The Evolution of Collective Action Business Models: Applications in Fraternal Benefit Societies and Township Mutual Fire Insurance Companies

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Abstract

Fraternal benefit societies and township mutual fire insurance companies evolved from community-based mutual aid efforts in the 19th century. Both are similar in nature to commercial mutual insurance companies, yet they both incorporate a number of elements of collective action theory. As such, they are a combination of an insurance provider and a community organization.

This dissertation examines the history, evolution and survival of fraternal benefit societies ("fraternals") in the United States and township mutual fire insurance companies ("township mutuals") in Minnesota from their inception to 2013. In addition to a managerial economics analysis of the industries in which they operate, this dissertation provides a quantitative analysis of the relative determinants of survival for firms in these industries. This analysis, which primarily takes the form of a survival analysis, includes business drivers, elements of collective action theory and environmental and social factors in addressing the question of what types of firms are most likely to survive and what must the leaders of these organizations focus on to ensure their continued survival.

The primary conclusion of this study is that although firms in these industries have a number of factors that contribute to their continued survival, ultimately they must be run as businesses. In other words, although it is appealing to think of the sentimental aspects of collective action organizations, ultimately, and over the long term, economic considerations dominate the discussion of which firms in the industry survive the longest. In particular, in the case of fraternals, economies of scale, growth and customer retention are highly and significantly correlated with survival. In the case of township mutuals, profitability and market size are the covariates most correlated with longer survival.

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Chapter 1 : Introduction

When individual members of a community fall into a hardship—death of a family member, disease, large expenditures—or have a problem that they cannot address on their own, they have traditionally bonded together at some level to solve the problem collectively. One type of support these collective action efforts can provide is financial, and communities have developed many different ways over time to provide financial support to each other. The earlier forms of mutual aid evolved into the modern concept of insurance. An interesting aspect of this evolution was the recognition on the part of community members that both mutual aid and its successors enabled better financial outcomes for both the individual members as well as the community as a whole.

The objective of this dissertation is to identify organizational, economic and social determinants of survival for fraternal benefit societies in the United States and township mutual fire insurance companies in the state of Minnesota. More specifically, this dissertation examines both the early history of these two types of firms and how they responded to the changing economic and social landscape of the United States. It also establishes links between the industrial organization literature and the literature on collective action and social capital.

One important consideration of collective action organizations is that that they helped people solve problems for which they did not have another avenue of recourse. Responding either to individual financial hardships or the market power of larger, corporate entities, these collective action business models empowered individuals to assume a higher level of control over their own economic destinies and avoid the types of

negative financial outcomes that can result from individual action. These motivations significantly impacted the development of the two types of organizations in this study.

The Two Firm Organizational Models

Both of the organizational types of firms in this dissertation are related to mutual insurance companies, which have as a founding principle customer ownership of the company. Moreover, these two industries are historically important in Minnesota, which has a strong collective action culture and tradition. Hansmann (1996) argued that the original intent of this form of ownership was that it would lead to closer alignment of incentives between policyholders and management. Simply put, if the policyholders were owners, then they would make decisions in managing the company that would be in their best interests as both policyholders and owners. Thus, the founders of mutual insurance companies sought to avoid the difficulties of what has since come to be known as agency theory, which was first formulated by Jensen and Meckling (1976) and furthered by Fama (1980). It should be noted that the recent literature on mutuals suggests that, as a result of the increasing levels of transparency in corporations and the shareholder rights movement, this relationship may actually have reversed itself, and mutuals may exhibit greater levels of agency theory issues than stock corporations.[1] Mutual insurance companies are classified as collective action business models as opposed to "stock" companies, which have corporate ownership and management.[2]

[1] For example, Cummins and Zi (1998) began their analysis of efficiency in the life insurance industry with the assumption that mutuals are less efficient than stock companies as a result of this reversal, although their study shows that the data do not support that conclusion.

Fraternal Benefit Societies

The first collective action model studied in this dissertation is the fraternal benefit society, a form of social society and life insurance provider that emerged in the post-Civil War era. Founded on the basis of a "common bond"—geographic area, ethnicity, religion, profession, or gender—fraternals offered an early form of life insurance to groups that otherwise could not obtain commercial life insurance. These groups thus came together to provide this form of life insurance for themselves. As a result, fraternals provided an early, private form of social safety net. Fraternals receive tax-exempt status if they meet certain conditions including: organization as a non-profit, a democratic governance structure, operation or maintenance of an active local lodge system, and an insurance offering for their members. The insurance offerings and the businesses built to provide them are the basis of this dissertation, and the social aspects of fraternals are not considered. The demand for fraternal insurance has diminished over time, and the industry has seen a significant reduction in size, relative to commercial insurance companies, and why this has occurred is the first general research question of this dissertation.

Township Mutual Fire Insurance Companies

Township mutuals were organized in the latter half of the 19th century to provide fire insurance to their mostly small, rural farmer members, who were responding to a gap in the offerings of the larger stock and mutual corporations. As with life insurance in the case of fraternals, fire insurance for smaller farmers, many of whom were recent

[2] Throughout this dissertation, insurance companies are classified as either "stock" or "mutual." Similarly, fraternal benefit societies are called "fraternals" and township mutual fire insurance companies are called "township mutuals".

immigrants, was too expensive. Stock corporations had neither the ability nor the incentive to provide low-cost fire insurance to farmers spread over a large geographic area. A response of these communities of farmers was to provide the insurance on their own. These township mutual companies were small, local companies initially operating on an assessment plan basis, the primary feature of which, from the farmers' perspective, was its ability to keep the costs of insurance low. The second general research question of this dissertation is an analysis of the firm-level factors that led to relatively longer survival for individual firms in the township mutual industry in Minnesota.

Background on Collective Action Literature

There is already a rich literature on collective action, and this dissertation does not seek to extend it but instead to apply its findings to these industries. There are a number of models and analyses that inform the discussion of collective action, including the neoclassical analysis of public goods and the managerial economics analysis of the boundaries of the firm and ownership and authority within a firm. Specific authors and works in this area include, but are not limited to: Nobel laureate Ronald Coase (1937), who analyzed transaction costs and the boundaries of the firm; Mancur Olson (1966), who wrote a lucid typography of these questions in *The Logic of Collective Action*; Nobel laureate Elinor Ostrom (2000), who examined the development of group norms within collective action situations; Robert Putnam (2000), who analyzed the question of "social capital" *in Bowling Alone*; and Henry Hansmann (1996), who discussed ownership structure and the implications of ownership structure for the management of the firm in his book *The Theory of Enterprise*.

A simple framework in which to analyze these business models is a spectrum, with public government ownership on one end, private corporate management on the other, and community-based collective action organizations in the middle. The primary question that places a given organization at a given point on the spectrum is how many people or stakeholder groups are involved in the decision-making process. Within this simple framework, corporate models—represented by stakeholders, directors and management—are characterized by more unitary decision-making, government models—which attempt to represent all groups in their respective populace—are characterized more by consensus decision-making, and the collective action models are between these two extremes, where inclusion of community members in the decision-making process is encouraged. Ultimately, however, the goods offered by these types of firms are excludable. Similarly, consensus is a desirable goal in these business models and to some extent it is necessary for their continued survival, but, either as a result of the homogeneity within the community or the ultimate excludability of the products and services, it is not as necessary as in the case of government.

As the discussion of this framework shows, the neoclassical economic model of a rational, profit- and utility-maximizing agent is not complex enough to capture the nuances of the economic decision-making within these organizations. This conclusion is supported by the Nobel Prizes awarded to Buchanan, Coase, Ostrom, and Williamson. However, it is outside the scope of this dissertation to fully explore the implications and characteristics of collective action theories. As a result, the impact of collective action on these business models is limited to a discussion of the objectives of the firm (e.g., is the

objective of a firm organized for collective action to maximize profits?) and the outcomes it may experience (e.g., do firms organized around collective action experience lower costs of sales because potential customers have a higher level of trust with their salesperson or agent?).

Contribution to the Literature on Collective Action and Managerial Economics

This dissertation contributes to the literature by:

- Updating the analysis of these two types of organizations at the industry level, which has not been done since 1953, in the case of fraternals, and 1924, in the case of township mutuals.
- Applying the most recent findings of collective action to these two industries, which have not been widely studied in this literature.
- Developing both theoretical and empirical considerations concerning the long-term viability of these forms of collective action in the United States.
- Systematically developing procedures for addressing data quality and consistency issues in this type of historical analysis, which results in the most comprehensive historical data for these two industries.

This dissertation lies within three sections of the American Economic Association's Journal of Economic Literature classification. The first classification is D, Microeconomics and in particular, D7, Analysis of Collective Decision-Making and D71, Social Choice, Clubs, etc. The second classification is L, Industrial Organization, and, in particular, L8, Industry Studies: Services and L84, Personal, Professional, and Business Services. Because of its historical linkages with agriculture, the third classifications is Q, Agriculture and Resource Economics, Ecological and Environmental Economics and, in particular, Q1, Agriculture and Q13, Ag Markets, Cooperatives, and Agribusiness. Finally, this dissertation is classified as an industry study using the Industry Studies Association definition of industry study.

