states that adopted the Model Act. (See Table 1.)[5] The size threshold of insurers required to provide an ORSA Summary Report is insurers that write more than $500 million in direct written and assumed premium or more than $1 billion as a group.[6] The insurers that meet the financial threshold are required to submit an ORSA Summary Report to the state insurance commissioner in the lead state of domicile (NAIC, 2014).[7] The state insurance commissioner also may require an insurer to conduct an ORSA and file a Summary Report if the insurer "has triggered a Risk-Based Capital (RBC) company action level event, meets one or more of the standards of an insurer deemed to be in hazardous financial condition, or otherwise exhibits qualities of a troubled insurer, as determined by the commissioner" (NAIC, 2014). An insurer can apply for an exemption from reporting under the ORSA Model Act in certain circumstances.

5. Two out of 40 states adopted portions of the Model Act. All others adopted it in its entirety. Those two states are Maine and New York.

6. Property/casualty insurers within a group could be included in one ORSA Summary Report or a combination of reports, if those group members operate under different ERM frameworks. If the insurer is a member of a group, the insurer submits the ORSA Summary Report to the lead state commissioner of the insurance group (NAIC, 2014).

7. Insurers are exempt from conducting an ORSA and filing an ORSA Summary Report if the individual insurer's annual direct written and unaffiliated assumed premium, including international direct and assumed premium but excluding premiums reinsured with the Federal Crop Insurance Corporation and the NFIP is less than 500 million, and if the insurer is a member of a group and the group's annual direct written and unaffiliated assumed premium, including international direct and assumed premium but excluding premiums reinsured with the Federal Crop Insurance Corporation and the NFIP is less than 1 billion.

Table 1:
NAIC Model Adoption by State

State	Statute
Alabama	Ala. Code 27-29A-1 to 27-29A-10 (2016)
Alaska	Alaska Stat. 21.23.01 to 21.23.090 (2015)
Arizona	Ariz. Rev. Stat. Ann. 20-491 to 20-190.07 (2016)
Arkansas	Ark. Code Ann. 23-69-401 to 23-69-410 (2015)
California	Cal. Ins. Code 935-1 to 935.11 (2013)
Colorado	Colo. Rev. Stat. 10-3-1501 to 10-3-1511 (2016)
Connecticut	Conn. Acts No. 14-107 (2014)
Delaware	Del. Code Ann. Tit. 18 8401 to 8412 (2014)
Florida	Fla. Stat. 624.4212 (2016)
Georgia	GA. Code Ann. 33-13-30 to 33-13-41 (2015)
Hawaii	Haw. Rev. Stat. 431-101 to 431-110 (2016)
Illinois	215 Ill. Comp. Stat. 5/129.1 to 5/129.9 (2014)
Indiana	Ind. Code 27-1-23.5-1 to 27-1-23.5-14 (2014)
Iowa	Iowa Code 522.1 to 522.10 (2013)
Kansas	Kan. Stat. Ann 18-1 to 18-11 (2015)
Kentucky	Ky. Rev. Stat. Ann. 304.3-600 to 304.3-635; 304.99-055 (2014)
Louisiana	La. Rev. Stat. Ann. 691.31 to 691.39 (2015)
Maine	Me. Rev. Stat. Ann. Tit. 24-A, 222 (1969/2013) (portions of the model)
Michigan	Mich. Comp. Laws 500.1701 to 500.1715 (2015)
Minnesota	Minn. Stat. 60D.50to 60D.58 (2014)
Missouri	Mo. Rev. Stat. 382.500 to 382.550 (2015)
Montana	Mont. Code Ann. 33-2-11XX to 33-2-11XX (2015)
Nebraska	LB 700 1-11 (2014)
Nevada	Nev. Rev. Stat. 692C.265 to 692C.289 (2015)
New Hampshire	N.H. Rev. Stat. Ann. 401-C:1 to 401-C:10 (2013)
New Jersey	N.J. Stat. Ann. 17:23-27 to 17:23-37 (2014)
New York	N.Y. Comp. Codes R. & Regs. Tit. 11, 82.1 to 82.5 (2014) (portions of the model)
North Dakota	N.D. Cent. Code 26.1-10.2-01 to 26.1-10.2-08 (2015)
Ohio	Ohio Rev. Code Ann. 3901.371 to 3901.378
Oklahoma	Okla. Stat. tit. 36, 3301 to 3310 (2015)
Oregon	Or. Rev. Stat. 547.2 to 547.20 (2015)
Pennsylvania	40 Pa. Cons. Stat. 991.2601 to 991.2610 (2013)
Rhode Island	R.I. Code R. 27-77-1 to 27-77-10 (2013)
Tennessee	Tenn. Code Ann. 56-11-201 to 56-11-210 (2014)
Texas	Texas Code Ann. 830.001 to 830.012 (2015)
Vermont	Vt. Stat. Ann. Tit. 8, 3581 to 3589 (2013)
Virginia	Va. Code Ann. 38.2-1334.3 to 1334.10 (2014)
Washington	Wash. Rev. Code 48.05A.005 to 48.05A.901 (2015)
Wisconsin	Wis. Stat. 622.03 to 622.17 (2014)
Wyoming	Wyo. Stat. Ann. 26-51-101 to 26-51-110 (2014)

