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What It Means to be Mutual

Lawrence S. Powell, Ph.D.
Executive Director

Alabama Center for Insurance
Information and Research
University of Alabama

www.namic.org

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EXECUTIVE SUMMARY

Mutual insurance companies represent a large and important segment of the insurance industry. They account for just under half of the total U.S. property/casualty (PC) insurance market. In some states and lines of insurance they insure well over half of the total market. In addition, they insure at least 10 percent of each reported line of insurance business and at least 25 percent of premiums earned in each state.

The defining difference between mutual insurers and stock insurers is that stock insurers' primary purpose is to provide returns to shareholders, while mutual insurers' purpose is to provide value to policyholders. This difference is the result of distinct organizational forms. Mutual companies do not have shareholders – i.e., do not have owners in the traditional sense of corporate stock/equity ownership. Instead, in addition to being customers, mutual policyholders possess distinct governance and other control rights in the company.

This fundamental difference across organizational forms creates potential differences in access to capital as well as incentive conflicts. Existence of these conflicts is well-documented in both theoretical and empirical academic research studies. This manuscript provides a detailed review of existing research, as well as pointed commentary to maintain appropriate perspective about the differences between academic research findings and practitioner decisions.

Recognizing these conflicts of interest, mutual insurers tend to excel in lines of business that minimize the potential effects of such conflicts, or they implement internal controls to mitigate these conflicts. For example, mutual policyholders have limited ability to control managers. However, they appoint more outside directors than do stock insurers and so further mitigate the potential conflicts.

Knowledge of these potential incentive conflicts is an important tool for insurance company leaders when developing forward-looking strategy. With deep understanding of a company's strengths and weaknesses, executives and board members can identify opportunities that do not fit the standard template for mutual insurance companies. For example, if a mutual company's board members are extremely knowledgeable about operations and they have strong rapport and effective communication with senior executives the company might be well-suited to offer lines of insurance more typically associated with stock insurance companies.

Several academic studies try to compare the performance and efficiency of mutual insurers to stock insurers. However, many of these studies assume that mutual and stock insurers have identical goals. Cummins *et al.* (1999) show that mutual insurers and stock insurers produce significantly different sets of outputs. The authors also show that each organizational form is more efficient than the other in its chosen lines of insurance production.

This paper argues that customer satisfaction is a more appropriate measure of mutual insurance companies' performance primarily by virtue of their primary purpose – providing value to policyholders (and in the absence of a competing purpose of providing financial returns to stockholders). In recent customer satisfaction surveys by J.D. Power, mutual insurers outperform stock insurers in each category.

INTRODUCTION

Purpose is the defining characteristic of any company. A mutual insurance company's sole purpose is to serve its policyholders. If a mutual insurer receives more in premiums than it pays in losses and expenses, it can return dollars to policyholders as policyholder dividends. Alternatively, the fundamental purpose of a stock insurance company is to provide returns to equity shareholders. If a stock insurer makes a profit in a given year, returns belong to the shareholders. This fundamental difference between the two most common organizational forms leads to a number of important differences in operational focus and outcomes.

Adam Smith[1] and Charles Darwin[2] might agree that only one type of insurance company (the best type) should survive in a competitive market. However, mutual insurers and stock insurers have coexisted for more than 300 years. In the last few decades, academic researchers have addressed this puzzle with theoretical and empirical analyses. While results are not uniform across all studies, the large body of research in this area yields several consistent results. Research confirms that mutual insurance companies and stock insurance companies are not the same. Among other things, they differ with respect to the lines of business and geographic areas where they underwrite insurance, executive compensation, capitalization, and risk taking.

The purpose of this manuscript is to describe how mutual insurance companies differ from other insurance companies. This paper reviews numerous peer-reviewed academic journal articles and books, and insurance industry data from the National Association of Insurance Commissioners (NAIC) database.[3] On balance, several distinct mutual-insurer traits appear consistently in this analysis. From the consumer's perspective, many such traits are good; however, other traits suggest areas in which mutual insurers should – and often do – exercise caution and develop internal controls. As such, this study should be useful to leadership across the mutual insurance industry. It may also help to inform and guide regulators and consumers as they navigate the complexity of risk transfer.

BRIEF HISTORY OF MODERN INSURERS[4]

Modern fire insurance began in London, England, following the Great Fire of London in 1666. The first operational insurer was the Insurance Office for Houses, a stock company located on the Royal Exchange and founded in 1681. Fifteen years later, Contributors for Insuring Houses, Chambers or Rooms from Loss by Fire by Amicable Contribution[5] became the first mutual fire insurance company.

The first insurers in the United States were mutual companies, created by farmers and property owners with common interests looking to share risk within a large group. The earliest known U.S. insurer was the Friendly Society for Mutual Insurance of Houses Against Fire. The Friendly Society began operations in 1736 in Charles Town, South Carolina, but it failed four years later when the Great Fire of 1740 destroyed more than 300 houses. In 1752, Benjamin Franklin and

[1] An Inquiry into the Nature and Causes of the Wealth of Nations, 1776.
[2] On the Origin of Species by Means of Natural Selection, 1859.
[3] NAIC data are used with permission. The NAIC does not endorse conclusions gleaned from its data.
[4] The information in this section is sourced from Khalamayzer and Hemenway (2012), Bainbridge (1952), and the websites of surviving insurers.
[5] The company was later renamed Hand-in-Hand Fire and Life Insurance Society.

colleagues founded The Philadelphia Contributionship for the Insurance of Houses from Loss by Fire under the mutual principle "whereby every man might help another without any disservice to himself." The Philadelphia Contributionship continues operations today as the oldest mutual insurer in the U.S. The first U.S. stock insurance company was the Insurance Company of North America (INA), formed in 1792 in Philadelphia.[6]

While fire insurance continued to spread throughout New England and down the eastern seaboard over the next several decades in a mix of mutual and stock companies, perhaps the largest catalyst for mutual insurance was the Homestead Act of 1862. It gave 160 acres of western farmland to any citizen willing to claim it. As the population moved west following the Civil War, homesteaders settling new farmland did not trust business and financial entities on the northeastern coast. These included the "trust" monopolies for railroad transportation, machinery, and banking, as well as the fire insurance industry. This sentiment led farmers to create their own social and political organizations, often called "Granges." The Grange in each state lobbied for laws allowing formation of farm mutual fire insurance companies, and it often served as an organizational foundation for the state's first farm mutual insurers. This early activity established the farm mutual movement in which approximately 1,100 county farm mutual insurance companies were formed between 1870 and 1900. The number of farm mutual companies grew through the first half of the 1920s, peaking near 2,000 in 1925. In the next several decades, as farms became larger and the number of farmers decreased, these companies consolidated and began to offer new insurance products. This consolidation of companies and expansion of business lines gave us many of the mutual companies whose names we recognize today.

