

## THE OPTIMAL OWNERSHIP OF INSURANCE COMPANIES

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Although mutual insurance companies are tending to hold their own in the share of coverage written, they have steadily been losing ground to stock insurance companies in terms of the relative numbers of companies. The relative decline of mutuals poses the policy question of whether legislation and/or regulations should be enacted to sustain them. In this paper we apply the theory of the firm to inform us in resolving this policy concern. The article begins with an overview of the theory of the firm as a means of determining the optimal ownership form. The next section offers an historical backdrop of the insurance industry that provides a setting within which to consider a review of the literature on the performance of mutual and stock insurance companies. The final section draws a conclusion regarding the optimal ownership form and considers policy implications stemming from that conclusion.

### **Ownership and a Theory of the Assignment of Ownership**

Neoclassical economists viewed the firm as a set of feasible production plans that are overseen by a manager. A next step in thinking about the firm was the "principle agent" theory that formally recognized that owners usually do not observe the management of the firm's day-to-day operations. The theory of the firm deepened as economists came to consider the complexity of contracting. Contemporary writers describe the firm as a nexus of contracts.<sup>1</sup> Firms have contracts with employees, suppliers of inputs and services, financial institutions,

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<sup>1</sup> The term "nexus of contracts" is often associated with (Jensen & Meckling 1976). Other works that have been important in economists arriving at the contemporary view of the firm include: (Demsetz 1962), (Klein, Crawford & Alchian 1978), (Williamson 1979 & 1988), (Fama 1980), (Grossman & Hart 1986), and (Hart 1988). Then there is the classic work (Coase 1937).

purchasers and so forth.<sup>2</sup> The firm is a particular kind or set of interrelated contracts and an examination of the associated contracting costs can provide a basis for determining the optimal ownership form of a firm. This article uses the theory of the firm to examine the question of whether sock or mutual ownership is optimal among insurance companies. This section builds on the definition of a firm as a nexus of contracts and develops a theory of the optimal assignment of ownership based on Hansmann's analytic framework.<sup>3</sup> (Hansmann 1988, 1996)

### *Ownership*

The "owners" of a firm are those persons who have two formal rights in common: the right to exercise control over the firm and the right to appropriate the firm's net returns. The net returns include both any after-tax current profits and any net increase in the value of capital assets or other rights that the firm may own. These latter returns are actualized when an individual sells his/her share of the ownership or the firm is liquidated. In the case of insurance companies, as we shall see, the story regarding these latter returns is a bit more complicated. The ownership right to control is a formal one that is often limited. The right of control does not guarantee *effective* control over the firm. Owners, whether they are stockholders or member-

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<sup>2</sup> To see contracts in a different light consider the physical entities that are traded on a daily basis in markets. What are really traded can be described as "bundles of rights, rights to perform certain acts." (Medema 1996) When we purchase a meal at a restaurant we are really buying the rights to consume the food that is brought us. We have not bought the rights, for example, to throw the food in our server's face. We have long since been familiar with the fact that when we purchase a book we have the right to transfer it from the bookstore's shelf to our own and read it, but that copyright laws restrict our making certain other uses of the book. Copyright protection goes a step further in the case of software. While we think of ourselves as owning the software package we just purchased, what we learn upon opening the box is that when we break the seal to remove the disks from their pouch, that we have thereby agreed to a lease arrangement.

<sup>3</sup> This is not to suggest that others have not formulated bases for the optimal assignment of ownership. (See, for example, Grossman & Hart 1986) Instead we recognise that much this section follows Hansmann's work very closely.

owners of a mutual, usually find their right to control limited to the right to elect a board of directors.

Following Hansmann's terminology, we apply the term "patrons" to the collections of individuals who transact with the firm. Patrons include customers, employees, or suppliers of inputs or other factors of production, including capital. It is not a matter of coincidence that the owners of the various standard forms are patrons. To see why owners are patrons we begin by recognizing that a class of patrons and a firm interact in one of two ways: through a market, in which case those patrons are not the owner, or through the patrons' being the owner of the firm. In the former case the patrons influence the firm via a market contract, which means that the parties incur market transacting or contracting costs. In the latter case, the patrons influence over the firm by exercising their right to control the firm. Controlling a firm, however, involves costs, costs that are termed ownership costs. These two costs, coupled with the efficiency notion of cost minimization, provide a basis for thinking about the optimal assignment of ownership.

