(4)

Ownership Structure and Performance: The Demutualization of Life Insurers

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ABSTRACT

This article examines the pre- versus post-demutualization performance of 33 legal reserve life insurers. Product, financial, and management welfare variables are analyzed to provide evidence relating to two competing hypotheses: efficiency and expropriation. Demutualization did not significantly affect premium income, the mix of cash value vs. noncash value policies, lapse rates, or operating expenses. However, following demutualization, capitalization and management turnover increased, while the percentage of participating insurance decreased. The evidence supports the hypothesis that efficiency rather than expropriation is the motivation and the result of demutualization.

Introduction

Diversity of organizational form is characteristic of the insurance industry. The life insurance segment of the industry is dominated by mutual and stock companies. While mutual companies are far less numerous (about 5 percent of all legal reserve companies), they control almost half of the industry assets and are responsible for about 38 percent of the life insurance coverage in force. Over the last 40 years, the number of mutual life insurers has remained relatively stable, while the number of stock life companies has increased significantly.[1]

In stock companies, the customer and ownership functions are distinctly separate, while these functions are merged in mutual life insurers. At least in theory, ownership rights in mutual insurers are vested in the policyholders of the company. The actual degree of control exercised by policyholders

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[1] Statistics in this paragraph are drawn from the *1990 Life Insurance Fact Book* and the *1991 Life Insurance Fact Book Update*. At the start of 1990, there were 2,153 stock and 117 mutual life insurers operating in the United States. These numbers compare to 478 stock companies and 133 mutuals in business at the start of 1950.

has been debated (see Anderson, 1973; Greene and Johnson, 1980; Hetherington, 1969; and Kreider, 1972, for example). The differences in ownership structure between mutual and stock companies naturally focus attention on the efficiency of the two organizational forms and the agency theory implications of changes in ownership structure.

Previous cross-sectional empirical studies examining the performance of mutual and stock savings and loan associations (see Hadaway and Hadaway, 1981; Nicols, 1967; O'Hara, 1981; Simpson and Kohers, 1979; and Verbrugge and Goldstein 1981, for example) and mutual and stock insurers (Frech, 1980 and Spiller, 1972) concluded that stock organizations performed better than mutual organizations in terms of a set of performance measures. However, Fama and Jensen (1983), Hansmann (1985), Mayers and Smith (1981, 1986), and Smith (1986) argue for the potential efficiency of *both* types of organizations, theorizing a tradeoff between the costs and benefits of each form of organization. This view was summarized clearly by Smith (1986, p. 705): "The different ownership structures create different incentives for the contracting parties, thus the different costs of controlling the resulting incentive problems lead to the efficiency of the various ownership structures." The survival of both organizational forms has also been offered as proof of their efficiency. Fama and Jensen (1983, p. 345) note: "Organizations compete for survival, and the form of organization that survives in an activity is the one that can deliver the product demanded by consumers at the lowest price while covering costs." According to Jensen and Smith (1985, p. 97), competition and survivorship produce an efficient utilization of resources.

The possibility of wealth transfers among various claimholders has been examined in the context of agency theory. Mayers and Smith (1986, pp. 75-76) note that stockholders of an insurer have incentives to increase the value of their stock at the policyholders' expense by making unanticipated changes in investment, financing, and dividend policies. The mutual form of organization represents one way of reducing the costs of controlling incentive conflicts between stockholders and policyholders. After demutualization, however, policyholders are no longer the residual claimants of the firm, and the possibility of expropriation by stockholders increases to the extent that the policyholders' disciplining mechanisms (such as policy termination or policy loans) become less effective.

Another form of incentive conflict is found between owners and managers. Because owners of mutual insurers must rely on less effective control mechanisms, managers have greater opportunities to take advantage of the policyholders. For example, more perquisite consumption and nepotism should be observed at mutual organizations than stock organizations. Hence, Smith (1986, p. 708) suggests that mutuals should have a comparative advantage in areas requiring little managerial discretion and in offering long-term contracts where renewal options are more valuable.

Results of previous cross-sectional studies reporting performance deficiencies for mutuals may be attributable to the research methodology

employed rather than real performance differentials. Schwert (1981) and Mayers and Smith (1986) argue that a better test would examine the same firms under alternative ownership structures using time series data. Although such a test is precluded by constant organizational structures in many industries, the test is possible in the life insurance industry, as a company may change from mutual to stock (known as demutualization, stockization, or stocking) or from stock to mutual (mutualization).