OWNERSHIP AND CONTROL OF MUTUAL INSURERS

The profits of mutual insurers accrue to the benefit of policyholders; however, it is important to specify the limitations of ownership. Collectively, policyholders own mutual insurance companies. This is clear by statute and case law. For example, when a mutual insurance company is converted into a publicly traded (or "stock") insurance company, policyholders must approve the conversion. In some instances they are compensated directly or given opportunities to purchase equity of the resulting stock insurer. Moreover, there is no party other than policyholders with a plausible claim to ownership. The difference between ownership rights of policyholders and those of shareholders is that mutual ownership rights can only be exercised collectively. For example, an individual mutual insurance policyholder cannot sell her interest in the company by herself. However, if the company demutualizes or ceases operations, the policyholders may be compensated collectively. In contrast, a shareholder may buy and sell shares as she pleases.

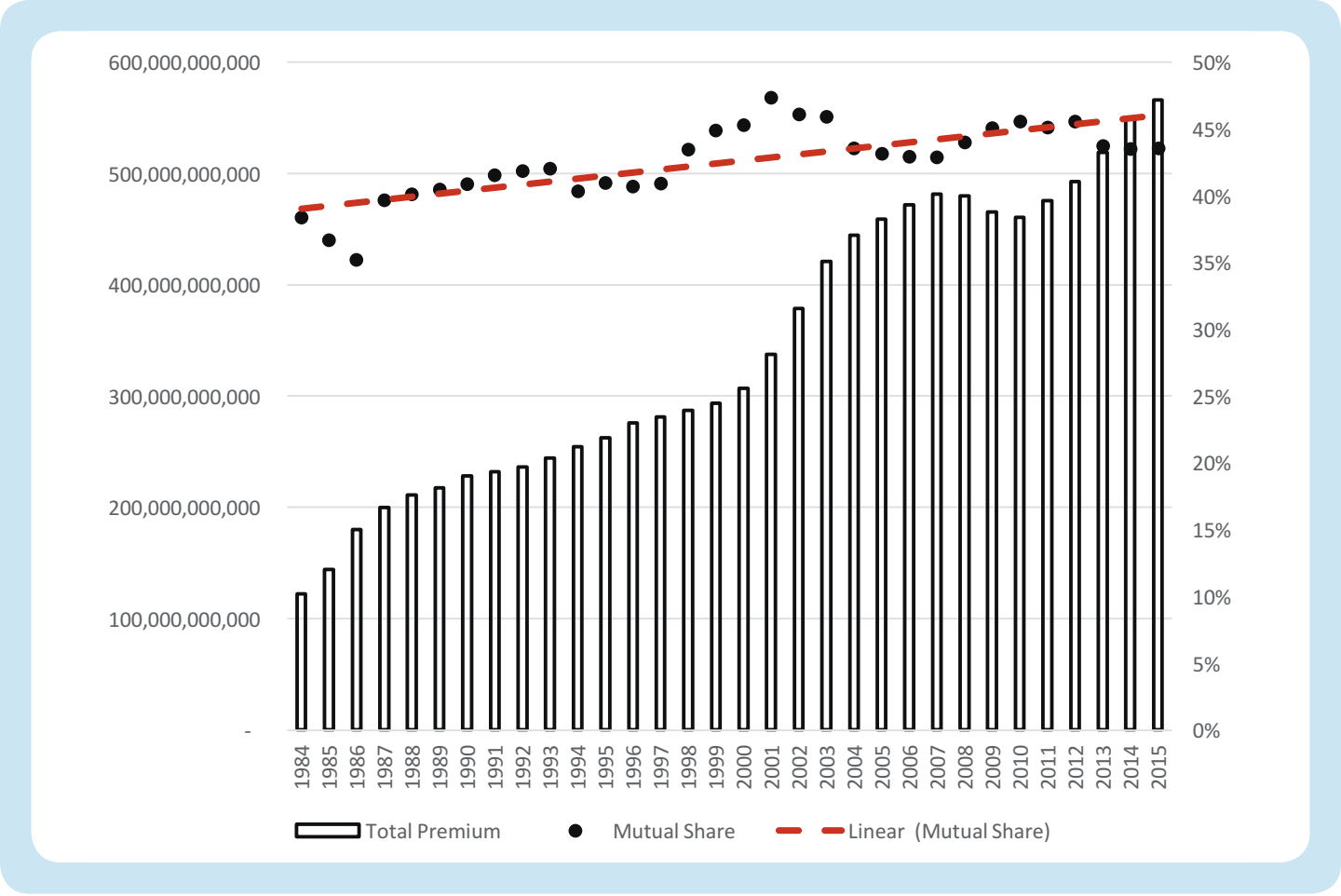
[6] Following a series of mergers and acquisitions, the remnants of what was INA currently operates as a subsidiary of ACE Group.

OVERVIEW OF MUTUAL[7] INSURERS' PRESENCE IN THE MARKET

In 2015, 868 mutual insurance companies underwrote $256 billion in property/casualty (PC) insurance premiums. This is 38 percent of all active PC insurance companies and 44 percent of all PC premiums in the United States.[8]

Over the last few decades, the share of total premiums earned by mutual insurance companies has increased. Figure 1 displays the percentage of total premiums earned by mutual insurers from 1984 through 2015. While there is variation from year to year, the overall 32-year trend is increasing from 38 percent in 1984 to 44 percent in 2015. The steady increase in mutual-insurer market share suggests that mutual insurers play an increasingly important role in insurance markets.