#### *A Theoretical Basis for Assigning Ownership*

Market contracting costs can go well beyond the costs associated with learning about and negotiating the terms of trade. There may be costs associated with differences in market power as in the case when customers face a monopoly. If the customers are the owners they can realize a considerable savings of market transacting costs by setting a price that, while covering production costs, is lower than the monopoly-pricing outcome. Or when insurance companies have a history of discriminating against certain minorities in their rates or willingness to extend coverage, then those minorities can lower their costs by dealing with minority-owned insurance companies. Thus the overall market contracting costs of a firm will vary depending on which patrons are the owners. Similarly overall ownership costs are contingent on who owns the firm.

When the workers own a firm their motivation and self-monitoring significantly reduce the ownership costs of controlling the labor process. On the other hand, if a firm operates in a setting in which there is considerable risk and hence variation in the residual earnings, employees might not be well suited to bare the risk and would encounter high ownership costs if they owned the firm.

Which patrons own a firm influences the associated market contracting costs and ownership costs and hence impacts the firm's transactions costs. Efficiency calls for cost minimization and offers a criterion for determining the optimal ownership of a firm. The optimal assignment of ownership is to the class of patrons which minimizes the sum of both the ownership costs of that class of patrons and the various market contracting costs incurred in transacting with the other patron classes.

### *Market Contracting Costs*

We will discuss four categories of market contracting costs: the risks of long-term contracting, asymmetric information, regulation and social costs.<sup>4</sup> Strictly speaking social costs may not be seen as market contracting costs. The social costs we explore are those incurred by policyholders and society at large when an insurance company becomes insolvent.

The risks of long-term contracting can be formidable for policyholders. Policyholders have a singular interest in the insurance company's not becoming insolvent. Investor-owners of an insurance company may have an interest in investing premiums in risky ventures. When the

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<sup>4</sup> Hansmann (1996) also discusses the contracting costs associated with market power, "lock in", strategic bargaining, communication of patron preferences, and compromising among diverse patron preferences. Given that the physical capital stock of insurance companies is in generic office buildings and office facilities, "lock in" is not a concern. The other contracting costs primarily apply to situations involving workers and the firm and hence are most relevant when the workers are viable owners. Because we do not consider worker ownership in our subsequent analysis we omit discussion of these costs.

owners are not the policyholders, the owners' gains from added risk are the policyholders' losses. The opportunistic behavior of the owners in exploiting the long-term contracting has created a set of zero-sum risks. These risks are avoided when the policyholders own the insurance company.

Asymmetric information refers to all parties not having equal information. An imbalance in information may arise because, while the information is available, it is relatively costly for one of the parties to obtain. Alternatively one of the parties may have information to which the other is not privy. A life or health insurance applicant, for example, may choose not to inform the insurance agent that she is considering changing jobs at the end of the month to a much higher risk occupation.

It has long been accepted that insurance companies need regulation. The actual costs of the regulatory apparatus should be counted as market contracting costs. These regulation costs include not only the staffing, office, and so forth, expenses of the regulatory agency, but also the costs realized by the insurance companies themselves in gathering information and making their cases for having met regulatory requirements. The fact that we regulate insurance companies is a recognition of the fact that society is harmed by insolvencies. In addition to policyholders losing their coverage, firms that do business with the company incur losses for which they are not compensated.

### *Ownership Costs*

Hansmann assembles ownership costs into three categories: controlling managers, collective decision-making, and risk-bearing. The first two costs stem from owners' formal right to control the firm. The third ownership cost is associated with the owners' right to the residual earnings.

The costs associated with owners' right to set policies and to direct the firm's management can be separated into two types: monitoring costs and managerial opportunism. Monitoring costs include: (a) owners informing themselves about the firm's operations; (b) owners communicating among themselves; and (c) owners seeing to it that managers carry out their decisions. When patrons transact with the firm they gain information about it and the costs of their obtaining this information will tend to be inversely related to frequency, and duration of patrons' transaction with the firm. The more important the transactions with a firm are to a class of patrons, the greater the patrons' inclination to acquire information about the firm and too the greater their incentive to be efficient and economical in acquiring the information. Communication among owners will be affected by the number of owners. The owners' physical proximity to one another and to the firm may play a role in communication costs as well as their ability to verify whether managers carry out the owners' decisions. As the number of owners increases, their individual stake in the firm's residual earnings will tend to diminish and so too will the incentive to monitor.