The ORSA Summary Report has three sections. The first is a description of the insurer's risk management framework. The second is the insurer's assessment of risk exposure. Finally, the insurer is to provide a group assessment of risk capital and prospective solvency framework. The overall ORSA Summary Report also includes such information as an identification of the basis of accounting for the insurer, an organizational chart and a short summary of any changes to the report from the prior year (NAIC, 2014). There are no other specific guidelines given to insurers. Instead, a general set of rules is provided to guide insurers in writing the ORSA Summary Report (NAIC, 2014).

An ORSA Feedback Pilot Project was conducted in 2012 and in 2013. The Pilot Project requested insurers and/or groups to voluntarily provide an ORSA Summary Report for regulatory review.[8] In 2013, of the 22 reports submitted, the NAIC noted that the reports were more complete than the prior year. It also was noted that reports from first-time participants in 2013 overall were better than the 2012 reports, partially due to the expectations outlines in the ORSA Guidance Manual (NAIC, 2013). This suggests that over time, there is a decrease in the costs associated with the collection of the necessary information for the ORSA Summary Report. As expectations are better known, insurers can more effectively and efficiently produce quality reports.

Insurer Credit Ratings

We originally considered five ratings agencies in the initial stages of our analysis: A.M. Best, Standard & Poor's (S&P), Fitch, Moody's and Demotech. Of the five main insurer ratings agencies, A.M. Best rates a majority of insurers and provides the most comprehensive and transparent guide to its ratings methodology.[9] Therefore, we chose to use A.M. Best as the credit rating agency for our comparison. In our sample, representative of property/casualty (P/C) insurers in 2015, A.M. Best rated 73% of individual insurers that were in operation in the U.S. A.M. Best's analytical process of an insurer's credit rating incorporates quantitative and qualitative measures that evaluate various sources of risk to an organization's financial health. The evaluated risks include underwriting risk, credit risk, interest rate risk, and country and market risks, as well as economic and regulatory factors (A.M. Best, 2015b). The analysis provided by A.M. Best as part of its ratings process includes a comparison with peers, industry standards, proprietary benchmarks, assessments of operating plans, philosophy, management, risk appetite, and implicit or explicit support of a parent or affiliate. Similar to the ORSA Summary Report, A.M. Best considers issues related to risk capital and solvency in its ratings process.

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8. The NAIC is training regulators on Enterprise Risk Management (ERM) frameworks. The Model Act has been key in the development of materials used to train regulators on ERM frameworks. Specifically, the Pilot Project helped guide the development of ERM educational materials for state insurance regulators (NAIC, 2016).

9. While we recognize that S&P has a more detailed ERM review than A.M. Best, S&P's guidelines are not as transparent. Therefore, we chose A.M. Best in our analysis. We do not consider Fitch or Moody's in our sample due to the small number of insurers that apply for ratings from these companies. Demotech provides insurers with provisional ratings by using only publicly available information, and insurers decide whether to make the rating public (Cole, He and McCullough, 2017). Because Demotech does not rely on quantitative information, we do not use Demotech in our sample.

The primary objective of A.M. Best's Credit Ratings is to provide an opinion of the rated insurer's ability to meet its financial obligations (A.M. Best, 2015b). A.M. Best employs credit analysts who facilitate communication with the management within the rated insurer. The data A.M. Best requests from P/C insurers includes, but is not limited to, the last five years of financial reports, organizational and management structure, business plans, strategies and projections, ERM strategies, and competitive advantages and disadvantages. A.M. Best cites the most important area to evaluate in determining the insurer's financial strength is an assessment of the balance sheet strength (A.M. Best, 2015b).

Comparison of Reporting Components

We first offer a comparison of the similarities and differences between the components suggested for assessment in the ORSA Summary Report and the information requested by A.M. Best for the purposes of providing insurer ratings. This comparison allows us to assess the degree to which there is overlap in the information suggested for inclusion in the ORSA Summary Report and the documents requested by A.M. Best for thorough ratings. If there is an overlap between the two, we use that as evidence to support that rated insurers have a cost advantage in preparing the ORSA Summary Report as they already have collected some of the information. If there is no overlap, and if insurers are required to gather additional information to submit the ORSA Summary Report, then the overall cost of preparing the ORSA Summary Report is higher. To assess whether there is overlap in information, we examine two documents.