Figure 1: Mutual Premium Share, 1984 – 2015



Source: NAIC InfoPro Database, 1984 – 2015

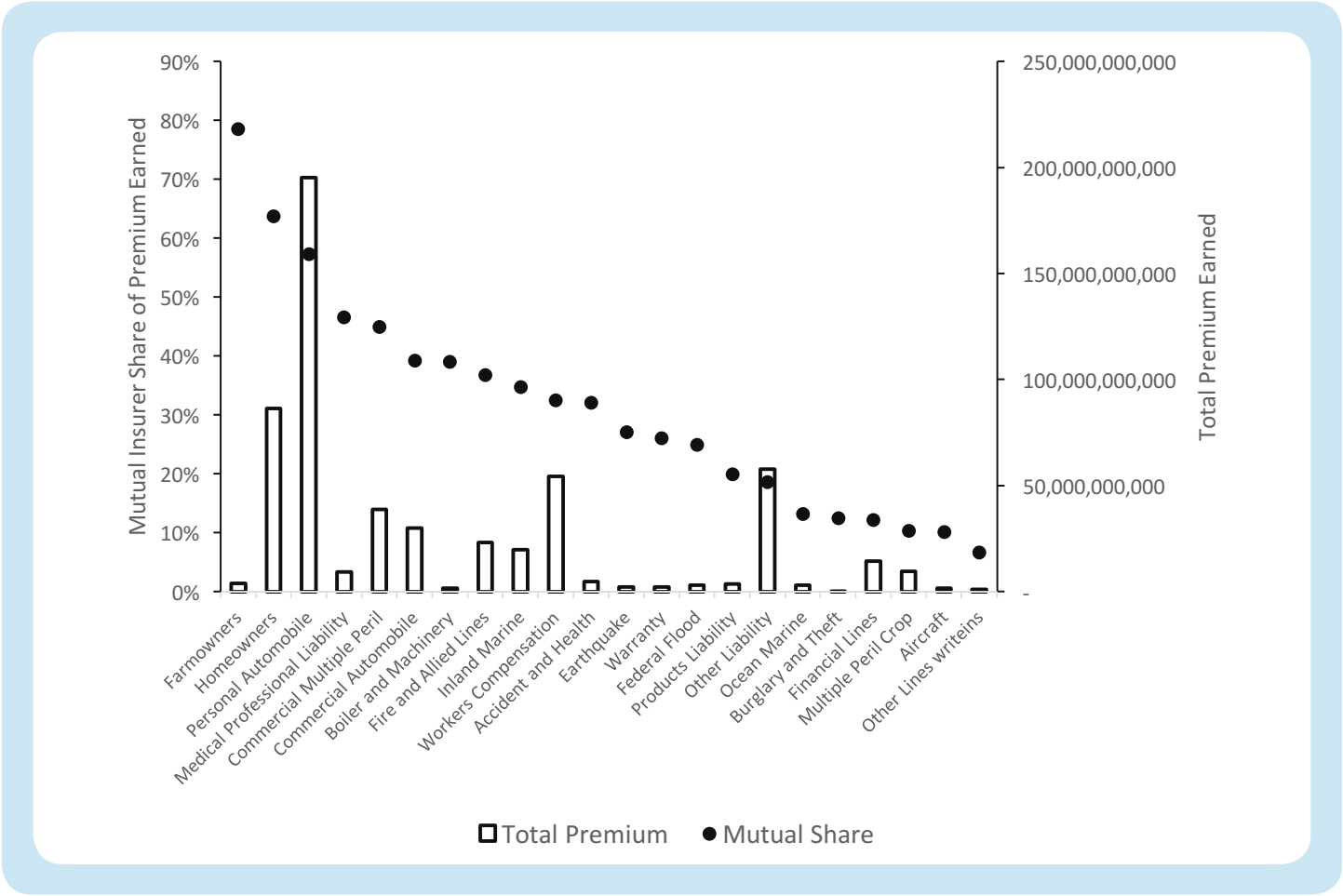
[7] Throughout this manuscript, mutual insurers are defined as those ultimately owned by and managed for the benefit of policyholders. These include mutual insurers, reciprocal exchanges, and stock companies owned by a mutual or reciprocal. Because they are not managed for the benefit of policyholders, so called "county mutual" insurers owned by stock insurance groups in Texas are not counted as mutual insurers. Association-owned stock insurers, such as medical professional liability insurers owned by a state medical society, are expected to behave similar to mutual insurers. Unfortunately, these data do not identify such insurers; therefore, they are classified as stock insurers.

[8] If affiliated groups of insurance companies are counted as single entities, there are 392 mutual insurers and 669 stock insurers.

Figure 2 shows the percentage of premium earned by mutual insurers across lines of insurance. The line in which mutuals have the largest share of earned premium is farmowners coverage, with 79 percent. Perhaps this represents the mutual insurance industry's roots in farm mutual insurance. In the two largest lines of PC insurance, personal automobile and homeowners, mutual companies earned 57 percent and 64 percent of premiums, respectively. At the other end of the spectrum, mutual insurers write only 12 percent of the financial lines and 10 percent of aircraft coverage.

This categorization of premium by line and organizational form generally follows some of the hypotheses proposed to explain the existence of multiple insurance company forms; however, the alignment is far from perfect, and some of these hypotheses are at odds with each other. Therefore, it is clear that generalizations alone are insufficient to explain a complex industry. In fact, a recent A.M. Best Report (A.M. Best, 2016) asserts that mutual PC insurers have been trending toward commercial lines underwriting to achieve product diversification and support cautious growth strategies.

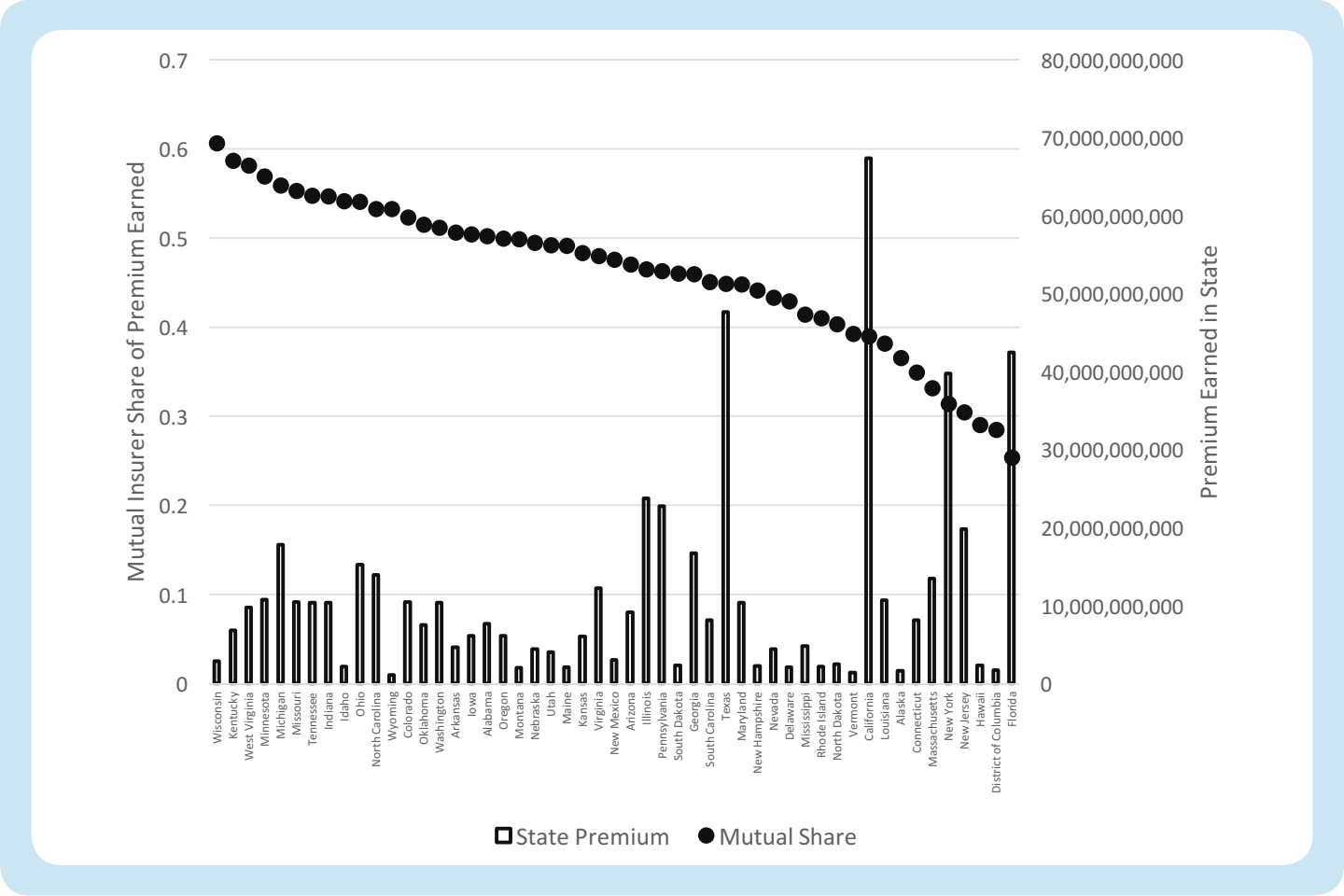
Figure 2: Mutual Insurer Share of Premium Earned by Line of Business, 2015



Source: NAIC InfoPro Database, 2015

Figure 3 presents the share of mutual-company premium across states. Wisconsin leads all states with 62 percent of premium earned by mutual insurers, while Florida brings up the end at 27 percent. There are several explanations for the distribution of mutual insurance across states, none of them mutually exclusive. Mutual insurers could have more market share where they originally formed, or the distribution across states could represent differences in the industries driving gross state product and earnings by state.