Summary and Overview of the Dissertation

Chapter 2 describes the insurance industry and its evolution over time. Chapter 3 discusses the relevant literature on collective action while Chapters 4 and 5 examine the literature specific to fraternals and township mutuals. Chapter 6 analyzes survivorship and determinants of success and failure in fraternals using a survival analysis. Chapter 7 is a similar analysis on township mutuals in Minnesota. Chapters 6 and 7 stand alone with conceptual model developments, models to be estimated, set of hypotheses tests, and discussions of methods and results. Finally, Chapter 8 describes the implications of the results from the previous two chapters, limitations of the research, and suggestions for future research.

Chapter 2 : History and Evolution of the Insurance Industry

The insurance industry is vast and complicated. This chapter discusses three features of providing insurance—the regulation of insurance at the state level, the assessment system, and economies of scale—and then proceeds to provide a brief introduction of the sub-industries out of which fraternals and township mutuals evolved. Although the intermingling of insurance products makes the exact determination of the numbers contestable, the life insurance industry defined as NAICS 524113 Direct Life Insurance Carriers and the fire insurance industry defined as NAICS 524126 Direct Property and Casualty Insurance Carriers provide the closest description.

State Regulation of Insurance

One of the more challenging aspects of analyzing insurance is the fact that the primary source of regulation of insurance is the state, particularly during the period of the early evolution of both of these organizational forms. Regulation at the state level means, for example, that the data collected on insurance companies varies from state to state in frequency, quality and quantity. This consideration is most relevant for the analysis of fraternals, which cross state lines. Township mutuals do not cross state lines, which is why the analysis of this industry is limited to one state, in this case Minnesota.

Next, the state-level organizations of a national firm can, depending on the different regulations in different states, be quite different from each other. This suggests the question of whether the state organizations of a national firm should be treated separately or as part of a national firm. This dissertation takes the perspective that unless a firm separates into independent state organizations, which are then named accordingly,

the firm should be treated as a national entity. This separation has only occurred in the case of one significant firm, The Ancient Order of United Workmen (AOUW). As a result, in the fraternal data, the AOUW of West Virginia is treated as a separate organization from the AOUW of Washington and all of the other independent entities created under this federated structure. The remaining firms are all single firms. For example, the Knights of Columbus (KofC) has organizations in all 50 states, as well as internationally. Unlike the separate organizations in the AOUW, KofC is treated as a single entity.

The appropriateness of this form of organization in insurance has long been a subject of debate and discussion. It is not immediately clear why this industry is organized in this manner: there are no "local peculiarities" in insurance (Patterson 1944). Furthermore, many insurance organizations do operate in multiple states, and the burdens imposed on these companies are not trivial (Patterson 1944, p.27). Although over time, more of a combined system of state and federal regulation has developed, it is not clear that either consumers or the companies are benefitting from this approach.

The Assessment System

Both fraternals and township mutuals were initially organized on the assessment system of insurance. The model is simple: when a given loss situation occurs (i.e., death or fire in the case of fraternals and township mutuals), members are assessed a pro-rata portion of the benefits paid to the beneficiaries. While members were also charged some portion of the administrative and other costs associated with the operation of the business, the main cost of providing this insurance was in these assessments.

The primary benefit of this type of insurance scheme is that it keeps costs low.[3] Unless losses are unusually high, this form of simple organization was cheaper than commercial insurance because, at the very least, there is no profit going to the shareholders of the stock insurance organization. In addition, money in these early systems was not allocated for the purposes of reserves, lowering the cost to policyholders even more, as noted by Valgren (1924) and Kip (1953).[4] Many of these early organizations were operated frugally. Given the target markets for both fraternals and township mutuals, the assessment system had the added advantage of not appearing to make other people rich at the expense of the members.

The primary weakness of this form of insurance is that it does not scale well. Administratively and economically, as the number of members increases, the administrative burden of assessments and the inability for the organization to have sufficient liquidity made the model difficult to use and thus, adequate reserves were often not present. Moreover, the strain these systems placed on administrators resulted in replacing assessment-based systems with an early form of premium system as described by Keillor (2000). As a result, these organizations moved away from the assessment system to a premium model, although the interest in keeping premiums low survived this transition.

Furthermore, the apparent simplicity and fairness of this design for insurance does not survive actual implementation. Individual policyholders quickly realized that the

[3] In this study, "scheme" refers solely to the design of an insurance product and is not intended as a judgment of their validity, fairness or any other connotative consideration.
[4] Kip cites a slogan from the late 19th century common among fraternal members: "Keep your reserve in your pocket."

simplicity of this system does not adequately address the different needs of different members. For example, in the case of life insurance, the different needs and expectations of older versus younger members quickly come into conflict. This system also does not address the question of adverse selection, or Akerlof's (1970) "lemon" problem. In the case of fire insurance, the assessment system also does nothing to systematically address the issue of moral hazard. As a result, more systematic management of the risk became a feature in the development of both fraternals and township mutuals.

A question of interest with this model is the ability to enforce a given assessment. In other words, at first glance, the assessment system would appear to be highly vulnerable to the free rider problem. When an assessment was made, how quickly and easily could it be collected? On the one hand, in the case of township mutuals in Minnesota, the Insurance Commissioner cited this as one of the reasons for his opposition to township mutuals. On the other, from the perspective of the collective action and social capital literature, small groups of homogenous actors should be able to enforce these types of obligations on their members at a level not considered by standard neoclassical economic theory.

Moreover, Clough (1946) noted that, despite its weaknesses, fraternals and mutuals used the assessment system in the early stages of their development, given that it been tried and rejected in a number of contexts. In explaining this, the early fraud and mismanagement in insurance companies played a role. The assessment system can be seen as a response to these excesses, as the justification for the assessments is clearly documented, and the costs of the assessments is directly related to the documented losses.

Without a pooling of risk and addition of administrative and management expenses and profit for shareholders, the cost of the assessment is lower. The transparency and simplicity of this system appealed to the early policyholders for both of these products.

Early Development of the Life Insurance Industry

The notion of life insurance initially developed as a "death benefit", with the intent of covering the costs of burying a deceased family member, with potentially, some additional money remaining for the survivors. While many different forms of this type of mutual aid existed prior to the development of the modern concept of life insurance, this is outside the scope of this study. Clough (1946) noted that the development of a modern insurance product was gradual.

The first life insurance companies were founded in England in the late seventeenth century. The exact date and first company is a subject of dispute, depending on the definition of the product offered by the company. This definitional disagreement is the result of the fact that these formalized business offerings evolved from informal, community-based predecessors. The first life insurance company in the United States appeared in 1794, although it quickly exited. The first substantial life insurance company in the United States was the Pennsylvania Company for Insurance on Lives and Granting Annuities, which was chartered in 1812. This company was also the first to use an actuary to manage its risk over time. Other early developments within the industry include:

- In the 1820s, the New York Life Insurance and Trust Company became the first company to hire agents.

- In the late 1840s, insurance laws began to appear on the books of various states, and the early regulation of this industry was at the state level.
- In 1851, New Hampshire became the first state to develop a regulatory office for the industry.
- In 1911, the first group life insurance product for groups of employees was introduced.
- In 1921, the first group annuity was issued by Metropolitan Life Insurance Company.

The products and services in this industry have become increasingly more diverse and complex. Originally, life insurance did not have established processes and procedures, and the 19th century was characterized by the development of these structures. Compared to other industries, however, given the relatively large amounts of money in these companies, the opportunity for fraud and mismanagement is correspondingly large. As a result, reaction to this type of mismanagement occurred at both the governmental and consumer levels, and this latter type of reaction prompted the companies to self-regulate.

Clough (1946) expressed the result of this mismanagement as “not reducing” the cost of insurance, which alludes to the sensitivity consumers had about how much they were paying for insurance, and how the money they paid in premiums was being spent. From the perspective of these policyholders, they were sending money to a distant company in return for the promise of service in the case of infrequent events. Consumer opinion was highly critical of the industry in its early days, and management was aware of the impact the perceptions of customers could have on business.

The development of insurance as an industry corresponds to the broad-based economic development of the 19th century. Specifically, this includes:

- Urbanization and the specialization of labor with the economic interdependence that resulted from them

- The general increase in wealth in the United States and the evolution as per Maslow's Hierarchy of Needs to the protection of these assets
- The increasing complexity of the economy and the goods, products and services it could offer which Clough (1946) referred to as the "development of economic relationship[s] of a monetary nature" (p. 130)

As members of a given community moved further away from subsistence existence, they could begin to consider questions of financial security and the growth and protection of their individual wealth as Maslow suggests. Insurance in general and life insurance in particular responded to this need of consumers by providing an element of stability to their lives and financial situations. Early life insurance was also largely an urban phenomenon. First, insurance products were harder to market efficiently in rural communities. Second, either as a reflection of lower wealth or the ability to better withstand losses, the demand for life insurance was lower in rural communities.