Managerial opportunism arises when monitoring is less than perfect. Managerial opportunism can take many possible forms. One is to run the firm so as to realize residual earnings that are adequate, but lower than could have been earned under more diligent management. Another is to pursue emoluments such as costly office buildings and furnishings, nepotism, and so forth. There are possibilities of engaging in questionable or illegal forms of self-dealing. Managerial opportunism may also result in excessive retention of earnings. Managers of insurance companies, for example, have an incentive to hold on to retained earnings to ensure against bankruptcy and the associated loss of employment, rather than investing the retained earnings in the growth of coverage, number of policyholders and assets. Alternatively,

managers may use retained earnings in ways that tend to maximize the size and growth of the firm rather than its rate of return.

Regardless of whether the owners act on their own behalf, elect a board of directors or adopt some other form of collective decision making, there are decision-making costs. The degree of heterogeneity of the ownership's interests can be a major determinant of the decision-making costs. The more diverse owners' interests are, the more likely it is that their decision-making costs will exceed market contracting costs. Members of the patron class that owns the firm may differ because the outcome of a decision impacts them differently. Owners tend to institute some form of voting to resolve their differences.

There are two types of costs associated with arriving at collective decisions. One type is those costs associated with inefficient decisions. Inefficiency arises from the tendency for a voting process to produce outcomes that appeal to the median voter rather than outcomes preferred by the average member. Decisions can also be inefficient when an unrepresentative minority gains control. Minority control may come about by the majority' abdicating its voting responsibilities. The other type is those costs associated with the decision process itself. These costs include, at the very least, the time and effort required for owners to meet and to reach decisions. While devices such as delegation to committees can save on these costs, such delegation opens the possibility of inefficient decisions.

To the extent that the level of risk willingly incurred impacts rates of return, the risk-bearing disposition of the owners can affect their second right of ownership, namely the right to appropriate the firm's net earnings. Furthermore, particularly when long-term relationships are involved, other patron classes may find that risk is created when market contracting with a given

class of patrons, risks that would not be present or would be different if another class of patrons were the owners.

### *Using the Theory*

Hansmann (1996) uses his market-contracting-cost and ownership-cost minimization criterion as a means of explaining the prevailing ownership patterns. Our intention is to employ the analysis of optimal ownership in order to let it guide us toward identifying what is the socially optimal form of ownership, one predicated on more than simply market considerations. When markets fail to produce a socially desired outcome, economists refer to this circumstance as a market failure and may then look for governmental intervention to correct the failure. This is the public policy perspective we utilize in deciding whether sock or mutual insurance companies merit preferential treatment. In the remaining sections we apply the theory of optimal ownership to insurance companies. We restrict our discussion of possible patron classes that might be owners of an insurance company to investor-owners and mutual policyholders.

### **Historical Background**

It is important to place ownership forms into historical perspective which will include among other things public policies such as regulation that are important to a full appreciation of optimal ownership. This historical backdrop is followed by a review of the literature that address empirical findings regarding actual ownership control, conversions, monitoring managers, and risk and solvency.

### *Life Insurance*

Economic theory posits that when policyholders are not the owners there is a conflict of interest over the possible transfer of value from fixed claims to residual claims. The early

history of the life insurance industry clearly reflects a playing out of this conflict.<sup>5</sup> While the first life insurance company in America had been founded in 1759, it was not until around 1810 that life insurance was marketed to the general public. The only investor-owned insurance companies that were reasonably successful at selling life policies were those that combined their life insurance operations with the management of trusts. These trust and life companies were conservatively managed, well capitalized, and of unquestioned financial soundness, nonetheless it is telling that most of the policies were for relatively short terms.