Figure 3: Mutual Insurer Share of Premium Earned by State, 2015



Source: NAIC InfoPro Database, 2015

DIFFERENCES BETWEEN MUTUAL AND STOCK INSURERS

As noted above, the defining difference between mutual insurers and stock insurers is that mutual insurers do not have shareholders. This defining difference leads to several operational differences between the two organizational forms. The first resulting difference is in access to capital. The remaining characteristics arise from incentive conflicts. While the latter are more subtle than the former, they are no less important.

Access to Capital

A stock insurer may raise capital by issuing stock to shareholders. In its purest form, a mutual insurer cannot issue stock. Indeed, nearly all of the mutual insurance companies that have converted their charters to become stock insurers have cited access to capital as the primary motivation.[9] This is not to say that mutual insurers cannot access capital. A common source of capital for stock and mutual insurers alike is to cede reinsurance. By ceding a portion of premiums, they transfer a portion of liabilities to another insurer's balance sheet. Therefore, reinsurance cession has the same effect as raising capital by other means. A.M. Best (2016) notes that "mutual insurers maintain comprehensive reinsurance structures to mitigate catastrophic weather events."

Mutual insurers can also issue debt or equity from a mutual holding company or they may issue surplus notes. A surplus note is a debt instrument that counts as surplus under statutory accounting principles on an insurer's balance sheet. It is allowed to serve as surplus because the debt is subordinated to the interest of policyholders. Specifically, the insurer is not allowed to repay the note without regulatory approval. Regulators will not approve repayment unless it can be made without jeopardizing the insurer's ability to pay claims. However, these instruments are novel to the last three decades, postdating many of the academic studies on topic. In addition, both methods of accessing external capital involve regulatory constraints that may exceed those placed on stock insurers' issuance of common equity.

Incentive Conflicts

Incentive conflicts receive more attention than access to capital in academic studies. These conflicts are rich, complex, and sufficiently ambiguous to support a broad set of expectations and empirical results.

Standard economic models assuming rational people, identical goods, and perfect information struggle to permit existence of more than one efficient corporate form. Economist and Nobel Laureate Ronald Coase put forth a theory that in the absence of contracting costs corporate form is irrelevant.[10] Therefore, the purpose of corporate organizational structures is to address contracting costs manifest in information problems and incentive conflicts.

Within this "Coasean" construct, many scholars – beginning with Mayers and Smith (1981) – have attached a "positive theory" to insurance operations.[11] Before Professors Mayers and Smith published their initial work on insurance company organization, the academic treatment of insurance was normative, assuming widespread market failure and attendant heavy-handed regulation were the primary forces at work in this industry.

[9] See Mayers and Smith, 2002 and Viswanathan and Cummins, 2003.
[10] See Coase (1960).
[11] Positive theory seeks to explain economic phenomena objectively with facts and evidence. In contrast, normative theory expresses value judgments about subjective economic "fairness."

A number of academic articles test hypotheses about differences between mutual insurers and stock insurers. Most of these hypotheses are framed in what economists call Agency Theory.[12] Agency Theory is the study of incentive conflicts and information discrepancies between principals and agents, or more generally, conflicts due to separation of ownership and control of a firm. Such conflicts occur whenever a firm is managed by someone other than the owner.

Within an insurance firm, the parties to an agreement include owners, managers, and policyholders. The potential conflicts between these parties are largely intuitive, but for our purposes, it is important to explicitly lay them out. Figure 4 presents an overview of the primary incentive conflicts.

In a stock insurance company, owners are the shareholders of the firm. In many cases, these shareholders own diversified portfolios of securities; therefore, they benefit from taking additional risk in search of returns. Stock insurance companies can increase risk and return by paying dividends to shareholders, leaving inadequate reserves and surplus to protect policyholders. Several authors[13] note that this risk increases with the duration of a given contract.[14] In a mutual insurance company, the Owner – Policyholder conflict is eliminated by combining the two groups. Smith and Stutzer (1990, 1995) and Laux and Muermann (2010) propose another twist on the Owner – Policyholder conflict. Their theories suggest that risk sharing in mutual insurers (through participating policies) leads to moral hazard and adverse selection against stock insurers. In other words, people who are less likely to have losses are more likely to buy insurance from mutual insurance companies to take advantage of participation. However, empirical evidence supporting these theories is very limited.[15]

Figure 4: Overview of Incentive Conflicts

	Mutual Insurer	Stock Insurer
Owner – Policyholder	Parties are merged, removing this conflict.	Conflict potentially leads to increased monitoring costs, opportunity costs, and residual losses.
Owner – Manager	Conflict exacerbated by limited ability of owners to control managers. Potentially leads to increases in monitoring costs and/or residual losses via perquisite consumption.	Conflict can be mitigated using equity-based compensation systems.

[12] Jensen and Meckling, (1976) pioneers the field of Agency Theory in the context of banks and credit unions.
[13] Mayers and Smith, 1981; Hansmann, 1985; Viswanathan and Cummins, 2003.
[14] For example, a liability insurance contract might have a 10-year claim tail. The only time when policyholders can effectively consider the insurer's financial strength is before they purchase the policy. However, after they purchase the policy, a change in the insurer's financial strength is still important to the policyholders until all claims are settled.
[15] Smith and Stutzer (1995) show that one monoline mutual insurer in Minnesota experienced lower losses than its stock insurer competitor between 1982 and 1987.

The second important conflict is between owners and managers. Like policyholders, managers are more risk-averse than owners with respect to survival of the firm. This is because managers do not naturally gain when a firm takes more risk, yet they have much to lose. If the company encounters financial distress, they could lose their jobs, causing the insurer to lose any firm-specific knowledge that makes the managers valuable to that company. In addition, managers are prone to "perquisite consumption" – meaning that they may overindulge in non-monetary benefits that the firm provides, such as luxurious offices or corporate jets – when their incentives are not perfectly aligned with, or controlled by, the owners.

In a stock insurance company, this incentive conflict can be mitigated in part by offering compensation derived from the value of owners' equity. For example, managers can be paid with common stock or options to purchase stock at a predetermined price. In addition, the owners of a stock insurer have an efficient mechanism by which they can threaten or execute turnover in management. Because voting rights are aggregated by shares of common stock, a large institutional shareholder can unilaterally, or with just a few like-minded compatriots, effect change in the board of directors or executive team. In contrast, mutual policyholders bear much greater effort and expense in effecting such change.[16]

Like a stock firm, a mutual insurer is ultimately managed by its board of directors. Directors are elected by policyholders of a mutual insurer using annual proxy ballots. However, observed voting behavior demonstrates very low policyholder turnout for these elections. For example, a 1998 report of the New York General Assembly[17] shows voting participation for mutual life insurance companies. Out of 19,014,820 eligible policyholders across eight insurance companies, only 48,702 votes were cast. This is less than three votes per 1,000 policyholders.