As an industry, life insurance evolved beyond its earliest stages, in the view of Clough (1946), according to the following major phases:

- 1843-1870: the first larger group of significant companies emerged, most of them as mutuals, because the Panic of 1837 had reduced investment capital for stock companies; the "level premium" system was developed; the agency system to market life insurance grew significantly, and the amount of Total Insurance in Force quadrupled.
- 1870-1906: this phase started with a period of high entry of new firms followed by high rates of exit starting with the panic of 1873; the level of competition between firms increased, creating an imperative for high growth; fraud and mismanagement characterized the industry, ending with the 1905 investigation by New York State Legislature and resulting legislation.
- 1907-1943: after the new legislation, a new period of growth ensued and subsequently resulted in a wave of mergers in the 1920s and 1930s; insurance products were increasingly offered to the lower income segments of society as new market segments were explored; the development of specific risk classes and corresponding differential pricing schemes; the range of products offered by life insurance companies expanded into disability and accidental death; group insurance

products emerged; other products (i.e., an early form of D&O insurance and the ability to limit the use of benefits) were introduced to address specific customer needs; and insurance agents undertook more professional development.

Early Development of the Fire Insurance Industry

While the business question with fire insurance is how individuals can protect themselves against loss from fire, the personal question from the perspective of an individual policy holder is again, at least potentially, fundamental. Fire has the ability to complete wipe out a person's economic assets and ruin them financially. It is no surprise, therefore, that one of the first forms of insurance would be to protect people from loss resulting from fire. The principle of spreading the risk of loss from fire over a larger group of people in the United States can be traced as far back as 1735, with roots and examples of this business coming from England as much as a century before this time (Valgren 1924).

Furthermore, many of these early organizations were mutual in nature because many of these communities recognized that an individual's loss from fire would have repercussions for the larger community, both in the form of missing levels of production and also the possibility of economic destitution on the part of its victims. Stock companies then began to evolve near the end of the 18th century, and these companies experienced high levels of growth in the first part of the 19th century with a subsequent high level of exit as the industry matured. Furthermore, as with life insurance, the resulting industry structure contained more commercial than mutual insurance, and it observed high levels of fraud and economic mismanagement (Valgren 1924, p.5).

Within fire insurance, individual consumers have specific needs and, within a group, similar risk profiles. As a result of this, a group of fire insurance companies called "class mutuals" evolved to address the specific needs of specific groups of consumers.

These organizations limited themselves to that specific group, such as a creamery and cheese factory mutual. This form of organization led to two benefits: first, they developed expertise in the specific types of risk, the nature and validity of claims and risk-prevention techniques; and, second, they experienced a higher level of group cohesion than, for example, everyone who lives in a given city or town. This second benefit is of particular note given the mutual form of organization for these companies. Over time, farmers began to recognize that many commercial offerings were expensive, and, if they worked together, they could mutually insure each other's risks.

Summary

Providing both life and fire insurance is in concept a very simple product, requiring only a population of potential policyholders, a calculation of expected losses, and contributions from those policyholders to cover the losses. These products are, of course, not as simple as this, and the early history of these industries can be characterized by the development of the sophisticated, "scientific" methods with which to administer it. For example, Clough (1946, p.41) noted that the early life insurance contracts were "brief, simple in form, and loosely worded", and the subsequent development of these contracts became a significant issue in the late 19th century (Kip 1953). As these companies grew, the need to both have tighter contracts and more precise and predictable calculations of premiums and expected losses became increasing important. One of the elements necessary for this was a "suitable" mortality table, in the case of life insurance and an annual predicted loss from fire, the case of fire insurance companies.

All of these elements, however, are of particular interest to the discussion of fraternals and township mutuals. The question of the relevant population and both who might become members and the ultimate size of the company is of particular interest to both of these organizations. To this end, both fraternals and township mutuals, as individual companies, have been smaller than their mutual or stock competitors. The next chapter contains an overview of the relevant literature on collective action and social capital.

Chapter 3 : Collective Action and Social Capital Literature Review

Both fraternal benefit societies and township mutual fire insurance companies were founded in the spirit of collective action, but, as discussed below, these organizations do not represent a traditional formulation of the collective action problem. The literature on collective action is well-developed and has explored many different topics and applications. This chapter describes the manner in which collective action theories inform the discussion of fraternals and township mutuals. The main authors are discussed below.

Mancur Olson

Mancur Olson's (1965) *The Logic of Collective Action* was one of the first works to provide a theoretical basis for discussions of collective action. Olson outlined how the tension between a person's individual interests and their group or collective interests can come into conflict. More specifically, he created a model for analyzing and predicting individual actions when these two types of interests come into conflict. This model demonstrated that an individual's contribution to a collective good depends on their share of the collective good and the individual cost the individual pays to achieve that good. If the cost was higher than the benefit, the contribution will not be made. For the purposes of this study, the primary result from Olson's work was that group action is not self-justifying, meaning that, for group members to contribute to the collective good, it must make sense to them on an individually rational basis.

While there are many cases of people acting in a manner contrary to this result, the broader form of this argument suggested that, in the majority of instances and over a longer time period, the tendency to not contribute will prevail. While charismatic leaders

and dramatic responses to particular, time-sensitive challenges may for a period of time overcome this general behavioral tendency, producing extra-rational results as noted by Ostrom, eventually those leaders exit, and the drama and turmoil of the unique situations pass, and the primary response of economic actors would reassert itself. While certain segments of the population will always favor collective action on its own merits and certain issues have the ability to pull groups together for the purpose of collective action, eventually members of these groups gravitate toward the individually rational response.[5]

Olson further identified two types of groups, which he labeled privileged and latent. Privileged groups are those for whom some individual's or some subgroup's share of the collective benefit is larger than the collective cost. It then becomes rational for this individual or subgroup to provide the collective benefit, even if others do not contribute. There are many different forms the outcome can take, but the result generalizes in the form: if enough people in a group, acting in an economically rational manner, contribute to the collective good, then the remaining members receive the benefit. Latent groups are those for whom this calculus does not apply, and, if these groups are to achieve collective action, they require an external stimulus. While this stimulus could be positive in the form of a charismatic leader, it could also be negative in the form of political or economic coercion, which in the case of the organizations in this study is primarily legal or regulatory action. The difficulties here are straightforward: in the absence of the charismatic leader or external coercion, the group will revert to latency, and it will not provide the collective good.

[5]Hardin (1982, p. 122) adds "extra-rational considerations…may spur some people to contribute to [public goods, but] they do not spur many people to contribute very much."

Fraternals and township mutuals are inherently latent, but as discussed above, the goods and services they offer are excludable, and the traditional description of the free rider problem does not apply. However, they do require that enough people contribute in order to make the benefits relative to costs meaningful. The combination of these elements makes the study of fraternals and township mutuals unique in the collective action literature. Therefore, the challenge from a collective action organization is to, over time, sustain the contribution of members to the collective good for an inherently latent group. Furthermore, since neither fraternals nor township mutuals possess the ability to coerce members to contribute, some other factor must explain the survival of these organizations. Although throughout the history of both fraternals and township mutuals there are many charismatic leaders, the time frame of this analysis severely reduces the impact of these leaders. To reiterate, individual leaders ultimately exit, and the ability to sustain dramatic charismatic leadership over time is highly unlikely, especially in the insurance industry.

Garrett Hardin (1968)

Garrett Hardin (1968) expanded the discussion of collective action problems by, first, describing them as unsolvable. To use his words, they are "no technical solution problems" because of the difficulty of maximizing multiple variables simultaneously and the scarcity of resources. The first issue is another formulation of the principle that individual and group interests may differ, and individual actors may also formulate tradeoffs between these two sets of interests, and the second is a statement of the economic challenge of allocating resources which inevitably become scarce across

multiple actors.

Hardin also asserted collective action problems can only be solved, or collective goods provided, in small-group environments. In other words, once the number of people required to provide a collective good passes a certain threshold, the ability of the group to provide that good is greatly diminished. The question of group size as it relates to both of these types of organizations is of critical importance. Finally, Hardin suggested that it would be impossible to pass a law that would effectively promote collective action in the face of unfavorable, individual outcomes because of the inability for legislation to supersede individual economic interests. This final point has the implication that both of these types of organization must survive on their merits over time.

Russell Hardin (1982)

Russell Hardin's study of collective action linked the collective action problem to the Prisoner's Dilemma, which had the result of generalizing the analysis of collective action for the organizations. More specifically, he developed and extended Olson's by-product theory, which stated that if the collective good a group provides is not its primary purpose, and it is hence a by-product of the group, those groups are not able to sustain the motivation necessary to achieve collective action over a longer term. This discussion primarily occurs in the context of precipitating events.

This discussion is directly relevant to the discussion of fraternals. If the primary motivation for a member's participation in a fraternal is to be in the company of people with similar backgrounds and in similar life situations ("common bond"), then the insurance product is secondary to the member's motivation to participating in this

organization and is a by-product. If the member's primary motive is financial security, then the bond between the fraternal and its members is vulnerable to competing offers. Both of these outcomes suggest that long-term survival of fraternals face an additional challenge. If, however, individual members do not order their preferences this strictly, the by-product theory does not apply, and the long-term survival of fraternals would be influenced by both the strength of the common bond and the competitiveness of the insurance offering. In this situation, common bonds would be a competitive advantage for fraternals compared to commercial insurance. Hardin similarly suggested that the answer to this problem is in extra-rational motivations, which, as noted above, is a temporary solution.