For information on the ORSA Summary Report requirements, we examine the ORSA Guidance Manual, July 2014. This manual is a 24-page document produced by the NAIC as a guideline for use by those insurers that are required to submit an ORSA Summary Report. Because the ORSA Summary Report is unique to each insurer, the ORSA Guidance Manual gives guidance to insurers with suggestions for information that may be important for inclusion in the ORSA Summary Report. The requirements outlined in the ORSA Guidance Manual are based on Model #505. The purpose of the ORSA Guidance Manual is to provide assistance to insurers in the reporting of their ORSA, specifically the confidential ORSA Summary Report, which is due yearly to the state insurance commissioner. The ORSA Guidance Manual contains five chapters: an introduction to the manual, including general guidance for insurers; a chapter for each of the three sections of the ORSA Summary Report; and an appendix. Included in Chapter 1, Part C of the ORSA Guidance Manual is an overview of general guidance given to insurers when compiling the ORSA Summary Report. From Chapter 1, Part C of the ORSA Guidance Manual and Chapter 2, Chapter 3 and Chapter 4, we draw information on the suggestions given to insurers in the preparation of the ORSA Summary Report.

The second document we examine is A.M. Best's *Credit Rating Methodology: Global Life and Non-Life Insurance Edition, July 2015.* This 20-page document, produced by A.M. Best, provides a comprehensive explanation of A.M. Best's Credit Ratings methodology These ratings include A.M. Best's Financial Strength, Issuer Credit and Issue Ratings within the insurance industry. In this document, A.M. Best thoroughly describes its interactive credit rating process, including a section that reviews the information requirements requested by A.M. Best for the ratings process. An initial comparison of the two reports shows that the ORSA Summary Report should include an evaluation of the insurer's ERM framework, an assessment of risk exposures, and a group assessment of risk capital and prospective solvency. The three main components of A.M. Best's ratings process include: 1) assessments of an insurer's balance sheet strength; 2) operating performance; and 3) business profile. We compare and contrast those factors that are suggested for inclusion in the ORSA Summary Report with the information requested by A.M. Best in its ratings process to assess the extent to which the information overlaps. This allows us to evaluate whether those insurers that are rated by A.M. Best are currently collecting information that also may be included in the ORSA Summary Report. Table 2 summarizes this comparison.

Section 1 ORSA Summary Report

The purpose of the ORSA is twofold. First, ORSA is implemented to foster an effective level of ERM for all insurers that meet the threshold requirements. Second, the ORSA provides a group-level perspective on risk and capital. The first section of the ORSA Summary Report is designed to focus on the overall risk philosophy and risk culture within the firm. An insurer is required to describe its risk management framework by including in the report: 1) a description of its risk culture and governance; 2) an identification and prioritization of risks; and 3) a formal statement of its risk appetite, tolerances and limits (NAIC, 2014). The insurer also is asked to provide information on risk reporting and communication.

This initial description of the insurer's risk management framework in Section 1 of the ORSA Summary Report is similar to A.M. Best's assessment of an insurer's business profile. Using qualitative and quantitative information provided by the insurer, including any relevant information on ERM strategies, A.M. Best provides an evaluation of the insurer's business profile (A.M. Best, 2015b). "Risk management fundamentals can be found in the strategic decision-making process used by a company to define its business profile, and in the various financial management practices and operating elements of an insurer that dictate the sustainability of its operating performance and, ultimately, its exposure to capital volatility. As such, if a company is practicing sound risk management and executing its strategy effectively, then it will preserve and build its balance sheet strength and perform successfully over the long term" (A.M. Best, 2015b).

Table 2:
Comparison of Reporting Components

ORSA Summary Report	A.M. Best
ORSA Section 1	
Description of the Insurer's ERM Framework	*Business Profile Assessment*
High-level summary of ERM framework principles	Includes assessment of degree of risk inherent in the firm's operations
Risk culture and governance, risk management and controls	Key business profile tests such as management
Risk identification and prioritization, appetite, tolerances and limits	Spread of risk, revenue composition, competitive market position
ORSA Section 2	
Insurer Assessment of Risk Exposures	*Balance Sheet Strength Assessment*
Qualitative and/or quantitative assessments of risk exposure	Measures exposure of surplus to operating and financial practices
Suggested relevant risk categories include underwriting, credit and market risks	Information collected on underwriting, credit and market risks
Consideration of the impact of stresses on capital, risk capital requirements	Assessments of underwriting, operating and asset leverage, capitalization
Regulatory and economic rating agency views of capital requirements	Regulatory and macroeconomic conditions
Evaluate using stress tests or more complex stochastic analyses	Tests include BCAR, analyses of loss reserves, cash flow and liquidity
ORSA Section 3	
Group Assessment of Risk Capital/Prospective Solvency Assessment	*Operating Performance Assessment*
Determine financial resources necessary to support current and future business	Analysis of stability and sustainability of the firm's earnings