Given the modest participation rates in mutual insurance company board elections, it is important for mutual firms to create alternative methods for monitoring and controlling executives. These include appointing directors to boards who are policyholders or independent of the insurance company, and creating stringent internal review procedures. In addition, because policyholders and shareholders do not have the same preferences for insurer performance, mutual insurers should measure performance by more than just financial outcomes. These practices are discussed in the section reviewing empirical evidence.

Conflicts and information problems create agency costs through monitoring, bonding, and residual loss. Monitoring expenses include the costs of principals and agents verifying each other's behavior. Examples of monitoring costs include financial strength ratings, regulation, systems to verify expense reimbursement, and a board of directors hiring consultants to audit management activities. Bonding occurs when a principal or agent does something to ensure a certain behavior, relieving its counterpart of the need to monitor. An example of bonding cost is when a stock insurer purchases reinsurance instead of relying on its equity capital. The reinsurance cession removes the shareholder's ability to decrease financial strength by paying excessive dividends after underwriting a long-term insurance contract. Residual loss is the reduction of earnings from behavior that is not controlled by monitoring and bonding.

[16] Mayers and Smith (1981, 2002, and 2013) offer more complete development of these hypotheses.
[17] See http://assembly.state.ny.us/Reports/Ins/199803/.

A Bridge from Theory to Practice

Before considering the hypotheses and evidence produced by academic researchers, it may be useful to review the purpose of academic research on topics involving commerce, and to provide perspective on the academic research setting. When considered in isolation, many academic papers may strike practitioners as mental gymnastics performed before a small audience for limited prizes. This is largely due to the differing objectives, time frames, and incentives faced by practitioners and researchers.

Among researchers it is important to isolate specific effects of firm characteristics, and test the effects using valid data and empirical techniques. As such, each academic publication may only advance knowledge in a given field by a small amount. However, when considered collectively, these findings can be used to draw conclusions that are useful in practice.

For example, the CEO of a firm may know that her customers, suppliers, investors, and regulators are pleased when the firm purchases insurance for certain exposures. The academic researcher develops theories to explain why and how insurance can increase firm value, and then tests hypotheses related to such theories using data from a large sample of firms. Other researchers follow with studies that confirm or refute the initial findings. When a comprehensive collection of research papers and case studies is recognized, the factors influencing insurance purchases are then taught in college classrooms and become common practice in commercial endeavors.[18]

Hypotheses and Evidence

The incentive conflicts described above and their resulting costs lead to four primary hypotheses that have been tested in the academic literature. By developing and testing each of these hypotheses, researchers hope to explain why insurance companies exist in multiple forms. Generally, when we observe multiple organizational forms in a given industry, we expect each form to have strengths and weaknesses that provide advantages in certain market segments.

Evidence concerning each hypothesis described below can be useful to insurance company leaders. Importantly, none of these hypotheses represents an absolute law. Rather, they demonstrate marginal tendencies of firms. For example, evidence from academic research suggests mutual insurance companies should be less effective than stock insurance companies when insuring products liability exposures. Nonetheless, mutual insurers underwrite about 20 percent of products liability premiums.

The strategic value of understanding incentive conflicts and operational differences is that individual firms can and do find ways to address these issues to their advantage. A mutual insurer that competes effectively against stock insurers in lines of insurance where stock insurers may have a natural advantage has clearly found a mechanism to mitigate such conflicts. For example, if an insurer's board of directors is well-informed about operations and they communicate effectively with senior executives, they can mitigate incentive conflicts that might otherwise give stock insurers an advantage in certain activities.

[18] Many of the topics considered in this manuscript are taught in managerial economics courses at the MBA level. A common textbook is Managerial Economics and Organizational Architecture by Brickley, Smith, and Zimmerman.

The first hypothesis is known as the *Managerial Discretion Hypothesis*. Managerial discretion is the amount of freedom bestowed upon senior management in a firm. The Managerial Discretion Hypothesis suggests that managers in a mutual insurance company should be limited in their ability to make unilateral decisions because the mutual form offers less opportunity to control managers.[19]

The *Managerial Entrenchment Hypothesis* is closely related to the Managerial Discretion Hypothesis. It predicts that managers of mutual insurers face a lower probability of turnover than managers of stock insurers at a given level of performance. While academic studies cast this result in the negative light of inefficiency, it is not clear that policyholders of a mutual insurance company would share this conclusion. Shareholders are likely to remove a manager for poor underwriting performance, whereas policyholders might benefit – at least in the short term – from underwriting results that are below the level of shareholder expectations.

The *Maturity Hypothesis* is somewhat at odds with Managerial Discretion.[20] It states that mutual insurers should have an advantage in long-tailed lines of insurance, where it is important for policyholders to trust owners and managers to maintain adequate reserves and capital to pay claims. Because mutual insurers do not have an incentive (or ability) to pay shareholder dividends, they are less likely than stock companies to pilfer reserves at the expense of future policyholders and claimants. Indeed, mutual insurers are prevalent in a few long-tail lines including medical professional liability, commercial multiple peril, homeowners, and automobile.

The *Expense Preference Hypothesis* completes our list.[21] Expense Preference suggests that managers of mutual insurers will not minimize expenses or efficiently allocate resources. Given the potential lack of oversight, mutual managers could choose to spend money with vendors providing the best incentives in the form of perquisite consumption. For example, managers might choose defense law firms with memberships to the best country clubs, rather than those providing the most efficient or effective defense. Alternatively, they could choose to engage in "empire building," where the size and scope of a firm are increased to maximize the prestige of executives, rather than to maximize firm value.

Given the hypothesized differences between mutual insurers and stock insurers, it seems natural (at least to economists) to question which form is most efficient. Indeed, several studies compare the overall efficiency of insurers across ownership structures.

EMPIRICAL EVIDENCE

Theories and hypotheses only tell us what someone expects to find if they perform empirical analysis. It is important to review empirical evidence to assess what effect these differences across insurance companies have on outcomes and behaviors that matter to policyholders.

Empirical studies observe data on insurance companies' choices to participate in markets by geography and line of

[19] See Mayers and Smith (1981, 1988), Lamm-Tennant and Starks (1993), and others.

[20] Myers (1977) developed the Maturity Hypothesis in the context of corporate lending. Mayers and Smith (1981 and 1988) and Cummins, et al. (1999) apply the Maturity Hypothesis to insurers.

[21] Williamson (1963) develops the Expense Preference Hypothesis. Mayers and Smith (1981 and 1988) and others apply it to insurance firms.

business, executive compensation, executive turnover, board composition, distribution system, loss reserve development, and firm-wide measures of efficiency. Researchers compare these measures across ownership structures in a cross-section, over time series, and they note changes coinciding with changes in ownership structure (e.g. mutualization and demutualization). Evidence from studies addressing these hypotheses is vast and somewhat divergent.