The first mutual life insurance company to serve the general public was established in 1843. Seven major life insurance companies began operation between 1843 and 1847. All seven are still in business and are among the largest mutuals. In stark contrast, no new stock companies opened between 1843 and 1847. Furthermore, only two of the investor-owned companies in operation in 1843 were still in the business by 1853. Not only did mutuals come to dominate the early life insurance industry, but their resolution of the conflict between fixed and residual claimants meant that whole life insurance became attractive to policyholders. Indeed by 1859 over 90% of life insurance was whole life.

The predominance of mutuals began to wane as regulation of the insurance industry was put in place.<sup>6</sup> The first general insurance law was enacted in 1849 by the state of New York.

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<sup>5</sup> The historical discussion of life insurance has drawn on J. Owen Stalson's *Marketing Life Insurance: Its History in America* (1969 [1942]) and Hansmann (1996). The figures given are from these two sources or have been updated from *Life Insurance Fact Book* and *Best's Aggregates & Averages: Life-Health*. The historical discussion of fire, casualty and liability insurance has drawn on Richard B. Heflebower's *Cooperatives and Mutuals in the Market System* (1980) and Hansmann (1996). The figures given are from these two sources or have been updated from *Best's Aggregates and Averages: Property-Casualty*.

<sup>6</sup> Laws and regulation have an interesting way of interacting with the industry in question. For example, in 1810 Pennsylvania prohibited all out-of-state insurers, and in 1829 it allowed out-of-state insurers but imposed a 20% premium tax on out-of-state insurers. Then in 1849, when

The law required, among other things, that life companies doing business in the state deposit with the state comptroller \$100,000 in approved securities to be held as security for policyholders. During the period 1859 to 1867 regulation was promulgated by Massachusetts, New Hampshire, Connecticut, Rhode Island, and Ohio. The resurgence of stock life insurance companies indicated that policyholders were apparently satisfied that regulation would hold residual claimants= opportunistic behavior in check. The regulation, however, was not particularly effective as evidenced by the fact that 61.4% of the investor-owned firms in business in 1868, or formed between 1868 and 1905, had closed by 1905. This 61.4% contrasts quite sharply with the 23.0% termination rate for mutuals for the same period. Economic theory posits that mutuals should have lower insolvency rates. These highly significantly different percentages dramatically support that point.

Despite there being more stock life insurance companies, mutuals continued to write well over half the coverage. The comparative advantage of the mutuals in writing whole life insurance is evidenced by the decision of a number of stock firms to mutualize. The first mutualization occurred in 1889-- after a change in Connecticut=s laws-- to be followed by more after 1906-- following a 1906 change in New York=s laws. A number of governmental investigations-- most prominent among them was New York=s Armstrong Commission of 1905-- and journalistic muckraking were additional motivating factors in the mutualizations. From 1900 to 1936 at least fifteen stock life insurance companies mutualized. Included among these were two of the largest stock firms-- Prudential and Metropolitan-- and which today are among the largest of the mutuals. (Equitable, until its recent conversion back to investor ownership, had

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Penn Mutual was ready to extend its operations into neighboring states, Pennsylvania repealed the 20% premium tax. (Stalson 1969, 298-9)

been one of the largest mutuals.) There were also conversions in the other direction. Between 1900 and 1936 at least seventeen mutuals converted to investor ownership. (A subsequent section discusses conversions.)

Since World War II stock life insurance companies have gained steady ascendancy over mutuals both in terms of numbers of companies as well as share of the insurance in force. While in 1947 mutuals wrote 69% of the life insurance in force, by 1983 they wrote only 43% of it. In 1997 the mutuals wrote 39.2% of the whole life and had 37.4% of total admitted assets. In terms of numbers of companies, mutuals reached their peak at 171 in 1954 and declined to 83 in 1997. In 1954 there were 3.9 times as many stock life insurance companies. By 1997 the ratio had grown to 12.6 to one.