This article compares the performance of legal reserve life insurers before and after demutualization. The demutualization process, as well as theory and evidence relating to changing organizational structures are discussed in the following section. Two competing hypotheses—the efficiency hypothesis and the expropriation hypothesis—originally proposed by Mayers and Smith (1986) are introduced to explain why insurance firms convert. Then, the sample of firms, data, and research methodology are described. Finally, empirical results are provided, followed by a summary and conclusion.

Demutualization: The Process, Theory, and Evidence

The Demutualization Process

Demutualization provisions vary by state. Some states simply require approval by state regulatory authorities and a "clear majority" of policyholders, while other states place additional restrictions on the process or expressly prohibit conversion. Where demutualization is permitted, the basic steps in the process are similar. A plan of conversion must be drafted and submitted to the state insurance commissioner. The plan is analyzed by the commissioner, and a public hearing is held. If the commissioner approves conversion, policyholders are notified of the company's plan to convert. Policyholders are provided detailed information explaining what they will receive in exchange for surrendering their ownership rights. Next, the policyholders vote on the proposed change. If the requisite number of policyholders approve demutualization, final approval is granted, and the company is free to convert. In 1988, New York ended a 66-year prohibition against demutualization. The Equitable Life Assurance Society, a New York-based mutual and one of the nation's largest life insurers, announced plans in late 1990 to begin the demutualization process.

Conversion: Theory and Evidence

A number of reasons have been offered to explain why life insurers demutualize (see Dannen, 1984; Dorfman and Adelman, 1986; Garber, 1986; and Mehr and Gustavson, 1987). An important motivation is access to capital markets. An insurer may wish to raise additional funds for expansion or diversification but may be constrained by the inability to raise funds under the mutual form of organization. The stock form of organization allows insurers to issue additional shares when an infusion of capital is necessary or to exchange shares with another company to facilitate an acquisition. In a survey conducted by Greene and Johnson (1980, pp.

167-168), officers of stock insurers cited the ability to diversify and acquire other companies as an important advantage of the stock form over the mutual form.

Positive incentive effects are also cited as a benefit of demutualization. Jensen and Meckling (1976) note the benefits of aligning the interests of owners (principals) and managers (agents) by making managers part owners of the firm. Incentive devices such as stock options and stock bonuses are available under the stock form of organization but not under the mutual form.

Another reason for the demutualization decision may be the erosion of tax advantages traditionally bestowed upon mutual life insurers. While there have been a number of important changes in the taxation of the life insurance industry (see Stagliano, 1979, for a historical perspective), the most significant change regarding the taxation of mutuals versus stocks occurred in 1984 with the passage of the Deficit Reduction Act (DEFRA). In an effort to allocate taxes more equitably between mutual and stock life insurers, DEFRA limited the deductibility of policyholder dividends paid by mutuals. This and other changes shifted more of the industry's income tax burden to mutuals (see Black and Skipper, 1987, pp. 588-589 and Dorfman and Adelman, 1986, p. 472). Although the erosion of tax advantages for mutuals may influence the decision to demutualize, Garber (1986, p. 59) relegates tax implications to a list of "less important" demutualization rationales.

Research by Fama and Jensen (1983), Hansmann (1985), Mayers and Smith (1981, 1986, 1988), and Smith (1986) focuses on the costs and benefits inherent in each form of organization and the agency theory implications of different ownership structures. They find that the primary benefit of stock insurers is the separation of the managerial, ownership, and customer functions, allowing increased efficiency through specialization. In addition, as greater opportunities and incentives to monitor management are available, increased control over management is exercised. These benefits, however, must be offset against incentive problems similar to the stockholder-bondholder conflict in an ordinary stock organization. At mutuals, such incentive problems are less severe because the ownership and customer functions are merged and vested in a single group of claimholders. This benefit is obtained at the expense of less effective control of the owner-manager conflict since the external managerial-labor market and the market for corporate control in the form of proxy fights, tender offers, takeover bids, and so forth are not readily available for mutuals. The costs and benefits of these alternative organizational structures are summarized in Table 1.