Finally, Hardin discussed a model of human behavior he calls "contractarian". In this approach, actors will "play fair, [and] try to cooperate if others do". This description fits well with the discussion of low-endowment actors, or the relevant populations for both fraternals and township mutuals. The impact of this particular form of collective action behavior is the need for members to validate the outcomes of the organization. To provide a specific example, if a member of a township mutual files a claim of questionable validity for a barn which has burned down that is then denied, in order for the organization to survive over the long term, a majority of the members must affirm the decision to deny the claim, or the organization will lose credibility. This discussion also speaks to the community nature of these organizations.

Elinor Ostrom

In an attempt to provide a more recent textbook treatment of the literature in collective action research, Ostrom (2002) took the "theoretical" work of Olson (1965), Hardin (1968), and Hardin (1982) and compared it against "field" research. She used two terms that require definition: common pool resource (CPR), the good is that is either shared or created through group action; and appropriators, the people who will use this collective action benefit. In doing this, she reached the conclusion that long-term self-government of CPRs is achievable, but only under certain conditions, and she developed the criteria that enable successful, long-term CPR management. In the context of the discussion above, the examples she studied do not require external coercion. This result has the effect of making Olson's discussion of collective action results, namely that they are not self-sustaining, a specific case of Ostrom's more generalized analysis, in which it is possible to have groups either successfully and unsuccessfully provide collective action.

The conditions necessary to create self-governing CPRs are the ability of appropriators to communicate with each other, create their own agreements about how to manage the shared resource, monitor compliance with sharing arrangements, and have the ability to sanction violators of shared rules.

The ability to communicate with each other, a reasonable assumption in a real world context, gives actors the ability to make promises and negotiate agreements. This behavior does not translate well into traditional neoclassical economics which assumes that actors make their decisions without regard to other actors. In that framework, a promise is valued to the extent that honoring it increases the actor's short- or long-term benefit. However, her study suggested that promises can be kept, even if it is contrary to

a strict definition of economic interests. Moreover, she observed that in low-endowment environments, the ability for actors to communicate results in “near-optimality”, or a nearly optimal management and use of the shared resource, the deviation from pure optimality being the result of combining multiple diverging interests for the greater good of providing the collective good. For the burned barn example, if a majority of members believe the claim for the burned barn should be paid, it may be paid, even though it is of questionable validity.

This behavior would clearly contradict the profit-maximizing imperative and assumption of neoclassical economics. It is difficult to put the complexity of this behavior into one of the traditional frameworks without the discussion becoming circular. It could be argued, for example, that the resources of the organization are being used optimally, as defined in an economic sense, if they address the organization’s long-term interests. Similar to the discussion of altruism in economics, ultimately a determination must be made as to the nature of these actions. It was the perspective of Ostrum’s study that the behaviors represent non-profit maximizing choices and represent a deviation from standard economic analysis. More generally, the “near-optimality” of this result provides support for the conclusion that profit maximization, strictly defined, may not be the ultimate goal of collective action organizations. In other words, the benefits members receive from a collective action organization may not fit the strict definition of profit maximization unless the definition is stretched to the point of circularity. The consideration of the collective good may replace a strict profit-maximizing motive.

The second criteria—the ability of community members to define their own agreements in the management of shared resources—reduces the amount of cheating by the actors. One explanation for this result is the actors' investment in the process as a result of their participation. Another is that the community is able to enforce the claims made by individual actors through their inclusion in the community. This latter explanation provides a tangible application of the concept of "social capital."

The third and fourth criteria—monitoring and sanctioning—each have their own literature, which are not be explored here. The ability to monitor the actions of other members and sanction non-compliers make individual contributions less risky and hence lower cost. As a result, they promote collective action. Because both of these criteria are related to the level of trust within a group considering collective action, the ability of an individual member to define or administer either the monitoring or the sanctions within the group is essential to realizing these benefits.

Ostrom's analysis then turned to identifying the attributes of the common-pool resource itself in predicting the likelihood that the group will achieve the collective action result. Specifically, the collective good should be attainable, verifiable, and spatially limited. This last attribute conflicts directly with the economies of scale prevalent in the insurance industry, but Ostrom asserted that these attributes are not to be applied strictly, but only to the extent that they impact the relative size of the costs and benefits individual actors confront. Next, the attributes of the group members are that: (1) the collective good be a material component of their well-being; (2) the members should have a shared understanding of how the collective good operates and also how their actions affect the

outcomes; (3) they should have a low social discount rate, which in this context suggests that members value the benefits of collective action and are not dissuaded by the costs; (4) the community has generally observed norms concerning trust, reciprocity and punishment; and (5) the individual members have prior experience working in a collective action environment. These attributes, in the context of a historical study, are difficult to verify in anything but the most anecdotal of manners, but they do provide more detail as to the practical application of the "common bonds" of members.

The final relevant design elements of "long-enduring" common-pool resource institutions are clearly defined boundaries and congruence between the distribution of benefits and allocation of costs. Ostrom concluded by noting that the field literature cannot clearly establish an impact on the likelihood of successful collective action from either group size or group heterogeneity.

Individual Behavior Elements of Collective Action

The work of Olson, Hardin (1968), Hardin (1982), and Ostrom led to a literature on collective action that evolved in multiple directions. Two trends within this literature directly apply to this dissertation. First, one thread in the literature studied individual behavior on a microeconomic level and provided more detailed and testable hypotheses about how individuals will behave. Next, a number of studies examined trends at a societal level that impact an individual's likelihood to contribute to collective goods. This literature was heavily influenced by the studies of sociology and anthropology, and it examined phenomena such as social capital and other broader social trends, such as the advent of television and the increasing mobility people have in modern society.

Within the first thread, Nobel Prize laureate James Buchanan and Yoon (2012) observed that a frequently overlooked element of collective action problems is that, unlike traditional market transactions, collective action problems involve knowing that, in making a selection, actors are choosing the outcome that other people experience. The important element to consider is that, if there is a non-collective action alternative among the options an actor confronts, the decision is not a purely rational one. Knowing that a decision will not just affect the given actor but also other members of that actor's group complicates the decision and has the potential to overwhelm the actor. However, by creating rules, the actor has the ability to manage this complexity ("multi-dimensional vectors", in the authors' words). The authors asserted that this analysis helps to explain some of the extra-rational behavior described above.

Ito (2012) applied many of the elements of the analysis of collective action problem to an irrigation management situation across a number of communities in rural China. The collective action outcome was individual contributions of labor to a community irrigation system. The needed individual contribution is non-trivial, but it is not overwhelming. Similarly, the benefit of contribution was tangible but not essential to survival. In this sense, the contribution required of the subjects of this study is similar to both Ostrom's criteria and also participation in a fraternal or township mutual. The study thus provided evidence about individual behavior when confronted by the need to participate in this sort of collective good. Specifically, several of Ito's hypotheses are relevant to this study:

- Contribution to the collective good is relatively less likely if other income sources are easily available.

- Collective action is more likely in communities where the need for the collective good is neither too small nor too large.
- Group size does not impact collective action directly but indirectly through the percentage of the population who free ride and the percentage necessary to ensure provision of the collective good.
- If the group can be characterized by social homogeneity, collective action is more likely.

The first and second hypotheses relate to the socioeconomic status of the group members, and they suggest group members need to have obtained a certain level of prosperity in order to be interested in the products of these types of companies. While this is not directly testable in the context of Ito's study since data on the income levels of individual members are not available, it is consistent with the development of these types of organizations in lower-income but not desperately poor communities.

The third hypothesis speaks to the level of participation necessary within the group to provide the collective good, which alludes to Olson's variable *k*, the fraction of a group that is privileged and can provide the collective good independently. Finally, if a community is comprised of people with similar backgrounds, collective action is more likely, which is the foundation of the common bond element of fraternals.

Robert Putnam and Social Elements of Collective Action

The second general thread in the literature discussed here is the phenomenon of social capital and social trends affecting participation in collective action organizations. Robert Putnam's *Bowling Alone* (2000) serves as a helpful introduction, and he included data from fraternals among the general group of participation-based organization he studied. Putnam, professor of public policy at Harvard University, started with a general discussion of the reduced participation in civic and social organizations, noting that many

clubs, societies and other associations were experiencing a significant decline in participation. The main cause of this, Putnam asserted, is a generational dynamic in which people of the older generation of members are not being replaced in sufficient number by people of the younger generation of potential members. Why members of the younger generation are not replacing those of the older is obviously a more complicated question.