### *Casualty Insurance*

Theory posits that mutuals will tend to arise when industry-wide risks are not well known to those outside the industry and when policyholders have superior information about the risks associated with individual insureds. Factory owners-- first New England mill owners-- began forming mutual fire insurance companies because they found the premiums charged by investor-owned insurers to be unacceptably high. Much of the success of these early mutuals was based on what asymmetric information and the discouraging of moral hazard predict: (1) members having a better sense than outsiders of the industry-wide risks; (2) the unwillingness to insure firms that were deemed poor risks; and (3) the rejection of members unwilling to comply with designated fire prevention practices. The mutual idea spread beyond factories. By the turn of the century, for example, 1,425 farmers= mutual fire insurance companies had been formed. This number represents a rather spectacular growth given that farm fire mutuals started around 1875. The relative smallness of the firms and the fact that farm members were neighbors meant

that they were successful in part because they were able to minimize moral hazard. While mutuals provided roughly 40% of coverage in 1921, by 1960 they continued to write approximately 40%, but by then the industry had changed: there were fewer firms and they were larger. The mutuals managed to stay competitive despite having lost the advantage smallness brought in reduced moral hazard.

The relatively high premiums charged by stock insurers were due to their being relatively little local competition and insurers= unwillingness to price discriminate in their premiums. After 1840 stock insurers began sharing their information on fire losses through rate bureaus. These pooled data became the basis for collusion to set uniform rates. The early rate agreements tended to break down, but after several decades became more established only to come under attack in the anti-trust sentiment around the turn of the century. Gradually states began requiring rate approval by a state agency. State commissions tended to be understaffed and lacking in technical competence. They also tended to suffer from regulator capture, with their overlooking, or even requiring collusion among companies in setting the rates filed. States tended to allow companies to pay dividends to policyholders, thereby, giving mutuals a competitive advantage. In 1944 rate setting underwent change when the U.S. Supreme Court reversed a 1869 decision and declared insurance to be commerce and when conducted across state lines, it is interstate commerce and thus subject to federal laws. Congress enacted a number of laws to mitigate the ruling by exempting rates from federal regulation if state laws assured rate competition. During this period of adjustment mutuals were able to remain competitive because they had lower agent compensation expenses.

Employers= liability became required by a growing number of states just prior to World War I. Employers, like with fire insurance a century earlier, found stock insurers rates

unacceptably high and created mutuals. Evidence of the competitiveness of mutuals is that by 1970 they underwrote a third of employers' liability insurance. In the 1970s and 1980s the courts put liability insurance into turmoil by creating an uncertain legal environment. Along with a tremendous increase in self-insurance as rates rose rapidly, the share of liability insurance written by mutuals rose dramatically in this period.

Property and casualty mutuals have held their own in the last two decades. In 1996 they held 22.1% of assets and wrote 24.7% of net premiums, percentages nearly identical to the 1980 figures.

### **Performance of Mutual and Stock Insurance Companies**

We now turn to the research on the performance of mutual and stock insurance companies.

#### *Actual Ownership and Conversions*

In their formative years mutual insurance companies were true mutuals in that the membership actively controlled the firm. The legal and actual realities today are quite different. There is typically no requirement that a mutual seek membership participation in the conduct of the business or that members be informed concerning their rights to participate or that they be given basic information regarding management and firm condition. (Kreider 1972) Participation through voting is restricted by: (1) very low quorum standards; (2) the use of permanent proxies, whereby members permanently turn their vote over to management; and (3) putting up an opposition slate faces almost insurmountable barriers. (Hetherington 1969) In some mutuals most policyholders do not receive a ballot unless they write for one. (*Wall Street Journal* 1998) In the case of mutual life insurance companies the courts have uniformly ruled that the relationship of policyholders to their mutual is merely that of creditor and debtor. (Anderson

1973) The courts have also uniformly held that life policyholders have no claim against the mutual beyond the rights specified in their insurance contracts. (Hetherington 1969) Finally the cancellation or refusal to renew a policy terminates a policyholder's membership. This was true of the early mutuals, the difference is that previously it was the membership that would not renew a member who, for example, failed to comply with safety requirements. Today termination is a management decision. In the end, most mutual insurance policyholders have no formal rights of control. However, even if policyholders do not have effective control over managers, there are still advantages to such ownership. There is an appreciable difference between doing business with managers who are nominally serving your combined fixed and residual claims as opposed to the managers actively serving other owners, namely those with only residual claims.