Key business profile tests performed by A.M. Best include analyses of the spread of risk, revenue composition, competitive market position, management, insurance market risk and event risk. We will describe each of these business profile tests in detail according to the methodology provided by A.M. Best. The analysis of the spread of risk entails an evaluation of the insurer's book of business by line and in terms of its geographic and product diversification (A.M. Best, 2015b).[10] When A.M. Best evaluates an insurer's revenue composition, it provides a by-line analysis of net premium volume to assess the changes, not only in the amount of business, but also the business type, geographic and product concentration, and volatility of business written by a firm. In the business profile test of competitive market position, A.M. Best provides an analysis of an insurer's operating strategy and competitive advantages by line. This allows for the assessment of an insurer's ability to respond to competitive market challenges, volatility in macroeconomic conditions and regulatory changes. Evaluations of management take into account the underlying principle of trust and fiscal responsibility inherent in the insurance business. A.M. Best gives an analysis of management's ability to incorporate defensible strategic business plans in its qualitative assessment of a firm's management. The analysis of insurance market

10. More detailed definitions are provided in the *Credit Rating Methodology: Global Life and Non-Life Insurance Edition, July 2015* (A.M.Best, 2015b).

risk reflects the potential financial volatility that is both introduced by and associated with the segments of the industry in which the insurer operates. This could be systemic risks such as financial services and health care reform. Finally, event risk analysis takes into account the possibility of exogenous shocks that may affect the firm.

Each of these business profile tests performed by A.M. Best relates back to key principles that are to be incorporated into Section 1 of the ORSA Summary Report. Those key principles are an assessment of the insurer's risk culture and governance, risk identification and prioritization, risk appetite, tolerances and limits, risk management and controls, and risk reporting and communication. The assessment of the insurer's risk culture and governance in the ORSA Summary Report bears similarities to the assessment of management in the A.M. Best Business profile. The description of the insurer's risk culture and governance within the ORSA Summary Report is meant to assess the governance structure of management, with clearly defined roles and responsibilities of management. The assessment of the insurer's risk management and controls within the ORSA Summary Report is meant to assess the ongoing ERM activity within the firm. Similarly, the management business profile test includes an analysis of the experience and operating objectives of the insurer's management team. Therefore, there is some overlap between the two reports.

In the risk identification and prioritization and the risk appetite, tolerances and limits assessments within Section 1 of the ORSA Summary Report, insurers are encouraged to provide a description of how the insurer identifies and prioritizes various risks and provide a formal risk appetite statement of the firm. These assessments are comparable to the A.M. Best analyses for spread of risk, revenue composition and competitive market position. When combined, all of these tests provide a way for A.M. Best to determine the firm's various risk exposures, geographic and line of business concentration, volatility of business, operating strategy, and competitive advantages, all of which could be incorporated into the risk appetite statement of Section 1 of the ORSA Summary Report.

While there is some overlap in the information reported in Section 1 of the ORSA Summary Report and the Business Profile assessment given as part of the rating by A.M. Best, we recognize that there could be significant differences in the depth or extent of reporting by insurers to A.M. Best, especially in the qualitative information that an insurer reports as part of its enterprise risk management strategies.

Section 2 ORSA Summary Report

The section of the ORSA Summary Report that has the most information overlap with the A.M. Best reporting is Section 2, which requires the insurer to assess its risk exposure for each material risk category listed in Section 1 of the ORSA Summary Report. This risk exposure assessment can include both qualitative and quantitative assessments of risk exposure in both normal and stressed environments (NAIC, 2014). Relevant risk categories to be reported in the

ORSA Summary Report may include underwriting, credit, market and operational risks. Section 2 of the ORSA Summary Report should include detailed descriptions of the material and relevant risks as identified by the insurer. For the ORSA Summary Report, the insurer is encouraged to give details on assessment methods used, key assumptions made, relevant risk-mitigation activities and the possible outcomes of any adverse scenarios assessed (NAIC, 2014). The insurer's risk assessment should include a consideration of the impact of the stresses on capital.

Similar to the suggestions for Section 2 of the ORSA Summary Report, A.M. Best's ratings methodology shows that to assess an insurer's financial strength, A.M. Best collects information on risks such as underwriting, credit, market, interest rate and country risks (A.M. Best, 2015b). In assessing the balance sheet strength of an insurer, A.M. Best requests information such as audited financial statements and annual reports for the previous five years. A.M. Best uses this information to conduct analyses that include assessments of underwriting leverage, experience and results, operating performance, liquidity analyses, cash flow, and investment leverage analyses. An insurer's underwriting, financial and asset leverage are used to compare an insurer's adjusted surplus relative to the required capital necessary to support its operating and investment risks in the calculation of Best's Capital Adequacy Ratio (BCAR) (A.M. Best, 2015b).