Putnam explained this generational dynamic by distinguishing between what he calls “intercohort” and “intracohort” change. As the terms suggest, intracohort change occurs within the same group over time, and intercohort change occurs across different groups. With this established, Putnam suggested that the change in patterns of civic, religious, political and other forms of participation is the difference between two generations of people, which he referred to as “the New Deal era” and “ the generation that followed”. Noting that these forms of social participation wax and wane over time naturally, he asserted that the generation that followed the New Deal are simply not as interested or motivated by the ethos of social participation of the New Deal generation.

Putnam did not clearly establish a causal path in this discussion. In other words, did the events of their respective times form the collective personality of the generations, or did the generations adopt these patterns of behavior independently of the events of their time, as, simply, part of their nature? This generational dynamic manifests itself in two ways: first, the sheer number of people necessary to keep an organization going is declining; and, second, the quality of the participation among new members is also going down. The drop in quantity of members obviously has a dramatic impact on a business

characterized by strong economies of scale. The drop in the quality of member contributions impacts the ability of a given group to effectively do what it is trying to do, which in his study was related to the question of whether social capital or common bonds can be translated into tangible outcomes.

Furthermore, if the provision of the collective good does not require interdependence between members, it is more likely to be completed, but if the activity requires that people depend on one another, it is much less likely to be completed. This discussion can be related to that of Olson's by-product theory. If fraternals and township mutuals are primarily insurance organizations and do not require significant interaction between members, then they are more likely to survive over time, *ceteris paribus*, because the insurance offerings are not by-products and this type of interdependence has the ability to impact the business. However, all else is not equal, and the question becomes whether the benefits from interdependence are sufficient to overcome the competitive disadvantages fraternals and township mutuals confront, most notable among which are the limitations, regulatory and self-imposed, on their size.

More generally, social capital, by fostering trust in a group, and encouraging extra-rational behavior, is thus a potential solution to the collective action problem, particularly when expressed in terms of the Prisoner's Dilemma. Social capital, however, also has a positive aspect in that by sparking a desire to participate and be a part of a group, it can provide a source of demand. Business in this arena is not just traditional arms-length transactions but conducted among social contacts or even friends, with the benefits and complications that can accompany it.

Putnam discussed these general findings in the context of political, civic and religious participation. Figure 1, which is taken from Putnam (2000, p.54) shows a trend of membership rates, calculated using the relevant population as the denominator, for thirty-two national chapter-based associations between 1900 and 1997.

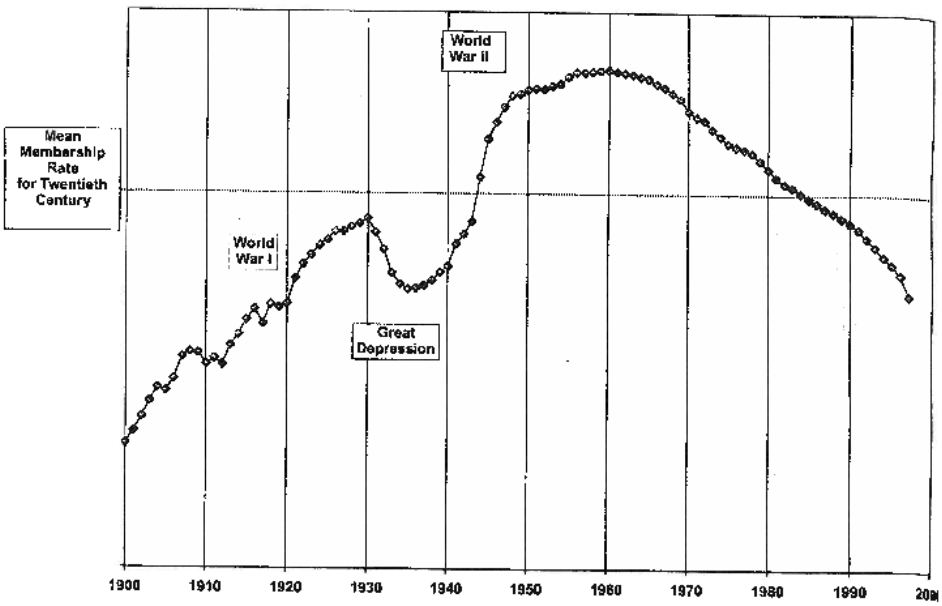

Figure 8: Average Membership Rate in Thirty-two National Chapter-Based Associations, 1900–1997

Figure 1: Membership Rates in Participation-Based Organizations

The benefit of this graphical description of participation trends is that it brings together all of the social trends that could affect participation into one result. Figure 1 clearly shows a peak in enrollment in the era after World War II and a steady decline since the late 1950s. As Putnam described it, “On average, across all these organizations, membership rates began to plateau in 1957, peaked in the early 1960s, and began the period of sustained decline by 1969 (p.55).” Both fraternals and township mutuals were thus operating in an environment that is not favorable to their continued success. In other

words, *Bowling Alone* described an environment in which the types of trust, social cohesion and participation necessary to sustain collective action groups have declined.

Additional Considerations

When addressing the question of collective action in regard to fraternals and township mutuals, two additional considerations are evident. First, as mentioned above, because the collective good is ultimately a product purchased by the members, the free rider problem is minimized. If members do not contribute to the collective good, they can be effectively excluded. As a result, the goal of these organizations is not to receive a sufficiently large contribution from all of the members of the relevant population but participation from a sufficient proportion of the targeted population. The individual faces more of a binary choice instead of a continuous selection of choices. The binary nature of the choice makes the challenge of achieving the necessary critical mass more volatile.

Second, collective action situations are often characterized by trying to achieve contributions to collective goods, in the form of either time or money. In the case of fraternals and township mutuals, "contribution" is the purchase of insurance products, so the option of contributing labor is not applicable. While in the early days of both of these types of organizations members of the relevant community may have provided management services, ultimately both paid salaries to the people who provided these services (Kip 1953).

Insurance has been described as a net drain on society's resources. Because the nature of its services is allocative, not productive, the costs to administer an insurance program are a deadweight loss. However, given the life-altering nature of the losses that

both life and fire insurance protect policyholders against, there are additional considerations. Frequently, these losses can devastate a family, and if the members of a family become indigent, the loss of their productive capabilities is a cost to the community. Furthermore, if the family produced goods and service for which a readily available substitute is not easily available, then the community suffers a welfare loss as well (Valgren 1924). The willingness of the members of a community to make small contribution to either mutual aid or local insurance products is recognition of this tradeoff.

However, these organizations found that working outside a traditional market structure was not without its challenges. Specifically, these organizations had to confront a perpetual lack of working capital, the difficulties of a democratic or consensus management structure and competing against organizations with greater levels of resources at their disposal.

Summary of Literature and Its Relationship to Fraternals and Townships

To summarize, fraternals and township mutuals were founded with the intent of providing economic benefits to people who were not otherwise being adequately served by commercial insurance organizations, either life insurance companies, in the case of fraternals, or fire insurance companies, in the case of township mutuals. Commercial life insurance and commercial fire insurance were available in the open market, but they were, generally speaking, priced so as to be unaffordable to the populations ultimately served by them. The collective action exercise, therefore, was for these communities to provide insurance to themselves, to pool their risks and limit the impact of potentially

devastating events to the lives of the members.

Given the nature of these organizations, the notion of participation is different than in traditional commercial organizations and traditional formulations of the collective action problem. While both fraternals and mutuals are, ultimately, businesses, they must appeal to their members' social and political affinities. They must also justify their continued existence on purely economic grounds, as members will not continue to support them because of any sentimental notions they may have about the spirit of collective action. Finally, they must do all this in an environment where people are not participating in these types of organizations in the manner and at the levels they have in the past. The next chapter discusses the relevant literature specifically on fraternals.

Chapter 4 : Literature Review of Fraternals

Fraternals have served a number of purposes to lower-income, socially disadvantaged and recent immigrant groups in the United States since the latter half of the 19th century. By combining basic financial services with a social outlet and support network, fraternals provided the opportunity for their members to both protect themselves financially and establish a community of people like themselves. According to the best available data, Kip (1953) indicated that fraternals provided as much life insurance to individuals as commercial life insurers into the early 20th century. In 1900, Meyer (1901) estimated that membership was at about five million people organized into approximately 600 fraternal organizations. Kip (1953) estimated that in 1920 roughly ten million people were involved in some form of fraternal insurance.

Background on Fraternal Benefit Societies

While some authors suggest that fraternals date back to the Greek or Roman eras, or were fashioned after the English "Friendly Societies" in the 1700s and 1800s, the first fraternal benefit societies in the United States, as they are defined today, were formed in the post-Civil War era. The first fraternal was the Ancient Order of United Workmen, which was formed on October 27, 1868 in Meadville, Pennsylvania. Kip discussed four fraternals that were formed earlier—Czechoslovak Society of America, L'Union St. Joseph du Canada, Independent Order of St. Luke and Locomotive Engineers Mutual Life and Accident Insurance Association—and demonstrated that they either operated solely as social organizations or as union-based insurance organizations before this date. None of these organizations combined the social and insurance aspects of a fraternal.

Solt (2002) found that the motivations people had in forming fraternals, "economic assistance to members plus social networking for mutual assistance" and also to "preserve the cultural values of the community," were more universal than they might appear when the distinct legal structures and requirements that exist today are analyzed.