Conversion offers insights into the effect of ownership form on firm behavior. In the case of insurance there have been conversions in both directions. Mayers and Smith (1986) studied the 30 life insurance companies that had mutualized between 1879 and 1968. They found that the most prevalent mutualization motive-- the apparent motive in 8 of the 30 cases-- was avoidance of outside control. Their analysis led them to conclude that, on average, mutualization was efficiency enhancing. They came to this conclusion after finding: (1) no statistically significant decline in the growth of industry adjusted premium income; (2) no statistically significant fall in industry adjusted lapse rates; (3) the stock price premium stockholders received were higher relative to other what other researchers had found studying buyouts in the market for corporate control; and (4) a marked decline in CEO turnover.<sup>7</sup> The

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<sup>7</sup> The industry adjusted rates were calculated as the actual percentage change minus the average percentage change for the industry that year.

change in premium income contrasted the ten-year periods before and after conversion, while the lapse rates examined five-year periods. Because premiums differ across life insurance products, Mayers and Smith examined product mix changes. While they found a shift toward term, away from whole-life and toward group, the industry adjusted shift toward group was not statistically significant. They concluded that evidence on product mix was consistent with the hypothesis that the mutualized firms were operating as if they were mutuals prior to conversion.

Mayers and Smith also considered the connection between the costs of corporate control and mutualization. The cost of corporate control is affected by the distribution of share ownership and is lowest when share ownership is the most dispersed. When ownership is diffuse mutualization should lead to the greatest fall in the disciplining of management by the market for corporate control. Thus, they argued, that the efficiency motivation of mutualizing should show up least clearly in the dispersed ownership cases. For the diffuse-share-ownership firms they found a fall in the average percentage change in premium income. This latter evidence is consistent with some policyholder exploitation.<sup>8</sup> Where stock ownership was judged intermediate in concentration, there was no statistically significant change in premium income. For the companies with concentrated stock ownership, the data were consistent with the efficiency motivation: there was a significant increase in the percentage change in premium income (and in industry adjusted premium income) after mutualization.

McNamara and Rhee (1992) examined the 33 life insurers that demutualized between 1902 and 1986. They found no evidence of expropriation upon concluding that: (1) differences in premium income before and after were not significantly different; (2) there was no significant

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<sup>8</sup> Hansmann (1996) argues: A[O]ne might quite reasonably conclude the reverse: the firms with dispersed stock ownership were essentially controlled by their managers, who indulged

change in the mix of cash value vs. non cash value policies; and (3) the lapse rate increased, but not statistically significantly. Consistent with an efficiency hypothesis for demutualization they found: (1) a large increase in capital and surplus, and while the increase was not statistically significant using a five-year periods before and after demutualization, it was significant when the period was decreased to three years; (2) admitted assets were not statistically significantly different; (3) operating expense ratios fell, yet not statistically significantly; and (4) management turnover increase just before and after the conversion.

One reason given for conversion to a stock company is that retained earnings can be used to finance firm growth. Thus we would expect mutuals to grow more slowly than stock insurers and, not surprisingly, Spiller (1972), for example, found statistically significantly lower rates of growth of assets and of net premium, over a fifteen year period, for mutual life insurers. But does slower growth mean that mutuals are somehow deficient? Various writers have made the point that once a company has written enough policies so as to reasonably spread insurance risk, then it is not obvious how individual policyholders benefit from further firm growth.

One interpretation of the findings is that conversion, no matter the direction, does not seem to result in major changes in firm behavior. A possible explanation for this is that the insurers that converted largely behaved as theory predicts mutuals would behave, before and after their conversion.<sup>9</sup>

### *Monitoring Managers*

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themselves by retaining earnings excessively to finance a rapid rate of growth; thus upon mutualization, there was little room for further increase in the growth rate in those firms."

<sup>9</sup> Pending legislation offers an ominous change in conversion policies. The so-called financial modernization legislation preempts state laws to allow mutuals when they demutualize to change their domicile to states with laxer laws governing consumer rights. (Nader 1998)

Differences in how policyholders and investor-owners are able to monitor managers have a variety of consequences. We begin by considering the role of outside directors. There is no market for corporate control for mutuals, stock options cannot be given as performance incentives, and the fact that policyholders having virtually no control over management, means that the marginal product of outside directors is relatively higher for a mutual than a stock insurer. Thus theory predicts that mutuals will have a higher proportion of outside directors. Mayers, Shivdasni and Smith (1997), after controlling for factors that potentially explain the variation in board composition, found that mutuals employ a higher proportion of outside directors. Furthermore they found that stock insurers that mutualized tended to increase their proportion of outside director.