A comparison of the suggested inclusions in the Section 2 of the ORSA Summary Report and the risk assessment provided by A.M. Best indicates that the information collected for one might be used for the other. The NAIC recommends that the risk assessment for the ORSA Summary Report include the impact of stressors on capital that may require consideration of risk capital requirements and available capital, as well as regulatory, economic rating agency and/or other views of capital requirements (NAIC, 2014). Similarly, A.M. Best includes consideration for underwriting leverage, capitalization, operating and asset leverage. A.M. Best also includes an assessment of regulatory and macroeconomic factors, such as interest rate fluctuations, inflationary levels and regulatory changes in their credit ratings.

Section 3 ORSA Summary Report

Section 3 of the ORSA Summary Report entails two parts: 1) a group assessment of risk capital; and 2) a prospective solvency assessment. "This section is intended to assist the commissioner in understanding the insurer's capital adequacy in relation to its aggregate risk profiles" (NAIC, 2014). A.M. Best describes its approach for the assignment of credit ratings as an examination from "both the top down and the bottom up" (A.M. Best, 2015b). Similar to section 3 of the ORSA Summary Report, this "top-down" analysis includes analyzing the exposure of risk to the insurer made by the parent or holding company and the "potential strain on the operating entity from debt-servicing requirements related to the parent's borrowings" (A.M. Best, 2015b).

In the first part of Section 3 of the ORSA Summary Report, the group assessment of risk capital, the insurer provides a description of "how the insurer combines the qualitative elements of its risk management policy with the quantitative measures of risk exposure in determining the level of financial resources needed to manage its current business and over a long-term cycle" (NAIC, 2014). Aggregate available capital is compared against the various risks that may have an adverse effect on the firm. This assessment is intended to inform the state insurance commissioner of the insurer's capital adequacy in relation to its risk profiles. Similar to the other sections of the ORSA Summary Report, there is no definitive methodology to this analysis. It can be done across varying time horizons using quantitative methods such as deterministic stress tests, stochastic modeling or factor-based analysis. In this section, aggregate available capital should be compared against the various risks that may affect the enterprise.

The second part of Section 3 of the ORSA Summary Report is the prospective solvency assessment where insurers undergo a forecasting process that considers any material and relevant changes to the insurer's internal operations and external business environment. Through this part of the overall solvency assessment, the insurer should convey that it has the necessary capital and other financial resources to fulfill its projected operations plans with its stated risk appetite (NAIC, 2014).

Matching the two reports, we find that Section 3 of the ORSA Summary Report is best matched with A.M. Best's analysis of an insurer's operating performance. A.M. Best's analysis of operating performance reflects the ongoing stability of the insurer's earnings sources and the sustainability in relation to the insurer's liabilities. Section 3 of the ORSA Summary Report requires insurers to assess together the qualitative elements of its risk management policies with the quantitative measures of risk exposure. This allows the insurer to determine the financial resources necessary to manage current and longer-term business. In its assessment of an insurer's ability to meet its current and ongoing obligations, A.M. Best considers factors of financial strength and financial flexibility through the analysis of such documents as an insurer's balance sheet and income statement. A.M. Best also takes into account operating performance and business profile as indicators of long-term financial stability (A.M. Best, 2015b). We conclude that there is overlap in the guidelines given for Section 3 of the ORSA Summary Report and the assessment of the firm's operating performance offered by A.M. Best.

While we do find similarities between the two reports, there exist many differences as well. We acknowledge that although rated insurers may have a cost advantage in collecting information for the ORSA Summary Report, since these insurers collect some similar information for A.M. Best, there may remain materials and reports necessary for the ORSA Summary Report that require additional time and effort for the insurer. Therefore, preparation of the ORSA Summary Report may be a significant cost burden for insurers subject to the Model Act, regardless of whether or not the insurer is rated by A.M. Best.

Analysis

The data for our analysis come from the NAIC. We analyze P/C insurers in 2015 to obtain the number of insurers affected by the ORSA Model Act, as well the percentage of those firms already rated by A.M. Best. We analyze individual insurer-level data, including firm characteristics such as the state in which an insurance company is domiciled, organizational form and group information, when applicable.[11] Because the ORSA financial threshold is set according to direct premiums written and total assumed premiums, we include insurer financial data such as individual and group direct premiums written, individual direct premiums written in personal lines of business and commercial lines of business, and total assumed premiums. Finally, we include RBC ratio information for each insurer since a firm also may be required to submit an ORSA Summary Report based on its RBC level. We screen the sample for insurers with negative or missing premiums for the year.