Mayers and Smith (1986) suggest that wealth expropriation provides a possible explanation for conversions. Garber (1986), Smith (1986), and Mayers and Smith (1986) identify a number of potential wealth transfers that could occur around the time of conversion. Policyholders may be harmed in a number of ways: The converted company could alter its divi-

Table 1

Costs and Benefits of Organizational Structures

Organizational Structure	Cost	Benefit
Mutual	As monitoring opportunities and incentives are reduced, less effective control over management is exercised.	The merging of ownership and customer interests leads to lower contracting costs to resolve conflicts between the groups.
Stock	The separation of owner and customer interests leads to higher contracting costs to resolve conflicts between the groups.	As monitoring opportunities and incentives are enhanced, more effective control over management is exercised.

dend policy, reducing dividend payments to policyholders; the conversion could reduce the ability of the insurer to fulfill contractual obligations outstanding at the time of conversion; and policyholders may not be reasonably compensated for their membership rights. If the conversion process involves a public offering, wealth may be shifted from outside investors to the insurer if the initial share price is too high, and from the insurer to outside investors if the selling price is too low. Finally, conversion may be used as a mechanism to transfer wealth to officers and directors of the converting firm. Hetherington (1969, p. 1095) suggests that demutualization may be motivated by the self-interest of managers. Through demutualization, they may be able to convert their *de facto* ownership (resulting from the mutual policyholders' ineffectiveness as owners) into stock representing a substantial fraction of the insurer's net worth.

Although expropriation may occur in a number of ways, there are several safeguards. Garber (1986) and Dannen (1984) argue that policyholders are protected from wealth transfers to managers and outside investors due to regulatory control over the conversion process. Rational voting by policyholders provides another potential safeguard, as they must approve the conversion plan before it can go forward. Investor rationality and efficient capital markets should help to prevent systematic wealth transfers from investors in the demutualization process.

To test the expropriation hypothesis, Mayers and Smith (1986) examine 30 life insurers that mutualized. Pre- and post-mutualization industry-adjusted variables (including premium income, lapse rates, participating vs. nonparticipating coverage in force, cash value vs. noncash value coverage in force, returns to shareholders, and management turnover) were examined to determine if conversion had systematically harmed one group of

claimholders. Mayers and Smith find no significant evidence of expropriation and concluded that the mutualizations are efficiency-enhancing.

The efficiency hypothesis is not new to the literature as an explanation of organizational conversion in the life insurance industry. Earlier results of cross-sectional studies of mutual and stock financial institutions cast doubt upon the efficiency of mutual organizations. However, a growing body of research, including Fama and Jensen (1983), Hansmann (1985), Mayers and Smith (1981 and 1986), and Smith (1986) argues for the potential efficiency of both mutual and stock organizations. Citing earlier studies of economies of scale in the life insurance industry by Geehan (1977) and Houston and Simon (1970), Hansmann (1985, p. 187) notes that "if the mutual form is less efficient than the stock form today, it is not owing to weaker incentives to minimize cost, but rather to other factors such as restricted access to capital and inability to diversify." Boose (1990) finds no systematic differences between stock and mutual life insurers when general insurance expenses plus commissions are analyzed. Demsetz and Lehn (1985) predict that the form of organization is immaterial, provided regulators can substitute for the owners of a firm in monitoring and constraining agent-managers. In support of the Demsetz and Lehn hypothesis, Boose (1990) finds evidence that the regulatory regime has a significant impact on expenses plus commissions.

To provide additional evidence on the efficiency and expropriation hypotheses, our study examines the performance of a sample of demutualized life insurers. The study analyzes time series data around the time of conversion so that the same firms are analyzed under both organizational structures. The research is important because it adds another piece to the ownership structure puzzle in the insurance industry. The study complements the work of Mayers and Smith (1986) by providing additional empirical evidence on the efficiency and expropriation hypotheses.

Sample, Data, Hypotheses, and Methodology

The Demutualized Firms

The 33 legal reserve life insurers that demutualized between 1902 and 1986 are listed in Table 2. The authors believe this list to be exhaustive. Sources drawn upon to arrive at the listing include Stalson (1942), the American Council of Life Insurance, and *Best's Insurance Reports: Life-Health Edition*. The lowest number of demutualizations during any decade over the sample period was two (1940-1949), and the highest number during any decade was five (1920-1929, 1930-1939, and 1980-1986). The most recent demutualization in the sample occurred in 1986. Since 1986, several other companies (including Mutual Security Life Insurance Company, Maccabees Mutual Life Insurance Company, and The Equitable Life Assurance Society) have announced that they are considering demutualization or have had a demutualization plan approved, but these companies are not included in the sample due to the pre- versus post-demutualization data requirement.