Whether we take Jensen and Meckling's (1976) monitoring theory approach or Mayers and Smith's (1981, 1992) managerial discretion theory approach, the fact that policyholders cannot effectively monitor managers means that mutuals should have a comparative advantage in lines of business that call for relatively little managerial discretion.<sup>10</sup> Limited managerial discretion has a number of theoretical consequences: (1) managers who have less discretion and authority presumably have lower marginal products and thus should, on average, earn less; (2) mutuals should be concentrated in fewer lines of business and be more geographically concentrated; and (3) mutuals should be less efficient or have higher costs. We examine each of these propositions.

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<sup>10</sup> It is important to distinguish mutuals where members have and do not have effective control of managers. In the early industry fire insurance business, for example, mutuals had a comparative advantage for a number of reasons already discussed. In those settings it was reasonable to give managers discretion in setting rates and monitoring safety compliance for the membership was small in number and was monitoring management. Today's large mutuals are characterized by no effective policyholder monitoring and hence limited managerial discretion makes sense.

After controlling for variables such as firm size, CEO characteristics, firm performance, and so forth, Mayers and Smith (1992) found that mutual executives were compensated less than were stock executives. Mayers and Smith (1988, 1994) found, after controlling for relevant variables, that property-casualty mutuals were more concentrated in terms of lines of business and geographically than were stock insurers. Group life insurance requires more discretion in rate setting than does individual life and Pottier and Sommer (1997) concluded that stocks were more prevalent than mutuals in group insurance. More managerial discretion can lead to additional costs. Mayers and Smith (1994) took the loss-to-premium ratio as an imperfect and indirect indicator of managerial discretion, with mutuals expected to have the largest ratios. Their results on Lloyds, closely-held stock insurers, widely-held insurers and mutuals were consistent with the managerial discretion hypothesis. Boose (1990) found differences in general insurance expenses between mutual and stock insurers, but could not refute the possibility that the difference was due to sales force expenses rather than management of the firm.

### *Risk and Solvency*

When fixed and residual claimants are one in the same, theory says, insurers should engage in less risk and consequently enjoy lower insolvency rates. Lamm-Tennant and Starks (1993) examined the variance in the loss ratio (losses/premiums) as a measure of risk of mutual and stock insurers. On a total firm basis they found that mutuals have lower total risk.<sup>11</sup> When they disaggregated by line of insurance or by geographic area, their findings were consistent with the total firm results. Theory also posits that when regulators establish an insurance guaranty fund that is a post-assessment fixed percent of premium volume, that stock insurers are more

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<sup>11</sup> The greater loss ratio variance of stock insurers is accentuated by Lamm-Tennant and Rollins (1994) finding that stock insurers were given to engage in discretionary accounting choices to smooth earnings.

prone to moral hazard than are mutuals. Insurance guaranty funds covering most lines of property-liability insurance now exist in all states. Lee, Mayers, and Smith (1997) found no evidence of moral hazard on the part of mutuals, that is, an increase in portfolio risk by shifting from debt to equity, around the time of enactments of insurance guaranty funds. For stock insurers, however, they discovered increased portfolio risk around the time of guaranty fund enactments.

Earlier we reported that between 1868-1905 mutuals had a termination rate of 23.0% while stock insurers had a 61.4% termination rate. Enormously different rates for mutuals and stock insurers persist today. Best (1992) examined life/health insurers over the period 1976-1991 and found the insolvency rate of mutuals to be 0.38% and that of stock insurers to be 0.79%. Best also concluded that: "The majority of stocks that became financially impaired companies since 1976 were closely held carriers of modest size in many instances management of these carriers owned all, or a significant portion, of the outstanding stock. While not formally documented in all cases, it appears that the closely-held ownership and management structure of these stock companies led to a lack of appropriate checks and balances and management control. In addition, the focus on enhancing short-term stockholder returns resulted in increased balance sheet or business risk tolerance." (Best 1992, 57-8) Lee, Mayers, and Smith (1997) reported average insolvency rates for the period 1969-1990 for stock insurers of 0.81% and of 0.19% for mutuals. There can be no doubt as to the greater risk aversion and resulting lower insolvency rate of mutuals.