To fully understand the impetus behind fraternals, it is necessary to understand the social conditions that existed during the last half of the nineteenth century. For example, Strand (2001) discussed the legend behind the formation of the Aid Association for Lutherans (AAL, one of the companies that merged to form Thrivent Financial). An explosion in a flour mill in Appleton, Wisconsin, which widowed a woman and her family, inspired AAL's founders to create a "death benefit" for people in similar situations. In this time, the social insurance and welfare programs that exist today were not yet created. Furthermore, many of the illnesses that can be regularly treated or immunized against were much more immediate problems. Finally, the technological and social advancements which help to prevent serious work-related accidents had not yet occurred.

Solt divided fraternal organizations into organizations that focus only on social, educational, charitable, patriotic and religious activities but do not provide insurance to their members, and organizations that, in addition to these functions, also provide insurance benefits to their members. The first category is exempt from federal income tax under section 501(c)(10) as "domestic fraternal societies". For example, Beito (1990) observes that a group like the Freemasons do not offer formal insurance to their members. The fraternal organizations that also provide insurance are exempt from federal

income tax under section 501(c)(8) as “fraternal beneficiary societies, orders or associations”.

Definitions of Fraternals

A fraternal benefit society is defined by Meyer (1901) as an organization that has the following four characteristics: a lodge structure, a “representative form of government”, some form of insurance or benefits payable to members, and a non-profit structure and organization. The first of these, a lodge system, requires that local chapter organizations meet regularly, have elected officers, and, more informally, bind the members to the organization through the financial contributions of the benefit products and volunteer time. They also provide “social outlets for those who [attend] regular meetings of the lodge”. The second requirement mandates that the members of the organization have a regular opportunity as well as a defined process for voicing concerns or issues, ensuring that the strategic direction of the organization is consistent with the wishes of the members, and electing officers of the overall entity.

Third, the organization must pay some form of insurance benefit to its members. The benefit initially took the form of a lump-sum payment at the time of a member’s death to primarily pay for his burial, but it grew into a more fully-developed life insurance product, or “death benefit”. Over time, this product further expanded to become a mature, actuarially-based insurance product. Fraternals also started offering a health insurance offering, and, in some cases, a portfolio of financial products and services. Finally, the organization must not operate on a for-profit basis. Members of a fraternal are supposed to share a “common bond”, something that brings the members

together in a way that everyday life might not. Examples of common bonds include religion (e.g., Lutherans, Catholics, etc.), ethnicity (e.g., Croatian Fraternal Union of America, Association of the Sons of Poland, etc.), women-only (e.g., Unity of Bohemian Ladies) and professions (e.g., Railwaymen's Relief Association of America, etc.). A final, and easily overlooked, aspect of the structure of fraternals is that they are owned by their members, and in this way resemble mutual insurance companies.

Early History of Fraternals

With this formal background established, the early history of fraternals contains many examples of fraternals defining themselves differently from stock or mutual insurance companies. Meyer (1901, pp.77-78) indicates, "The dual nature of fraternal [benefit] societies has probably been partly responsible for the perpetuation of the fallacy that *insurance* is one thing and that *fraternal insurance* is another and a different thing." However, initially, fraternal insurance was a "different thing", organized around different principles and working toward different objectives. Kip (1953) further elaborated by suggesting that fraternals were not trying to emulate commercial insurers but, either out of ignorance or as a reaction to the perceived fraudulent practices of the commercial insurers, were organizing themselves with the objective of increasing the financial security and welfare of their members, which did not necessarily include profit maximization.

When confronted with early charges of mismanagement, for example, fraternals argued that the membership requirement, particularly in the local system of lodges, provided an additional level of screening of individual insurance policy holders. They

argued the mortality tables used by insurance companies did not apply to them because the members were not selected out of the general population, and this difference resulted in more favorable insurance risks. This had the effect of avoiding adverse selection and being able to charge lower rates. Second, the membership structure provided a level of self-policing against fraudulent claims, and ownership by the members aligned the incentives of the members with the fraternal, which addresses the concern of moral hazard. Third, fraternals did not have the expenses of a commercial "stock" or "old line" insurance company. By not operating for profit, and having a smaller set of product offerings, administrative expenses were argued to be lower compared to commercial insurance companies.

The National Fraternal Congress of America (NFC) was formed in 1886 to provide "mutual information, benefit and protection" for all "legitimate" fraternal benefit societies. This came to mean that the NFC, in addition to the traditional role of advocacy, also established standards for its members that both helped its members with their financial management and promoted the credibility of fraternals with the general public. In 1898, the American Fraternal Congress (AFC) was organized in Omaha. The AFC included the more stringent requirement of possessing a reserve fund. At the time, this requirement divided fraternals, but it highlighted the maturation of the industry.

According to Knight (1927), the peaks for Total Insurance in Force and Total Number of Certificates for fraternals as an industry were 1928 and 1919, respectively. Many causes have been suggested for the decline since these times. First, as immigrant groups became more integrated into the mainstream, the benefit and need to preserve the

cultural affinities of fraternals diminished. Second, with the expanded use of the automobile and the development of television and radio, the appeal of community-based organizations diminished. Next, the enactment of the social insurance programs during the Great Depression and 1960s, and the development and maturation of the private insurance industry reduced the demand for this type of insurance. Finally, by successfully putting their insurance products on a sound actuarial basis, the fraternals created incentives both for existing members to leave and also to make the products sufficiently unattractive to potential new members.

The Tax Exemption Debate

An element of the legal definition of fraternals that has prompted much scrutiny over time is the tax exemption that fraternals receive. On one side of the argument is the claim that if fraternals are operating like stock and mutual insurance companies, they should pay taxes like those organizations. On the other side is the claim that these organizations are fundamentally different, and the social benefits they provide justify the continuance of the tax-exempt status. Related to this is the question of what fraternals do with the funds they would otherwise have paid in taxes.

More recently, as part of the tax reform initiative in 1986, the tax exemptions of all insurers were reviewed. Blue Cross and Blue Shield and TIAA-CREF ultimately lost their federal exemption as part of this initiative because their operations too closely resembled those of commercial insurance organizations. The issue of the fraternals was assigned to the U.S. Treasury Department, who reported the following conclusions in 1993 (U.S. Treasury Department, 1993):

- The insurance activities of fraternal benefit societies are income-producing activities that are similar in nature and scope to that provided by taxable commercial insurers. While there are some distinctions, the insurance policies of fraternal benefit societies appear to serve the same markets as those served by commercial insurers.

- The benefits to society from charitable services, the redistributive nature of some fraternal services, and the use of the conduit organization form for providing fraternal services may justify continuation of tax exemption for these activities of fraternal benefit societies.

- Analysis of the cost of comparable insurance policies indicates that fraternal benefit societies charge prices similar to those charged by large mutual life insurance companies. These prices are sufficient to cover costs (including taxes paid by the commercial companies) and suggest that the tax exemption provided to the fraternal benefit societies is generally not being passed onto policyholders in the form of lower prices for insurance. Fraternal benefit societies do not appear to compete unfairly with taxable insurance companies.

- Analysis of certain measures of operating efficiency indicate that fraternal benefit societies operate as efficiently as large mutual life insurers, and that their tax exemption is not being used to finance inefficient operations.

- Fraternal benefit societies provide many charitable services; however, much of the combined fraternal and charitable activity appears to be more fraternal in nature. A major proportion of the combined expenses are for non-contract benefits to members (insurance-type benefits, such as adoption and burial expenses), as well as support of more social activities.

The report explored two policy options: “No Change in Current Tax Treatment” and “Modify Tax Treatment of Fraternal Benefit Societies”. In support of the first recommendation, the report noted: “The charitable services provided by fraternal benefit societies benefit society as a whole. Fewer of these charitable goods and services are likely to be provided unless current tax treatment continues. The economic distortions caused by the special treatment of fraternal benefit societies are relatively minor in comparison to other policy priorities.”

Fraternal Benefit Society Literature Review

The fraternal industry has not been widely studied in the literature, but the main studies are summarized below.

B.H. Meyer

Meyer (1901), a sociology professor at the University of Wisconsin, wrote about the fraternal benefit society industry at the height of their wave of financial mismanagement. Analyzing the causes of this mismanagement, he noted that people tended to think of fraternal insurance as being fundamentally different than traditional commercial life insurance, highlighting in specific the fraternal practice of not charging premiums sufficient to cover the risk they were taking on in providing insurance services. He asserted the claims by fraternals that they do not need to charge rates equivalent to those of commercial life insurers, based on the facts that they (1) examine the healthiness of members upon admission and (2) have lower expense structures, do not hold up under scrutiny. He also discussed the aversion fraternals displayed toward maintaining reserves while noting that these reserves are consistent with "safe business principles."

His second contribution was in describing the inconsistencies and incompleteness across states in their management of fraternals. The inconsistencies and incompleteness are bad both for the fraternals and for holders of the insurance policies, as they promote a more lenient management of fraternals, which combined with their unsound business management, is likely to lead to bad outcomes.