Table 2

Demutualized Life Insurers

Company Name	Location	Formation Date	Demutualization Approval Date
American Reserve Life Insurance Company	Omaha, Nebraska	1924	1925
Brookings International Life Insurance Co.	Brookings, South Dakota	1934	1966
California Life Insurance Co.	Los Angeles, California	1920	1947
Central Life Assurance Society	Des Moines, Iowa	1896	1902
Equitable Beneficial Mutual Life Insurance Co.	Philadelphia, Pennsylvania	1898	1977
Eureka-Maryland Assurance Corporation	Baltimore, Maryland	1882	1918
Farmers Union Mutual Life Insurance Co.	Des Moines, Iowa	1922	1933
Franklin Life Insurance Co.	Springfield, Illinois	1884	1910
Inter-State Assurance Co.	Des Moines, Iowa	1908	1985
Life Insurance Co. of Georgia	Atlanta, Georgia	1891	1918
Midland National Life Insurance Co.	Sioux Falls, South Dakota	1906	1909
Monumental Life Insurance Co.	Baltimore, Maryland	1860	1928
National Equity Life Insurance Co.	Little Rock, Arkansas	1923	1927
National Heritage Life Insurance Co.	Chicago, Illinois	1879	1966
National Old Line Insurance Co.	Little Rock, Arkansas	1926	1930
National Term Life Insurance Co.	Zionsville, Indiana	1960	1985
Northwestern National Life Insurance Co.	Minneapolis, Minnesota	1885	1927
Old Equity Mutual Life Insurance Co.	Chicago, Illinois	1950	1984
Peoples Life Insurance Co.	Frankfort, Indiana	1906	1910
Pyramid Life Insurance Co.	Little Rock, Arkansas	1925	1928
Reliable Life and Casualty Co.	Madison, Wisconsin	1922	1965
Republic National Life Insurance Co.	Dallas, Texas	1928	1930
Reserve Loan Life Insurance Co.	Indianapolis, Indiana	1897	1909
St. Louis Mutual Life Insurance Co.	St. Louis, Missouri	1857	1930
States General Life Insurance Co.	Dallas, Texas	1952	1955
Surety Life Insurance Co.	Salt Lake City, Utah	1936	1950
Texas Mutual Reserve Life Insurance Co.	Tyler, Texas	1934	1935
Union Mutual Life Insurance Co.	Portland, Maine	1848	1986
Utah Farm Bureau Mutual Life Insurance Co.	Salt Lake City, Utah	1937	1984
Viking Life Insurance Co.	Minneapolis, Minnesota	1912	1972
Washington Life Insurance Co. of America	Lafayette, Louisiana	1952	1953
West States Insurance Co.	Los Angeles, California	1906	1973
Western States Life Insurance Co.	Fargo, North Dakota	1930	1944

The sample of demutualizations is slightly larger than the sample of mutualizations analyzed by Mayers and Smith (1986). All of the companies analyzed in this study were domiciled in the United States, while six of the 30 firms analyzed by Mayers and Smith were based in Canada. All available data were used in the analysis. However, the number of useable observations on some variables is limited by changes in reporting methods and other factors.

Data and Hypotheses

Time series data were collected for each of the companies for the five years before and the five years after demutualization. The data sources were *The Spectator Life Yearbook*, *Best's Insurance Reports: Life-Health Edition*, and *The Unique Manual*. *Spectator* was used, as available, for data from 1896 to 1954. *Best's* was used for data from 1908 to 1988; and some missing observations were obtained from *The Unique Manual*. Industry data were obtained from *Spectator*, *Best's*, and *The Life Insurance Fact Book*. Three sets of variables were examined to provide evidence on the efficiency and expropriation hypotheses: product variables, financial variables, and a management welfare variable.