### **Optimal Ownership and Public Policy Conclusions**

The evolution of insurance in America has followed the lines predicted by theory. Mutuals dominated in early life insurance where the avoidance of the conflict between fixed and

residual claimants was key. Mutuals arose in industries where asymmetric information played a significant role. They dominated in early fire insurance where discouragement of moral hazard was important. Mutuals tended to grow and in the process tended to lose their membership participation, not only because of the growing membership, but also because of changing practices and court rulings. Mutuals have, nonetheless, tended to hold their own in terms of the proportion of insurance written and are certainly not a fast fading factor in the insurance industry.

Today's policyholders may not be aware of whether their insurer is a mutual or see a connection between their premium dividends and the ownership form of their insurer. Whether recognized or not by their policyholders, mutuals have a clearly documented lower risk tolerance and substantially lower insolvency rates. Mutuals' lower insolvency rates translate into significant positive externalities for society. Given that we have public policies that establish regulation and cover for insolvencies, society is better off with the continued presence of mutuals.

The market contracting costs are smaller for mutual than for stock insurance companies. The long term contracting costs for mutuals, by their nature, are removed by making the owners and policyholders one in the same. In the case of property and casualty insurance, the advantage that mutuals had in terms of less asymmetric information between policyholder and the insurance company has diminished, if not disappeared, as mutuals grew away from their historic roots. Given their consistently lower insolvency rates, mutuals have an advantage over stock insurance companies in the market contracting costs of regulation. The uniformly lower insolvency rates of mutuals means a significant savings of the social costs associated with insolvency. Turning to the ownership costs, despite policyholders' lack of real control over managers, the evidence from

mutualizations and demutualizations is mixed. In general one is left with the conclusion that neither mutuals nor stock insurance companies have a statistically significant relative efficiency advantage. Instead what we seem to see is firms' managers behaving as theory suggests they should in terms of lines of business, geographical spread and use of outsider directors. Turning to the ownership costs we find that the costs associated with risk bearing are diminished, in theory, by the mutual nature of mutuals and, in practice, by their superior insolvency track record. Thus the sum of the market contracting and ownership costs is smaller for mutuals than it is for stock insurance companies. Ownership of insurance companies should, from a theory of the firm perspective, be mutual not stock. This does not imply that stock insurance companies should convert to mutuals, or should be required by public policy to do so. It does mean, however, that where feasible, public policy should prefer mutual over stock insurance companies.

From a public policy perspective what most distinguishes mutuals and stock insurance companies is the compelling difference in their insolvency rates. This difference should have two policy implications. One, mutuals should be subject to a lower level of regulation than stock insurance companies. Two, in light of mutuals' track record of their managers not being particularly susceptible to the moral hazards in the face of enactment of guarantee funds, the various states should differentiate between mutual and stock owned insurance companies in the assessment rates for their guarantee funds.

The number of mutuals has declined since the 1954 peak. Given the conclusion that public policy should favor mutual over stock insurance companies, the obvious policy question is how to respond to the shrinkage. The decline is, in part, a consequence of demutualization. Should demutualization be halted? Although the evidence on whether mutualizations or

demutualizations enhance efficiency is mixed, from the perspective that mutuals are the optimal ownership form, demutualizations move the insurance industry in the wrong direction. To encourage the formation of new mutuals states should be encouraged to set an appropriately lower guarantee fund assessment for mutuals. If the decline in mutual insurance companies is not arrested by the above policies, then thought could also be given to an exemption from federal corporate income tax or a preferential tax scheme. There is precedence for favorable tax treatment of mutual for mutual savings banks and mutual S&Ls were exempted from federal corporate income tax from 1919 to 1952, and until 1962 benefited from a highly preferential tax scheme.

Mutuals are well beyond their early days when members knew one another and member participation was important to the operation of the association. The literature on the performance of mutuals' managers suggests that they are not less efficient and tend to orient the mutual in terms of lines of business and geographical spread and make use of outside directors as theory suggests they should. More importantly, MS&L managers deliver results where they most matter, that is, in terms of lower risk tolerance and solvency. It is not obvious, therefore, that public policy should call for a reassertion of mutual policyholders= ownership rights of control.

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