First, we assess the number of insurers subject to ORSA, as well as the percentage of premium that these insurers write in ORSA states. Based on the criteria outlined above, we categorize individual insurers that are subject to ORSA based on the state where the individual insurer is domiciled. Of the 2,454 insurers that wrote premiums in 2015, 2,150 individual P/C insurers were domiciled in states that have adopted the ORSA Model Act. Thus, the operating insurers that were domiciled in states that have adopted the ORSA Model Act comprises 88% of all insurers that wrote direct premiums and/or total assumed premium in the U.S. in 2015. If all states were to adopt the Model Act under the current guidelines, an additional 45 individual insurers would be subject to the Model Act, representing a total of 78% of all premiums written in the U.S. Insurers operating in states that adopted the ORSA Model Act wrote 72% of all premiums written in the U.S. in 2015.

For the remaining analysis, we drop from the sample any insurer not domiciled in one of the 40y states that have adopted the ORSA Model Act. We consider three different thresholds to determine whether a firm is subject to the Model Act.[12] Those three thresholds to determine whether a firm is subject to ORSA are: 1) the insurer writes more than $500 million in direct premiums written or total assumed premium; 2) the insurer is part of a group that writes more than $1 billion in direct premiums written or total assumed premium; or 3) the insurer is at Company Action Level RBC, where its RBC is at or below 200%.[13]

11. While we do not evaluate insurers at the group level, we collect group premium data to analyze whether an individual insurer would be categorized as subject to ORSA based on group financials.

12. Insurers are required to file no less than annually to the lead state insurance commissioner if the insurer is a member of a group and, upon request, to the domiciliary state insurance regulator.

13. Company Action Level is triggered if the insurer's capitalization level falls between 150% and 200% of the computed minimum RBC amount. For our study, any insurer that falls at

Table 3, Part 1:
Individual Insurers Descriptive Statistics
Alabama – Minnesota

		Subject to ORSA by:				
State	**Domiciled[15]**	**$500 million[16]**	**$1 billion[17]**	**RBC[18]**	**Overall**	**Subject to ORSA[19]**
Alabama	16	1	1	0	2	13%
Alaska	5	0	0	0	0	0%
Arizona	47	3	0	2	4	9%
Arkansas	10	0	0	3	3	30%
California	94	18	5	9	30	32%
Colorado	11	1	0	1	2	18%
Connecticut	64	25	3	1	29	45%
Delaware	94	23	8	21	41	44%
Florida	121	10	1	17	27	22%
Georgia	32	1	0	3	4	13%
Hawaii	31	0	0	2	2	6%
Illinois	177	44	6	24	69	39%
Indiana	63	16	2	2	20	32%
Iowa	68	13	2	0	15	22%
Kansas	23	1	0	2	3	13%
Kentucky	10	1	0	1	2	20%
Louisiana	29	0	0	3	3	10%
Maine	9	0	0	0	0	0%
Michigan	69	16	3	3	21	30%
Minnesota	36	4	1	4	9	25%

In Table 3, we present descriptive statistics related to individual P/C insurers domiciled in states where insurers are subject to the Model Act. We find that of the 2,166 individual insurers domiciled in states that have adopted the Model Act, 616 are subject to the Model Act through any one of the three thresholds defined above. Three hundred forty-two individual insurers are subject to the Model Act by the individual insurer premium threshold, and 73 individual insurers are subject by the group premium threshold. Two hundred forty-four insurers are subject to the Model Act by the RBC threshold.

As seen in Table 3, there are six states where insurers are subject to the Model Act only by the RBC ratio threshold. These states are Arkansas, Hawaii, Louisiana, Montana, Nevada and Oklahoma.[14] This finding suggests that although

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or below 200% of the computed minimum RBC amount is considered subject to ORSA by the RBC trigger.

14. At the Company Action Level of RBC, the insurer is required to submit a comprehensive financial plan to the state insurance regulator containing proposals to correct the insurer's financial problems.

15. Number of operating insurers domiciled in each state subject to ORSA.

16. The insurer writes more than $500 million in direct premiums written or total assumed premium.

the ORSA Model Act is targeted at larger firms, it is capturing smaller, riskier firms with the RBC threshold.

Table 3, Part 2:
Individual Insurers Descriptive Statistics
Missouri – Wyoming

	Subject to ORSA by:					
State	Domiciled[15]	$500 million[15]	$1 billion[17]	RBC[18]	Overall	Subject to ORSA[19]
Missouri	45	8	2	9	15	33%
Montana	16	0	0	7	7	44%
Nebraska	28	6	1	0	7	25%
Nevada	25	0	0	11	11	44%
New Hampshire	45	11	3	2	14	31%
New Jersey	63	7	2	6	14	22%
New York	148	17	8	26	45	30%
North Dakota	13	3	0	1	3	23%
Ohio	125	32	6	6	43	34%
Oklahoma	30	0	0	3	3	10%
Oregon	18	2	0	0	2	11%
Pennsylvania	167	26	6	23	50	30%
Rhode Island	15	6	3	0	9	60%
Tennessee	19	2	1	2	5	26%
Texas	166	22	5	16	42	25%
Vermont	97	1	0	30	31	32%
Virginia	19	1	0	2	2	11%
Washington	8	1	0	0	1	13%
Wisconsin	108	20	4	2	26	24%
Wyoming	2	0	0	0	0	0%
Total	**2166**	**342**	**73**	**244**	**616**	

As seen in Table 3, the percentage of insurers subject to the Model Act is relatively small. In all but one state, insurers subject to the Model Act comprise less than 50% of total insurers domiciled in that state. In 29 of the 40 states that have adopted the Model Act, insurers subject to the Model Act comprise less than 30% of total individual insurers domiciled in that state. However, given that many of the insurers subject to ORSA are very large, we conduct a further analysis to determine the percentage of premium written subject to ORSA.