Product Variables: Three product variables are examined: premium income, product mix (participating vs. nonparticipating and cash value vs. noncash value), and lapse rates. A firm's premium income is a function of a number of variables such as policy renewals, new sales, death claims, and voluntary terminations (lapses). If an insurer's contracts become less attractive as a result of a change in organizational structure, old policies may not be renewed, sales may decline, and policyholders may terminate coverage. All of these actions would lead to reduced premium income. If the insurer's contracts are viewed more favorably following conversion, premium growth should increase, reflecting new sales and persistency. Therefore, if efficiency is the goal, premium income should remain constant or increase. Mayers and Smith (1986) also used premium income as a proxy for policyholder welfare, arguing that a reduction in premium income implies expropriation of policyholder wealth. Thus examining premium income allows both hypotheses to be tested simultaneously.

Premium income results must be interpreted in conjunction with the product mix, because, as Mayers and Smith (1986, p. 82) note, "systematic shifts in the product mix . . . could be masking evidence of policyholder expropriation." Cash value coverage requires higher premiums than term or group life because of the savings feature of cash value policies. Participating policies typically have higher premiums than nonparticipating policies to permit dividend payments to policyholders.

The amount of participating versus nonparticipating coverage also provides evidence on the efficiency hypothesis. Contracting costs should be higher for stock companies that market participating coverage because of policyholder-stockholder conflicts, especially in the area of equitable income distribution between the two groups. To avoid these costs, demutualized

firms can restrict their writing of participating coverage. Therefore, a reduction in the percentage of participating coverage in force is consistent with the efficiency hypothesis.

Lapse rates must also be examined in interpreting premium income results since premium income is, in part, a function of persistency. The persistency rate provides evidence relating to both hypotheses. Insurable policyholders are not likely to remain with the company if they believe the change in organizational structure is transferring wealth away from them. Alternatively, if policyholders believe that the change is neutral or beneficial, they are likely to remain with the company. Thus, higher lapse rates are consistent with the expropriation hypothesis, while constant or lower lapse rates are consistent with the efficiency hypothesis.

Financial Variables: Three financial variables are examined: capital and surplus, admitted assets, and operating expenses. Access to additional capital is often cited as a rationale for demutualization. Additional capital may allow the firm to enter new product and geographical markets, to finance the acquisition of new business, and to strengthen a weak surplus position. Thus, an increase in capital and surplus would be consistent with the efficiency hypotheses. A decline in surplus could occur because of increased operating expenses or an increased rate of voluntary terminations. Thus, a reduction in surplus after demutualization would argue against efficiency and in favor of expropriation.

Admitted assets serve as a proxy for efficiency and expropriation in at least two ways. If demutualizations occur to facilitate growth, admitted assets may increase. In addition, if there is dissatisfaction with the change in organizational form, policyholders may surrender their coverage. If the rate of termination is high enough, insurers may be forced to liquidate some assets to pay nonforfeiture values to the surrendering policyholders. Therefore, an increase in admitted assets is consistent with efficiency, and a decline is consistent with expropriation.

Comparing operating expense ratios before and after demutualization provides evidence of how efficiently the organization is functioning. A decline in the expense ratio provides evidence of greater operational efficiency. An increased expense ratio after conversion provides weak evidence of expropriation--the firm is operating at a lower level of efficiency, meaning that an increased percentage of funds that could have been paid to stockholders is being used to defray expenses, including commissions.

Management Welfare: A number of variables could be used to gauge management welfare. Salaries paid to management, perquisite consumption, and profit sharing/bonuses would all provide valuable information. Unfortunately, data for these variables are not readily available. As a proxy for management welfare, management turnover before and after demutualization is examined.

The stock form of organization provides greater incentives and opportunities for owners to monitor management. Mutual managers are less easily

monitored and thus have greater ability to behave opportunistically toward their policyholders. Assuming that turnover is costly for management because their human capital is tied to their present position, managers should be averse to changing jobs. Because departing managers lose their ability to expropriate wealth, a decline in management turnover would be consistent with the expropriation hypothesis. An increase in managerial turnover would argue against such wealth transfers and for greater efficiency and might be interpreted as an indication that the market for corporate control is a more effective disciplining mechanism subsequent to demutualization. Table 3 summarizes the predictions of the efficiency and expropriation hypotheses for the variables examined in this study.