Performance and Control

A mutual company structure combines the owner and policyholder functions. Therefore, it is intuitive that performance measures should not be the same for mutual insurers and stock insurers. In addition, the mutual form faces challenges in controlling managers, suggesting they should employ tactics to monitor and control executives.

Because executives answer to a board of directors, appointing outside directors is common strategy for controlling executives. An outside director is a board member who is not otherwise affiliated with the insurer. Researchers He and Sommer (2010) compare the percentage of outside board members across mutual and stock insurers, while controlling for other factors that could affect board composition, such as firm size, age, and lines of business written. They find that mutual insurers appoint a larger percentage of outside directors than do stock insurers.

In a study of life insurers, Mayers, Shivdasani, and Smith (1997) find that (1) mutuals employ more outside directors than stocks; (2) firms that switch between stock and mutual charters make corresponding changes in board composition; (3) mutuals' bylaws more frequently stipulate participation by outside directors; and (4) mutuals with more outside directors make lower expenditures on salaries, wages, and rent.

Assessing performance of mutual insurers presents a challenge compared to stock insurers. While the shareholders of stock insurers have a clear preference for underwriting performance and return on equity, mutual insurers must also consider the additional concerns of their policyholders.

Recent customer satisfaction surveys by J.D. Power offer results from mutual and stock insurance companies.[22] Each survey includes a representative national sample of current customers. Based on survey responses, J.D. Power calculates customer satisfaction scores between two and five, with five indicating the highest level of satisfaction. Figure 5 compares results from these surveys across mutual and stock insurance companies.

Figure 5: Customer Satisfaction Surveys

	Scores			
Survey	Mutual Average	Stock Average	Difference	P-value
U.S. Household Insurance Study-Homeowners Insurance (2015)	3.54	3.08	0.46	0.054
U.S. Auto Insurance Claims Satisfaction Study (2015)	3.60	2.73	0.87	0.017
U.S. Small Business Commercial Insurance Study (2016)	4.00	2.75	1.25	0.014
U.S. Property Insurance Claims Study (2016)	3.75	3.33	0.42	0.115

Source: J.D. Power, http://www.jdpower.com/ratings/industry/insurance

[22] See http://www.jdpower.com/ratings/industry/insurance, accessed 9/9/2016.

In each survey, the average customer satisfaction score is higher for mutual insurers than for stock insurers. In three of the four surveys, the difference is statistically significant at the 10 percent level or lower. If mutual insurers exist to serve policyholders, these results suggest they are achieving desired results in direct competition with stock insurers.

Access to Capital

As noted above, the empirical evidence addressing access to capital for mutual insurers is rather thin. In many studies, researchers assume that mutual insurers have less access to capital than stock insurers. Harrington and Niehaus (2002) compare the capital structures of mutual insurance companies to those of stock companies. They find that mutual insurer capitalization ratios are more sensitive to earnings than those of stock insurers. They also find that mutual insurers hold more surplus than stock insurers. From these results, they conclude that mutual insurers have less access to capital than do stock insurers; however, mutuals mitigate potential consequences of this characteristic by holding more capital than stock insurers.

There are no studies that directly compare the abilities or efficiencies of modern stock and mutual insurers to raise capital; therefore, it is possible that today's mutual insurers can access capital with efficiency similar to that of stock companies. Mayers and Smith (2002) suggest a motivation for mutual-to-stock insurance charter conversions that leaves room for this possibility, given the observed demutualizations surrounded by claims of capital needs. They note that such conversions are efficient mechanisms for enriching executive managers of a converted firm.

Despite potential differences in access to capital, it is clear that mutual insurers, on average, are financially strong and stable. A.M. Best (2016) notes that recently, "mutuals have demonstrated stable loss ratios, increased premium trends, and moderate surplus growth, which have all aided the financial strength of the companies."

Managerial Discretion

The Managerial Discretion Hypothesis has received the most attention among academic studies. Its essence is to compare decision-making discretion between mutual and stock insurers. The expectation is that mutual companies will naturally find their way to business activities requiring less managerial discretion. Studies use several variables to measure managerial discretion. These include underwriting choices, executive compensation, and board structure.

Insurers make underwriting choices when they choose the lines of business and geographic areas in which they will insure property and liability exposures. While these choices can be very detailed and specific, available data only allow researchers to observe the state and territory boundaries and 35 lines of business reported to state regulators. For example, data show that an insurer writes property coverage in Alabama but do not differentiate between properties on the coast versus properties in Birmingham that are 300 miles inland. Therefore, the comparisons considered in academic research may be much less granular than comparisons considered by practicing actuaries and underwriters.

The academic literature analyzes differences based on concentration of premium written in lines of business and geographic areas and the specific lines of business written. Mayers and Smith (1981) suggest that distance between exposures and differences in regulation and operating environments increase the complexity of an insurance operation. Therefore, if a company insures exposures in multiple states, the operation will require more managerial discretion to run efficiently. They also make a similar argument about lines of business. It should require more managerial discretion

to operate a multiline insurer than a monoline insurer. Finally, they assume that certain lines of insurance require more managerial discretion than others. They differentiate between personal lines and commercial lines, claiming that personal lines (automobile and homeowners) require less discretion because they are largely standardized, they provide adequate data for ratemaking and underwriting,[23] and they rarely involve negotiation between managers and policyholders.

Indeed, a cursory look at data shows mutual insurers write more personal lines insurance than do stock insurers. Recall Figure 2 shows the distribution of premium earned across lines of insurance and organizational forms in 2015. Mutual insurers wrote 64 percent of homeowners insurance and 57 percent of personal automobile insurance. However, mutual insurers also wrote about half of medical professional liability insurance and commercial multiple peril premiums, suggesting a more complex underlying dynamic than just managerial discretion.

Using insurance company data from 1981, Mayers and Smith (1988) perform the first empirical test of the Managerial Discretion Hypothesis on PC insurers. They compare geographic and line-of-business concentration of premiums and the distribution of premium across lines of business by company structure. Results are somewhat mixed. They do not provide definitive proof, but on balance they are consistent with Managerial Discretion. They find mutuals and reciprocals[24] are more concentrated than stocks by geography, and reciprocals are more concentrated than stock insurers by line of business; however, stocks and mutuals are indistinguishable by line of business concentration. In addition, they find that mutuals and stocks participate in significantly different lines of business; however, their methodology does not permit a comparison across specific lines of business.

Lamm-Tennant and Starks (1993) test the Managerial Discretion Hypothesis using a different approach, trying to control for underlying differences in lines of business, rather than subjectively classifying them by required managerial discretion. They classify states and lines of insurance based on observed risk. Variance in the loss ratio is their measure of risk, and risk serves as their approximation of the degree of managerial discretion required to operate an insurance company efficiently. Consistent with the Managerial Discretion Hypothesis, they find that stock insurers systematically participate in riskier states and lines of business than do mutual insurers.

Using more recent data than the aforementioned studies, Berry-Stölzle, *et al.* (2012) find that mutual insurers are more concentrated than stock insurers by line of business. This finding also supports the Managerial Discretion Hypothesis.