17. The insurer is part of a group that writes more than $1 billion in direct premiums written or total assumed premium.

18. The insurer is at Company Action Level RBC, where its RBC is at or below 200%.

19. Percentage of insurers subject to ORSA by any of the three thresholds to total number of operating insurers domiciled in that state.

Table 4:
Descriptive Statistics of Insurers Subject to ORSA

State[20]	Domiciled	Subject to ORSA[21]	% Premium ORSA Firms[22]	% Personal DPW[23]	% Commercial DPW[24]
Alabama	16	2	60%	57%	3%
Arizona	47	4	39%	12%	27%
Arkansas	10	3	37%	10%	28%
California	94	30	86%	65%	21%
Colorado	11	2	71%	0%	71%
Connecticut	64	29	96%	29%	67%
Delaware	94	41	83%	5%	76%
Florida	121	27	49%	24%	24%
Georgia	32	4	30%	5%	25%
Hawaii	31	2	1%	0%	1%
Illinois	177	69	94%	73%	20%
Indiana	63	20	82%	28%	53%
Iowa	68	15	60%	27%	33%
Kansas	23	3	44%	43%	2%
Kentucky	10	2	39%	34%	5%
Louisiana	29	3	8%	7%	2%
Michigan	69	21	72%	43%	29%
Minnesota	36	9	68%	3%	56%
Missouri	45	15	70%	30%	39%
Montana	16	7	37%	0%	37%
Nebraska	28	7	91%	67%	24%
Nevada	25	11	12%	0%	11%
New Hampshire	45	14	82%	18%	64%
New Jersey	63	14	66%	29%	37%
New York	148	45	80%	4%	73%
North Dakota	13	3	67%	17%	50%
Ohio	125	43	88%	56%	32%
Oklahoma	30	3	2%	1%	1%
Oregon	18	2	29%	11%	18%
Pennsylvania	167	50	86%	19%	65%
Rhode Island	15	9	93%	53%	40%
Tennessee	19	5	86%	78%	8%
Texas	166	42	79%	58%	20%
Vermont	97	31	33%	0%	33%
Virginia	19	2	30%	0%	30%
Washington	8	1	27%	25%	2%
Wisconsin	108	26	85%	55%	29%
Total	**2150**	**616**			

20. Alaska, Maine and Wyoming dropped from the sample for this analysis. There are no firms subject to the Model Act in those states.

21. Number of operating insurers subject to the Model Act by any of the three thresholds.

22. Percentage of direct premiums written by operating insurers subject to ORSA to total premiums written by insurers operating in the state.

23. Percentage of direct premiums written in personal lines by operating insurers subject to ORSA.

24. Percentage of direct premiums written in commercial lines by operating insurers subject to ORSA.

Of the insurers that are subject to the Model Act by the financial threshold, we assess the percentage of direct premiums written or total assumed premium by these insurers in states that have adopted the Model Act. At this stage of the analysis, we drop from the sample the states where no insurers are subject to the Model Act based on the ORSA thresholds. Those states are Alaska, Maine and Wyoming. We posit that although the percentage of insurers subject to ORSA is small, those insurers will write the majority of the premiums in the state. In Table 4, we present the results from this analysis. Of the 37 states remaining in our sample, on average, 29% of insurers domiciled are subject to the Model Act. However, on average, individual insurers that are subject to the Model Act write 59% of all direct premiums written within their state of domicile. When we exclude from the sample those states that only have insurers subject to the Model Act through the RBC threshold, individual insurers subject to the Model Act write 69% of all direct premiums written in the state. Of the 31 states where insurers are subject to the Model Act by either of the financial thresholds, 22 of the states have insurers domiciled writing more than 50% of the direct premiums written, with 14 of those states having insurers that write more than 75% of the total direct premiums written in the state. Therefore, even though the percentage of insurers subject to the Model Act represent less than one-third total insurers domiciled in a state, those insurers subject to the Model Act write the majority of the premiums in a state.