Table 3

Predictions of the Efficiency and Expropriation Hypotheses

Variable	Efficiency Hypotheses	Expropriation Hypotheses
Premium Income	No Change or Increase	Decrease
Percentage Participating Insurance in Force	Decrease	No Change or Increase
Lapse Rates	No Change or Decrease	Increase
Surplus and Capital	Increase	Decrease
Admitted Assets	No Change or Increase	Decrease
Operating Expenses	Decrease	Increase
Management Turnover	Increase	Decrease

Methodology

Because the demutualizations took place over a lengthy period of time, care was taken to separate industry effects from demutualization effects. For example, a company may have a higher lapse rate and greater premium income immediately after demutualization, but these results may correspond with higher lapse rates and premium income for the life insurance industry. We controlled for this problem by subtracting contemporaneous industry averages from each insurer's data to obtain *industry-adjusted values*.

Some of the firms in the sample are small and/or started operations shortly before demutualization. Both of these factors could impart an upward bias if percentage changes from year to year are analyzed. Due to the skewed underlying distribution of percentage changes, nonparametric, distribution-free analysis was employed.[2] Obvious outliers were excluded

[2] An earlier draft of the article used screening rules and confidence intervals to exclude extreme values. After eliminating outliers, the remaining pre- versus post-demutualization

and the remaining data were analyzed using the Wilcoxson signed-rank test.[3]

Each variable was analyzed—on a three- and five-year basis, with the five-year results reported—by comparing performance before and after demutualization. Where results are sensitive to the length of time analyzed and to firm size, these differences are noted. Due to potential skewness problems, the tables report both median and mean values.

Empirical Results

Product Variables

Table 4 summarizes the results for the product variables. Panel A presents the unadjusted and industry-adjusted results for changes in premium income. The percentage changes in premium income for the demutualizing firms were, on average, much higher than the industry average. Although the growth of premium income slowed after demutualization approval, the difference was not statistically significant.

To gain insight into the premium income result, product mix was analyzed. Due to the lack of consistent industry averages, Panel B of Table 4 presents unadjusted product mix results only. The percentage of participating life insurance in force significantly declined after demutualization. The significant reduction is largely attributable to smaller firms, where the percentage of participating coverage fell by more than 29 percent. A similar but not statistically significant reduction in participating coverage was found for the larger firms. A review of new business written shows that some of the insurers restricted their offerings to nonparticipating coverage after demutualization. This practice is consistent with an attempt to minimize incentive conflicts between policyholders and stockholders. The mutualizing firms examined by Mayers and Smith (1986) increased their participating coverage after mutualization.

No significant change was found in the percentage of cash value life insurance in force after demutualization. The slight decline in the percentage of cash value coverage in force coincides with the gradual reduction in the percentage of cash value life insurance that has occurred over time with the growth of group life insurance. Given the relatively small change in cash value life insurance in force and the substantial change in participating life insurance in force, and recalling that the underlying distribution of these percentages is bounded by 0 and 100 percent, it is unlikely that these results would be sensitive to industry adjustment.

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means were compared using a t-test. Although the screening rules employed in the earlier version were rather arbitrary, the results obtained using parametric and nonparametric analysis were largely consistent.

[3] This test is commonly employed in situations where the underlying distribution is not normally distributed. For a discussion of this nonparametric statistical test see, for example, Conover (1980), Manoukian (1986), and Siegel (1956).

Table 4

Product Variable Results Relative to Demutualization Approval

	N	Average (-5,-1)	Average (0, 4)	Median (-5,-1)	Median (0, 4)
A. Percentage Change in Premium Income					
Unadjusted	18	23.38	19.77	14.47	13.77
Industry-Adjusted	18	15.42	11.01	6.69	5.03
B. Product Mix					
Percent Participating Coverage in Force	12	75.22	51.51*	93.26	60.62
Percent Cash Value Coverage in Force	13	72.71	68.61	79.01	81.22
C. Lapse Rates					
Unadjusted	12	11.36	18.01	9.96	13.07
Industry-Adjusted	12	-0.14	6.82	-0.73	0.72

Sources: Premium data were obtained from *Best's Life Insurance Reports*, *Spectator Life Yearbook*, and *The Unique Manual*. Industry premium data were obtained from *Best's*, *Spectator*, and *The Life Insurance Fact Book*. Product mix data are from *Best's* and *Spectator*. Lapse rates are from *Spectator* and *Best's*. *Spectator* lapse rates were computed by dividing dollars paid for lapsed, surrendered, and purchased policies by premium income. *Best's* lapse rates are the ratio of terminated coverage to insurance in force at the beginning of the year plus new business from the prior year. Industry lapse rates are from *Spectator* and the *Fact Book*. *Spectator* industry lapse rates were calculated as described above and are based on firms operating in New York. *Fact Book* industry lapse rates are defined as the ratio of the number of ordinary policies surrendered to mean ordinary policies in force.