Another approach to testing the Managerial Discretion Hypothesis is to compare executive compensation across organizational forms assuming a positive relationship between discretion and compensation. In a study of executive compensation in the life insurance industry, Mayers and Smith (1992) find that mutual executives are paid less than stock insurer executives, controlling for several firm characteristics. Eastman, *et al.* (2016) report similar differences in compensation across organizational form in PC insurance companies.

[23] One could argue that data for homeowners insurance in catastrophe-prone areas are inadequate for ratemaking.

[24] Reciprocal exchanges, like mutual insurers, are formed to provide insurance to members at the lowest cost without an external profit motive. There are subtle differences between mutual insurers and reciprocal exchanges, but they are not relevant to this discussion.

Managerial Entrenchment

The Managerial Entrenchment Hypothesis is related to managerial discretion. Because mutual insurers have fewer mechanisms by which to effect changes in management, it predicts executive turnover in mutual companies will be less sensitive to firm performance than that of stock insurers.

He and Sommer (2011) find a significant negative relationship between underwriting performance and executive turnover in stock insurance companies, but the result does not hold among mutual insurers. While this evidence is consistent with the Managerial Entrenchment Hypothesis, it is not sufficient to draw a firm conclusion. In addition to underwriting performance, the authors also test overall operating performance. Overall operating performance is not significantly related to executive turnover among mutual or stock insurers.

Given that a mutual insurer is designed to benefit policyholders, and policyholders are at least short-term beneficiaries of "poor" underwriting performance, it may be optimal for mutual insurers to pay claims in scenarios that lead stock insurers to discipline executives. Therefore, rather than signaling limited efficiency or weak corporate controls, evidence consistent with managerial entrenchment in mutual insurers could as easily be explained as patience or even as mutual policyholder self-interest.

Expense Preference

The Expense Preference Hypothesis states that, relative to stock insurers, managers of mutual insurers will have less incentive to identify or select the most efficient set of expenses necessary for operation. Similar to managerial discretion and entrenchment, mutual managers could be permitted an expense preference because managerial control mechanisms are less effective in mutual insurers than in stock insurers.

A range of outcome scenarios related to expense preference is possible. At one end, for example, mutual managers could lack skill, leaving them unable to identify the best set of inputs, despite their best efforts. At the other extreme, mutual managers could be avaricious, intentionally consuming perquisites at the expense of policyholders. Empirical tests do not distinguish between points along this spectrum.

Tests of the Expense Preference Hypothesis compare expenses of mutual insurers to that of stock insurers for a given level of output. In the last two decades, these tests frequently use data envelopment analysis and frontier efficiency measures. This methodology uses non-parametric linear programming to identify the most "efficient" firm among a sample. The efficient firm is the one that produces the most output with the least amount of inputs. When applied to insurance companies, outputs include incurred losses and invested assets. Inputs include labor, pure premiums, and surplus.

Efficiency studies comparing mutual insurers to stock insurers generally find that stock insurers are more efficient than mutual insurers.[25] However, similar to managerial entrenchment, it is important to consider results from a policyholder's perspective. By definition, the efficiency estimation procedure chooses an "efficient" level of financial strength relative to other insurers in the market, rather than to the distribution of potential losses an insurer may need to pay. Therefore,

[25] See, for example, Eling and Luhnen, 2010, and Cummins, et al., 1999.

above-average financial strength – a characteristic of mutual insurers – enters the measure as "inefficiency." Sommer (1996) shows that policyholders value financial strength.

Cummins, *et al.* (1999) offer a more instructive result related to insurer efficiency. Using an extension of the non-parametric efficiency methodology, they find that mutual insurers and stock insurers resemble distinct technologies. Mutual insurers are more efficient than stock insurers at producing the lines of business in which they are most prevalent, and vice versa. For example, mutual insurers are more efficient than stock insurers in underwriting personal lines insurance; while stock insurers are more efficient than mutual insurers in underwriting commercial lines insurance. This would also be consistent with Mayers and Smith's positive theory of insurance markets.

A recent study by Eastman *et al.* (2016) finds evidence inconsistent with expense preference in mutual insurers. The authors estimate the relationship between loss reserve development and executive compensation, and then compare the results across stock and mutual insurers. They present evidence consistent with stock-insurer executives manipulating loss reserves to maximize their bonus compensation. However, the result does not hold for mutual company executives. Given that executive compensation is among the most preferred expenses for executives, this evidence is compelling.

Maturity

The Maturity Hypothesis predicts that mutual insurers will have a comparative advantage over stock insurers in providing insurance policies with long duration. This hypothesis is based on the incentive conflict between owners and policyholders. When a policy has a long claim tail, equity shareholders have more opportunity to exploit policyholders. Policyholders can only consider an insurance company's financial strength before they purchase a policy. In a short-tailed line of business, this is not a concern because it takes time for an insurer to adjust its financial strength. However, with a long-tailed line of business, there is more opportunity to decrease capital and surplus by paying excessive dividends, or to increase the risk of asset portfolios. Therefore, policyholders must place more trust in their insurers when buying a long-tailed policy. Because a mutual insurer does not have the policyholder/shareholder conflict, the incentive for exploitative behavior is not present.

Cummins, *et al.* (1999) present evidence supporting the maturity hypothesis. They find mutual insurers are more efficient in the production of long-tail lines of insurance compared to stock insurers.

Baker and Swedloff (2016) suggest an alternative, complementary explanation for mutual insurers' success in some long-tailed lines of insurance. Specifically, they survey a large sample of law firms, asking them why they purchase professional liability insurance from mutual insurance companies. They find that "many lawyers, and presumably other professionals, perceive that mutual insurance promotes professional independence." It is common for an insurance company to require its policyholders to meet certain requirements for underwriting. With a mutual insurer in a specific discipline (such as professional liability insurance) the mutual policyholders have substantial input in determining these requirements. These lines of insurance generally have a longer claim tail than other lines of PC coverage.

Finally, Lee, Mayers, and Smith (1997) analyze insurer investment portfolios before and after the introduction of state insurance guarantee funds between 1969 and 1981. One concern surrounding guarantee fund creation is that insurers will take more risk because consumers rely on guarantee funds for financial security. Indeed, the authors find that stock

insurers increase the risk of their asset portfolios once guarantee funds were established. Given the incomplete and often delayed coverage provided by state guarantee funds, this practice benefits shareholders at the expense of policyholders. However, mutual insurers did not change their investment portfolios when guarantee funds were introduced.

SUMMARY AND CONCLUSIONS

Mutual insurance companies control just under half of the PC insurance market. The defining difference between mutual insurers and stock insurers is that stock insurers' primary purpose is to provide returns to shareholders, while mutual insurers' purpose it to provide value to policyholders. This difference is the result of distinct organizational forms. Mutual companies do not have shareholders. Instead, the policyholders fill the roles of both owners and customers.

The difference across organizational forms creates potential differences in access to capital as well as incentive conflicts. Existence of these conflicts are well-documented in both theoretical and empirical studies.

Recognizing these conflicts, mutual insurers tend to excel in lines of business that minimize the potential effects of such conflicts, or they implement internal controls to mitigate conflicts. For example, mutual policyholders have limited ability to control managers. However, they appoint more outside directors than do stock insurers and so further mitigate the potential conflicts. With these potential incentive conflicts in mind, insurance company leaders can select optimal strategies to achieve their missions.