Next, we assess the percentage of direct premiums written by insurers subject to the Model Act in personal and commercial lines. In this portion of the analysis, we observe substantial variation within states. Of the 31 states where insurers are subject to the Model Act based on either of the financial thresholds, 13 states have insurers subject to the Model Act that write less than 10% of the direct premiums written in personal lines. In contrast, of those 31 states, 12 states have insurers subject to the Model Act that write more than one-third of the direct premiums written in personal lines. We find similarly varying results in commercial lines. We observe a range where eight states have insurers that write less than 10% of the total state business written in commercial lines. However, in comparison, we find that in 15 states, insurers subject to the Model Act write more than 51% of the business written in commercial lines.

The key portion of our analysis is the assessment of the number of insurers that are both subject to the Model Act and rated by A.M. Best. We seek to examine the extent to which there is an overlap of the information already being reported to A.M. Best and the information needed to compile the ORSA Summary Report. In the comparison section of this paper, we examined the components of the ORSA Summary Report and offered a comparison to the components of the A.M. Best credit ratings methodology. We found that there is overlap in the information collected from and requested by A.M. Best, for A.M. Best's rating methodology and the information required to be reported in the ORSA Summary Report.

Table 5:
Firms Subject to ORSA and Rated by A.M. Best

State[25]	Subject to ORSA and Rated	% Subject to ORSA and Rated[26]	% Premium Subject to ORSA and Rated[27]
Alabama	2	100%	60%
Arizona	3	75%	39%
Arkansas	1	33%	30%
California	23	77%	46%
Colorado	1	50%	71%
Connecticut	26	90%	59%
Delaware	29	71%	43%
Florida	11	41%	33%
Georgia	3	75%	30%
Illinois	56	81%	82%
Indiana	16	80%	49%
Iowa	15	100%	60%
Kansas	1	33%	42%
Kentucky	1	50%	37%
Michigan	19	90%	65%
Minnesota	5	56%	68%
Missouri	11	73%	70%
Nebraska	6	86%	9%
Nevada	1	9%	1%
New Hampshire	11	79%	38%
New Jersey	11	79%	65%
New York	26	58%	45%
North Dakota	3	100%	67%
Ohio	40	93%	61%
Oklahoma	1	33%	1%
Oregon	1	50%	11%
Pennsylvania	34	68%	50%
Rhode Island	8	89%	73%
Tennessee	3	60%	85%
Texas	24	57%	66%
Vermont	3	10%	5%
Virginia	1	50%	29%
Washington	1	100%	27%
Wisconsin	21	81%	60%
Total	**418**		

25. Hawaii, Louisiana and Montana have been dropped from this portion of the analysis because there are no insurers rated by A.M. Best and subject to ORSA in those states.

26. Percentage of number of insurers subject to ORSA and rated by A.M.Best to total insurers subject to ORSA.

27. Percentage of premiums written by insurers subject to ORSA and rated by A.M. Best to total premiums written in the state.

In Table 5, we present the number of individual insurers subject to ORSA in the state and the percentage of those insurers that are rated by A.M. Best. On average, 69% of insurers that are subject to the Model Act also were rated by A.M. Best in 2015. There are a total of 616 insurers that are subject to the Model Act through any one of the three thresholds. Of those, 418 are rated by A.M. Best. Those insurers that are subject to the Model Act and rated by A.M. Best wrote 46% of the premiums in those states that have adopted the Model Act. The Model Act appears to be capturing larger insurers that are rated by A.M. Best, and the overlap of information between the collection of information for credit ratings and the information needed for the ORSA Summary Report may be significant.

Conclusion

A primary goal of state insurance regulators is to monitor insurer solvency. The NAIC's ORSA Model Act requires insurers in states subject to ORSA to perform a yearly self-evaluation of its risks and capital. Through the ORSA Summary Report, the insurer identifies and evaluates all risks and exposures and risk management framework in the insurer. This is done at the individual and group level of the insurer for all insurers in states that have adopted the Model Act. Ratings agencies have historically collected information on risks, exposures and capital management from insurers for the purposes of evaluating an insurer's rating. The purpose of our analysis is to provide a comparison of factors related to information collected by A.M. Best for credit ratings and the requirements of the ORSA Summary Report. We find that 63% of insurers subject to the ORSA Model Act also are rated by A.M. Best. The implication is that some of the information required of the ORSA Summary Report already is being collected by insurers that are rated by A.M. Best.

We recognize that although there is extensive overlap between the two, we cannot ignore the impact that ORSA will have on insurers in terms of the costs and time spent preparing the ORSA Summary Report. The challenges for insurers in preparing the ORSA Summary Report could be extensive depending on the complexity of the insurer's operations and the current operations of its existing ERM framework. Although we find overlap in information for rated insurance firms, there could remain substantial costs incurred by insurers in the preparation of the ORSA Summary Report, especially for smaller insurers already at risk based on RBC levels. Those costs likely will be calculated into premiums and ultimately borne by policyholders. The calculation of such costs is beyond the scope of this work, but we acknowledge that the introduction of ORSA reporting most likely represents a costly new reporting requirement for insurers.

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