Finally, Meyer emphasized the importance of the National Fraternal Congress, suggesting that, in addition to its traditional role as a trade society, it had taken on the additional burden of re-establishing the credibility of fraternals. He noted two specific

activities, establishing standards to which members must adhere and promoting uniform legislative treatment, which he believed would be crucial to the future success of the fraternals.

Charles K. Knight

Knight (1927) of the Wharton School of Commerce and Finance, examined the state of fraternals 25 years after Meyer. By this time, the management practices that created financial difficulties for the fraternals had been largely, if not completely, eradicated. However, now fraternals faced a different challenge, namely that by making their offerings and premiums consistent with commercial life insurers, fraternals had much less of a basis on which to differentiate themselves, and, as a result, they had seen a decline in membership.

Knight described the process of readjusting rates to become more actuarially sound, and indicated these readjustments inevitably lead to lower membership. He noted an additional disadvantage of readjustment, namely the “loss of prestige” fraternals experience when they are no longer clearly distinguished from a commercial life insurer. He indicated that it is impossible to directly compare commercial and fraternal life insurance organizations. He differed from Meyer (1901) in suggesting that the democratic government of a fraternal does lead to lower expenses. These considerations combined to raise the question of how fraternals would be able to compete with commercial insurers going forward. To Knight, the decline in membership was the inevitable result of the readjustments.

Richard de Raismes Kip

Perhaps the most far-reaching analysis of fraternals after the 1920s was Kip's dissertation for the Wharton School, which was subsequently published as a book in 1953. While his analysis had a high degree of emphasis on the elements of the insurance contract, his discussion of the growth, financial management problems and decline of the fraternal industry is comprehensive. He emphasized that the nature of fraternal institutions strongly influence the characteristics of fraternal insurance, but otherwise his discussion followed many of the elements found in the other studies here: the difference between social and financial institutions, the challenges of state regulation, and the components that define a fraternal.

Kip noted that the existing data on fraternals was incomplete because many fraternals never responded to the agencies collecting the data. Partly as a result of the incompleteness of the data, he suggested that the primary statistics to be used in evaluating fraternals are Total Insurance in Force, Number of Insurance Certificates and Average Size of Certificates. He also focused primarily on the life insurance activities of fraternals.

A unique contribution of Kip's study was to provide the historical context in which fraternals grew. As discussed above, this environment was characterized by a commercial life insurance industry that targeted the middle and upper classes. This led to two important features of fraternal insurance: first, their organization by people who were not insurance professionals and did not have the training or experience to run such an operation, and, second, a belief that commercial life insurers were charging prices that were too high in order to enrich themselves. As a result, the people who organized

fraternals wanted a life insurance product that was low cost and simple to understand. The result was the assessment system described above.

Kip analyzed the dynamics of the assessment system in the context of a rapidly growing industry and concluded that this approach to offering life insurance was not viable. He concluded by observing that the assessment system, in any of its various forms, is only workable in small groups, and it fell out of use when the financial strains it created became too much for the fraternals.

Kip analyzed a population of 65 fraternals, placing them in one of six groups. These groups were characterized as: growing, declining, rebounding, merged, converted to commercial companies and disbanded/failed. Through a detailed analysis of the re-ratings fraternals existing in the early 20th century undertook, he concluded that the current (1951) health of a given fraternal is directly related to whether it "faced up to [its] responsibilities," in particular whether it underwent the re-ratings Knight suggested would decrease membership. In this sense, Kip's evidence provided support against Knight's hypothesis. If a fraternal did not take these steps or wavered in taking them, its financial difficulties continued. In particular, he showed that the rerating efforts of the rebounding group were insufficient to generate higher growth. His analysis suggested that the re-ratings were necessary but not sufficient, as many of the fraternals that merged or converted had to achieve solvency before they could undertake those steps.

Kip studied the additional steps necessary to set the fraternal industry as a whole back on the path to solvency, namely establishing reserves, using the NFC Table of Mortality, and legislative intervention. These steps largely brought the fraternals in line

with the practices of commercial life insurers, who were subject to more thorough scrutiny from their state regulators. Through a detailed analysis of insurance contracts, he concluded that fraternal life insurance contracts, which had been very simple and open, had come to resemble the more closed contracts of commercial life insurance.

Kip cited three reasons offered by the fraternal industry why they should receive tax exempt status. First, they are benevolent and charitable organizations; second, they provide insurance to people who otherwise could not afford it; and, third, the lodge system is a structural barrier that would either allow fraternals to resist taxation or cause the dissolution of fraternals, who would experience mass defection of local chapters. His assessment of the validity of these three reasons was that the first was certainly true in a number of instances, but it was also being exploited by other fraternals as no control mechanism exists; the second was not really true, especially in the age of the social insurance programs of the New Deal and rising affluence of the American public; and the third was not true because any change in the tax status could accommodate corresponding mechanisms for adapting the chapter system.

David Beito

Beito (1990), a professor of history at the University of Alabama, examined the social welfare impact of fraternals. His main contribution was to suggest that, within the context of their time and place, fraternals did a creditable job of providing assistance to groups that, in the pre-New Deal United States, were disadvantaged. In support of this, he noted the role fraternals played in providing economic and social assistance to communities of African Americans, recent immigrant groups, and women.

He went against the prevailing trend of his time for social critics to be particularly harsh to organizations that existed in a different historical context. In addition to highlighting the positive impact of fraternals, he discussed the perspectives that fraternals took towards helping others, namely that a fraternal would provide assistance, not pure charity. Furthermore, he indicated that the relationship between a fraternal and its members was based on reciprocity, not as donors and recipients.

Finally, he differed from Meyer in that he believed the fraternals could credibly claim to minimize the risk of moral hazard by (1) requiring members to present physician certificates of good health and (2) having members be responsible for the shortfalls that could occur. Specifically, he contended that the social pressures members could exert on one another would limit this form of "shirking" on the part of other members.

Barbara Solt

Solt (2002), researcher in social work, examined the question of how adapting to a changing market would contribute to the success of a given fraternal, in her case Aid Association for Lutherans (AAL). Solt asserted that it is hard to overestimate the financial and social impact of fraternals in the pre-Social Security era. In addition to the economic impact of financial assistance to groups that could not afford private insurance, these organizations provided a social function by helping immigrant groups maintain their cultural heritages—either through rituals or organized festivals, practicing English in a non-threatening environment, helping with employment opportunities or issues, or practicing the exercise of democracy in managing the lodges.

She also traced the steps AAL took to adapt to a changing market. Specifically, AAL moved to expand its base of customers by offering insurance services to all Lutherans, not just those of a particular branch of Lutheranism. AAL also referred to their financial services products as “family financial protection”, called their lodges “branches”, and oriented their philanthropic and community services efforts to the community at large, not just their Lutheran constituencies. Solt asserted these steps helped AAL both maintain its tax exempt status when challenged in the late 1980s and also survive the changing competitive environment in which it found itself.

Philip Swagel

Swagel, visiting professor of finance at Georgetown University, authored a report on the benefits fraternals provide the U.S. and compared it to the cost to the government of continuing the tax exemption. The report claimed that the government enjoys a 68:1 return on that “investment” or $3.4 billion in societal benefits against $50 million in foregone taxes. The calculation of the estimated benefits is comprised of a valuation of fraternal, charitable and volunteer activities as well as a calculation of the indirect positive impacts of strengthening local communities. As a result, they are largely what are generally called “soft benefits”, meaning they cannot be linked to direct dollar savings or revenues. Swagel also asserted that by serving as a “highly effective private sector economic and social support system”, fraternals add a degree of value that could never be measured, namely strengthening communities and the individual members of them.

Swagel contended that state and local governments could not provide the social welfare functions of fraternals. There are two aspects to this argument: first, state and local governments, in the contemporary budget environment, simply could not afford to replicate the services provided by fraternals; and, second, because fraternals can take advantage of the common bond they organize around, governments could not provide these services as efficiently as the fraternals. On the second point, Swagel indicated "any government would take years to be able to build the same intricate infrastructure of local member groups" to supply the volunteers and organization to provide the services of fraternals. He provided a number of specific examples of chapter organizations working to improve the lives of both their members and also the greater community through direct assistance, fundraising and organization.

Summary

Fraternals have overcome early challenges and developed into viable entities. There are a number of future challenges from competitors and regulators as they seek a different path in providing insurance products to their members, as defined by their common bonds. Furthermore, unfavorable social trends are dramatically changing the environment in which these companies operate. Fraternals also must comply with additional requirements to maintain their tax-exempt status, primarily operating a chapter structure and maintaining a democratic governance structure.

The evolution of fraternals to operate on an actuarially sound basis, similar to that of commercial insurance companies, has led to the unintended consequence that today the insurance products and services of a fraternal are not highly distinguishable from those of

a commercial insurance company. This reduces the main difference of belonging to a fraternal to the common bond, local branch membership and volunteer and institutional programs to help communities. In this context and including many of the other possible causes discussed above, fraternals clearly face a challenge in remaining competitive and thriving.