Note: Columns headed (-5,-1) report averages or medians over the period five years before to one year before the demutualization approval date. Columns headed (0,4) report pertain to the period including the approval year and the four subsequent years.

* Difference in the pre- and post-demutualization averages is significant at 0.05.

Lapse rate results are summarized in Panel C of Table 4. Although the average lapse rate increased after demutualization, the difference was not statistically significant. A review of the unadjusted and industry-adjusted median values reveals that the average values were inflated by several firms with higher lapse rates after conversion. The nonparametric statistical test was employed to correct for this skewness problem.

The product variable results provide some support for the efficiency hypothesis. Premium income was unchanged at a time when the companies were writing more nonparticipating coverage and term coverage. Lapse rates were not significantly different after conversion. No evidence of expropriation is apparent from the product variable results.

Financial Variables

Results for the financial variables are summarized in Table 5. Panel A displays the percentage changes in capital and surplus before and after demutualization approval. As noted earlier, access to capital is a primary motivation for demutualization. A large increase in capital and surplus occurred after conversion, but this change was not statistically significant. A review of the data showed that most companies experienced a sharp increase in capital and surplus immediately after demutualization approval. When the data were analyzed comparing the three years before and the three years after approval, the increase in capital and surplus was significant at 5 percent. The significant growth in capital and surplus for three-year periods but not for five-year periods suggests that, after initially raising capital shortly after approval, subsequent capital infusions are dispersed across time. As Dannen (1984, p. 163) predicts, access to additional capital was especially important to the smaller firms.

Table 5

Financial Variable Results Relative to Demutualization Approval

		Average		Median	
	N	(-5,-1)	(0, 4)	(-5,-1)	(0, 4)
A. Percentage Change in Capital and Surplus					
Unadjusted	20	26.81	47.58	19.53	24.44
Industry-Adjusted	20	19.41	39.02	13.88	14.70
B. Percentage Change in Admitted Assets					
Unadjusted	20	37.19	49.69	18.18	16.97
Industry-Adjusted	20	28.28	40.98	11.76	9.17
C. Operating Expense Ratios					
Unadjusted	11	36.85	31.41	33.59	29.29
Industry-Adjusted	6	19.20	10.65	9.46	9.20

Sources: Capital and surplus and admitted asset data were obtained from *Best's Life Insurance Reports*, *Spectator Life Yearbook*, and *The Unique Manual*. Industry data for these variables are from *Spectator* and *The Life Insurance Fact Book*. *Spectator* "industry" data are for insurers admitted in New York. Company expense data were obtained from *Spectator* and *Best's*. Industry expense data are from the *Fact Book*.

Notes: Columns headed (-5,-1) report averages or medians over the period five years before to one year before the demutualization approval date. Columns headed (0,4) report pertain to the period including the approval year and the four subsequent years. None of the differences between pre- and post-demutualization averages are significant at the 0.05 level.

Panel B of Table 5 displays results for admitted assets. Once again, the average percentage values exceeded the median values. The growth rates were not significantly different before and after demutualization approval and were not sensitive to firm size or time period analyzed. Admitted asset growth was not significantly affected by demutualization, a result consistent with the efficiency hypothesis.

The Life Insurance Fact Book provides an industry operating expense ratio beginning in 1915. The ratio is defined as the sum of commissions and insurance expenses—agency expenses, home office salaries, medical fees, and rents—divided by total income—the sum of premium income, net investment income, and other income. In the early 1950s, *Best's Life Insurance Reports* began to aggregate the expense data, making it impossible to compute an expense ratio consistent with the *Fact Book* ratio for the later demutualizations. *The Spectator Life Yearbook* provides a detailed expense exhibit, so expense ratios as described above could only be calculated for the earlier demutualizations.