Several academic studies try to compare the performance and efficiency of mutual insurers to stock insurers. However, many of these studies assume that mutual and stock insurers have identical goals. Cummins *et al.* (1999) show that mutual insurers and stock insurers produce significantly different sets of outputs. The authors also show that each organizational form is more efficient than the other in producing its chosen lines of insurance.

It is arguable that customer satisfaction is a more appropriate measure of mutual insurance companies' performance. In recent customer satisfaction surveys by J.D. Power, mutual insurers outperform stock insurers in each category.

REFERENCES

A.M. Best Company, 2016. Best's Special Report, Mutual P/C Insurers Managing Market Challenges, Trend Review, September, 2016.

Bainbridge, J., 1952. Biography of an Idea: The Story of Mutual Fire and Casualty Insurance, (Garden City, NY 1952) Doubleday and Company, Inc.

Baker, T. and J. Swedloff, 2016. "The Mystery of Mutual Insurers in Lawyers Professional Liability Insurance," *U of Penn, Inst for Law & Econ Research Paper No. 16-17*, accessed 9/8/2016 from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2820654##.

Berry-Stölzle, T.R., A.P. Liebenberg, J.S. Ruhland, and D.W. Sommer, 2012. "Determinants of Corporate Diversification: Evidence from the Property-Liability Insurance Industry," *Journal of Risk and Insurance*, v79n2:381-413.

Brickley, J., C.W. Smith, and J. Zimmerman, 2016. Managerial Economics and Organizational Architecture, 6th Edition, McGraw Hill, ISBN: 0073523143.

Coase, R (1960) "The problem of social cost," *Journal of Law and Economics*, 3:1–44.

Cole, C. R., and K. A. McCullough, 2006, A Reexamination of the Corporate Demand for Reinsurance, *Journal of Risk and Insurance*, l73: 169-192.

Cummins, J.D., M.A. Weiss, H. Zi, 1999. "Organizational Form and Efficiency: The Coexistence of Stock and Mutual Property-Liability Insurers," *Management Science*, v45n9:1254-1269.

Eastman, E.M., D.L. Eckles, M. Halek, and L.S. Powell, 2016. "Earnings Management, Executive Compensation, and Ownership Structure," Working Paper.

Hansmann, H., 1985. "The Organizational Form of Insurance Companies: Mutual versus Stock," *Journal of Law, Economics, and Organization*, v1n1:125-153.

Harrington, S.E. and G. Niehaus, 2003. "Capital Structure Decisions in the Insurance Industry: Stocks versus Mutuals," *Journal of Financial Services Research*, v21n1/2:145-163.

He, E., and D. W. Sommer, 2010, Separation of Ownership and Control: Implications for Board Composition, *Journal of Risk and Insurance*, 77(2): 265-295.

He, E., and D.W. Sommer, 2011. "CEO Turnover and Ownership Structure: Evidence from the U.S. Property-Liability Insurance Industry," *Journal of Risk and Insurance*, v78n3:673-701.

Hetherington, J.A.C., 1969. "Fact v. Fiction: Who Owns Mutual Insurance Companies," *Wisconsin Law Review*, v1969:1068-1103.

Jensen, M.C. and W.H. Meckling, 1976. "Theory of the firm: Managerial behavior, agency costs and ownership structure," *Journal of Financial Economics*, v3n4:305-360.

Khalamayzer, A., and C. Hemenway, 2012. "The Birth of Insurance: Oldest U.S. Companies," PropertyCasualty360, last accessed 8/21/2016 from http://www.propertycasualty360.com/2012/04/19/the-birth-of-insurance-oldest-us-companies?page_all=1&slreturn=1471808683.

Lamm-Tennant, J. and L.T. Starks, 1993. "Stock Versus Mutual Ownership Structures: The Risk Implications," *Journal of Business*, v66n1:29-46.

Laux, C. and A. Muermann, 2010. "Financing risk transfer under governance problems: Mutual versus stock insurers," *Journal of Financial Intermediation*, 19:333-354.

Lee, S.J., D. Mayers, and C.W. Smith Jr., 1997. "Guaranty funds and risk-taking behavior: evidence for the insurance industry," *Journal of Financial Economics*, 44(1):3–24.

Marx, L.M., D. Mayers, and C.W. Smith, Jr., 2001. "Insurer ownership structure and executive compensation as complements," *Journal of Risk and Insurance*, 68(3):449–464.

Mayers, D., A. Shivdasani, and C. W. Smith, Jr., 1997. "Board Composition and Corporate Control: Evidence From the Insurance Industry," *Journal of Business*, 70(1):33-62.

Mayers, D., and C. W. Smith, Jr., 1981. "Contractual Provisions, Organizational Structure, and Conflict Control in Insurance Markets," *Journal of Business*, v54n3:407-434.

Mayers, D., and C. W. Smith, Jr., 1988. "Ownership Structure across Lines of Property-Casualty Insurance," *Journal of Law & Economics*, v31n2:351-378.

Mayers, D., and C. W. Smith, Jr., 1990. "On the Corporate Demand for Insurance: Evidence from the Reinsurance Market," *Journal of Business*, 63(1): 19-40.

Mayers, D., and C. W. Smith, Jr., 1994. "Managerial Discretion, Regulation, and Stock Insurer Ownership Structure," *Journal of Risk and Insurance*, 61(4): 638-655.

Mayers, D., and C. W. Smith, Jr., 2002. "Ownership Structure and Control: Property-Casualty Insurer Conversion to Stock Charter," *Journal of Financial Services Research*, v21n1/2:117-144.

Mayers, D., and C. W. Smith, Jr., 2013. "On the Choice of Organizational Form: Theory and Evidence from the Insurance Industry," in G. Dionne (ed.), *Handbook of Insurance*, Springer Science+Business Media (New York 2013).

Myers, S. D., 1977. "The determinants of corporate borrowing," *Journal of Financial Economics*, 4:147-175.

Regan, L., and L. Y. Tzeng, 1999, Organizational Form in the Property-Liability Insurance Industry, *Journal of Risk and Insurance*, 66(2): 253-273.

Smith, B.D., Stutzer, M., 1990. "Adverse selection, aggregate uncertainty, and the role for mutual insurance contracts," *Journal of Business*, 63, 493–510.

Smith, B.D., Stutzer, M., 1995. "A theory of mutual formation and moral hazard with evidence from the history of the insurance industry," *Review of Financial Studies*, 8:545–577.

Sommer, D.W., 1996. "The Impact of Risk on Property-Liability Insurance Prices," *Journal of Risk and Insurance*, v63n3:501-514.

Viswanathan, K.S. and J.D. Cummins, 2003. "Ownership Structure Changes in the Insurance Industry: An Analysis of Demutualization" *Journal of Risk and Insurance*, v70n3:401-437.

Williamson, O.E., 1963. "Managerial discretion and business behavior," *American Economic Review*, 53:1032–1057.

Indianapolis Office
3601 Vincennes Road
Indianapolis, IN 46268
Phone: 317.875.5250
Fax: 317.879.8408

Washington D.C. Office
20 F Street, NW, Suite 510
Washington, D.C. 20001
Phone: 202.628.1558
Fax: 202.628.1601

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