Operating expense ratios are summarized in Panel C of Table 5. The unadjusted values are for 11 of the earlier demutualizations. These ratios are nearly double the industry average.[4] Although both the unadjusted and adjusted average values declined after demutualization, the differences were not significant. In computing the industry-adjusted expense ratios, the earliest demutualizations had to be dropped as the industry series began in 1915. For the remaining firms, the difference widened between the pre- and post-demutualization averages. However, this result is once again attributable to the skewness problem discussed earlier. Even though the difference in the industry-adjusted averages increased, the difference between median values narrowed to less than one-half of one percent.

The financial variable results generally are consistent with the efficiency hypothesis. A significant increase in capital and surplus in the three years following demutualization was detected. Although the differences were not significant, the average growth of admitted assets increased after approval, while operating expense ratios declined. None of these results are consistent with expropriation.

Management Welfare

Table 6 displays management turnover results. Seven of the 29 firms for which data were available changed company presidents in the year demutualization was approved. Examining the periods before and after approval, while taking into consideration the start-up bias referred to earlier, the results show greater management turnover during the periods after the

[4] Several explanations can be offered for the magnitude of the expense ratios. Some of the companies were small and rapidly growing, meaning high policy issue expenses. To attract sales representatives, these companies may have offered higher commissions. Finally, one of the companies, Eureka-Maryland Assurance, marketed industrial life insurance, a product characterized by high policy service expenses.

conversion was approved and immediately before conversion. This result is consistent with the efficiency hypothesis as greater opportunities and incentives to monitor management and more effective management control devices are present under the stock form of organization. The results are not consistent with expropriation of wealth by management. To use their position to convert company wealth into personal gain requires continuing control, but the results show increased turnover around the time of demutualization.

Table 6

Management Changes Relative to Demutualization Approval

Year Relative to Demutualization Approval	Number of Firms with Data Available	Number of Executive Changes	Percent of Total
-5	15	2	13
-4	19	0	0
-3	22	0	0
-2	24	3	13
-1	26	3	12
0	29	7	24
1	31	5	16
2	32	3	9
3	31	3	10
4	27	0	0

Note: The name of the chief executive was provided by *Best's Life Insurance Reports* and *Spectator Life Yearbook*. The President of the company was used in this analysis.

The management turnover results are consistent with the cost/benefit tradeoff theory predicted in Table 1 and the agency theory implications of organizational structures. In their study of mutualizations, Mayers and Smith (1986) found turnover was higher before mutualization when the firms were stock companies. Our results are consistent with theirs, implying increased managerial control under the stock form of organization.

Summary and Conclusion

The results support the Fama and Jensen (1983), Hansmann (1985), and Mayers and Smith (1981, 1986) views regarding the potential efficiency of mutual and stock organizational forms. The evidence presented provides support for the efficiency hypothesis. With regard to the product variables, premium income was unchanged, lapse rates were constant, and the product mix (cash value vs. noncash value) was unchanged. A significant reduction in the amount of participating coverage in force was detected. A significant increase was found in capital and surplus immediately following demutualization. Admitted assets were unchanged, and expense ratios were

not significantly altered. Finally, management turnover increased around the time of demutualization approval.

Interpreting the empirical results in light of the regulatory process and assuming rational voting behavior, the evidence presented does not support the expropriation hypothesis. The demutualization process is designed to prevent such wealth transfers. The demutualization plan must be approved by state regulatory authorities, policyholders must be given detailed information about the demutualization and how their ownership interest will be valued, and policyholders must approve the change. Regulators should not approve a plan that channels wealth from policyholders to outside equityholders, management, or policyholders who do not elect to become stockholders. Rational, wealth-maximizing policyholders would not approve the plan if they believed that wealth would be transferred to new outside equityholders or management. Apparently, policyholders were not adversely affected by demutualization--premium income was constant, lapse rates did not increase, and operating expenses were not significantly different. Management turnover increased significantly around the time of demutualization. Over one-fifth of the firms changed company presidents in the year of approval. Thus, management expropriation does not seem to be a primary justification for demutualization.

Many of the results are inconsistent with cross-sectional studies of mutual and stock financial institutions. For example, Spiller (1972) and Verbrugge and Goldstein (1981) find that the rate of asset growth was higher for stock organizations than for mutual organizations, and Frech (1980) and O'Hara (1981) conclude that mutual organizations had higher expenses than stock organizations. The authors believe that our time series analysis captures the tradeoff between the costs of separating owner/customer functions and the benefit of greater market discipline for management. Based on this analysis, enhanced efficiency seems more likely than expropriation as the justification and result of demutualization.

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