Chapter 5 : Literature Review of Township Mutuals

The township mutual industry has received less attention in the literature than fraternals. Furthermore, their strategic environment has also become more complicated in the last twenty years, during which time mergers have increased. The principal sources for analysis and history of the township mutual industry are Valgren (1911), Valgren (1924) and Keillor (2000). This last study only covers the period 1859-1939. The literature since 1939 on township mutuals has largely been legal in nature, covering specific legal questions where township mutuals are used as examples or addressing legal cases involving township mutuals. As a result, this literature review is presented by theme instead of by author.

History and Evolution of the Minnesota Township Mutual Industry

The early development of the general fire insurance industry was described in Chapter 1. Valgren (1924) stated that the first "mutual fire insurance companies organized by farmers for the insurance of their property came into existence shortly after 1820" with the first law governing their operations enacted by the New York State Legislature in 1857. Despite the early repeal of this law, a subsequent law in New York and similar laws in different states were on the books by the mid-1870s (p.15). Moreover, by the time of his writing, Valgren (1924) observed that "suitable" township mutual fire insurance laws had been enacted in twenty-five states. Figure 2 shows the distribution of township mutuals by state as of the date of his study. This figure demonstrated the relatively high concentration of these firms in the Northeast and Midwest.

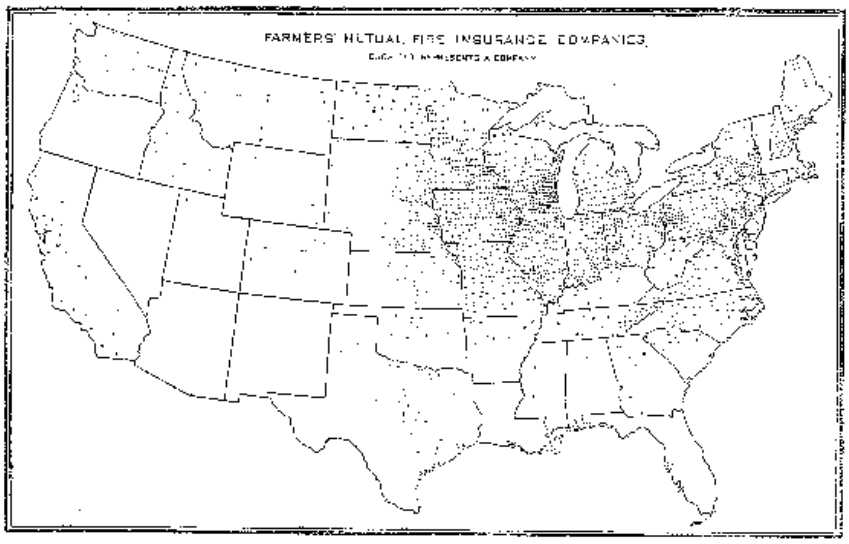

Figure 2: Distribution of Township Mutual Fire Insurance Companies by State, 1924

One feature of these early companies was their lukewarm reception by the insurance regulators in their states. Just as in Minnesota, the regulators in other states were apprehensive about the unique organizational aspects of township mutuals, but, ultimately, positive experience with these companies promoted acceptance among them. Another feature of these companies was the contrast between the experience in the Northeast and Midwest, as compared to that of the South. Valgren contended that the relative failure of township mutuals in the South can be traced back to the fact that they were organized on a state level, and, as a result, they were not able to either take advantage of either the local solidarity seen in many of these organizations or generate the loyalty to the statewide organization necessary to ensure their success.

In Minnesota, the question of providing mutual fire insurance has an interesting past. Steven J. Keillor (2000), adjunct assistant professor of history at Bethel University and whose University of Minnesota dissertation in American History was the basis for the cited book, characterized the tensions in authorizing township mutuals as the tension

between the state's "Old Stock" leadership, by which he meant people whose families had immigrated to the United States a few generations before the period of the 1860s and the more recent, ethnic immigrants. Starting as early as the 1860s, farmers began to provide an assessment-based form of fire insurance as a natural evolution of the mutual aid they had provided to each other before this time. The first known organization created for this purpose was in the township of Vasa in Goodhue County, Minnesota in February 1867.[6] Although this organization was unincorporated, it existed independently into the late 20th century. Similar groups were organized in Washington County (March 1867), Nicollet County (March 1869) and Goodhue County (February 1869).

Around the time these local groups were organizing, there was a statewide effort to provide mutual fire insurance to farmers. The Minnesota Farmers' Mutual Fire Insurance Association of Minneapolis (MFMFIAM) was created in July of 1865. This organization was in line with the "Old Stock" political leadership of Minnesota at the time, and it subsequently did not attract much support from the immigrant farming communities. It was compared most directly with its in-state rival, the St. Paul Fire and Marine Insurance Company, a stock company that competed in regional and national markets. MFMFIAM did, however, attract the attention of the Grange, which was also considering ways to provide lower cost insurance to farmers.

During the late 1860s and early 1870s, the Grange tried first to get a township mutual law passed and then took over the leadership of MFMFIAM. Their attempts to pass a township mutual law led to the incident in 1873 of House File 77, a bill they

[6] As Keillor pointed out, the members of this group did not feel any strong compulsion to incorporate. Based on a strong heritage of mutual aid and collective action, "ethnic farmers' mutuals had less need for state legal sanction (p. 31)."

heavily supported, which was passed by both bodies of the Legislature but then, curiously, not signed into law by the governor. This legislative sidestep and the confusion it created across the state was largely seen as motivated by A.R. McGill, the Insurance Commissioner, who opposed the formation of township mutuals. In his 1874 Annual Report, McGill indicated that that signature of the governor "was prudently withheld" (1874 Minnesota Fire Insurance Report, p.73). The Grange then assumed the leadership of the MFMFIAM in 1874 and spent several years fighting a political battle with a number of interests—political and commercial—that did not like the prospect of a statewide insurance provider. By the time these controversies had subsided, the township mutual authorization law had been enacted. The MFMFIAM continued to operate between the large stock and mutual companies and the emerging township mutuals until it ceased operations before 1900.

Prior to the 1875 legislation, many of the existing community organizations providing some form of fire insurance to their members operated without a governing law. As Keillor (p.84) described, their efforts were beneath the attention of the state's Old Stock political and business leadership. However, by 1885, ten years after the passage of the law, 43 township mutuals were registered with the state providing over $8 million dollars of insurance and, by 1910, the corresponding figures were 149 companies and $254 million of insurance (Valgren 1911).

The Minnesota Insurance Commissioner, A.R. McGill, strongly opposed the formation of township mutuals, even referring to the early efforts to pass legislation authorizing them as the "indiscriminate organization of Township Mutual Companies"

(Minnesota Fire Insurance Report 1874, p. 83). The specific issues were that township mutuals were too small to both sufficiently spread the risk of their members and provide enough policyholders to make them viable; unable to provide the capital they needed to cover their losses; unable to collect assessments; and, by focusing on lowering costs to the exclusion of all else, were of a "low value" nature, by which he meant that they were unable to provide a full suite of insurance services. While he was right in terms of his descriptions of township mutuals, he missed the bigger point that these companies were not necessarily governed by the dictates of traditional business and economic practices. Specifically, he did not account for the collective action nature of these organizations, and the ability and willingness neighbors would take to enforce the obligations of the company on each other (Keillor, pp. 84-88).

As the new industry evolved, three features immediately became evident. First, the need to become both more professional and more focused became evident as the burdens of the assessment system and large growth, relative to the structure of the company, manifested themselves. In addition to replacing the assessment system with an early version of a premium system, management became more professional as these organizations were now responsible for multiple millions of dollars of insurance. Citing the example of Scandinavian Fire Insurance Company, Keillor (p.82) asserted that the failure of this organization can be traced to having too many simultaneous objectives, including promoting the political interests of their members, mutual aid provided as insurance, ethnic unity, and promoting religious conduct. Under the weight of all of these objectives, the organization failed. Finally, Valgren (1924, p.20) observed that as early as

1900, more growth in the industry was the result of existing companies growing rather than new entrants.

Attributes of Township Mutual Fire Insurance Companies

The discussion of the attributes of township mutual fire insurance companies starts most appropriately with a discussion of fire loss itself. The first consideration in this area is that fire losses are largely separable, meaning that the risk to each policyholder is unique to them and their property. As a practical matter, fires on farms did not spread to other farms, a fact that greatly reduces the geographic area and number of policyholders that are necessary to sufficiently spread the risk among a group of farmers.[7] The second consideration concerning fire loss is that are largely preventable (Valgren 1924). For organizations that have lowering the cost of insurance as their primary imperative, the fact that many of the losses are avoidable becomes a highly relevant and important fact.

Turning next to the policies themselves, Valgren defined the relevant elements of the policies as the types of risks that are covered, the property insured, and the business territory. In examining the definition of covered risks, in addition to the basic risk of fire, fires started by lightning were also a feature of the early township mutual policies, and this attribute persisted. However, as Valgren pointed out, states and firms that included damage from windstorms in their policies encountered greater business risk because (1) windstorms would greatly increase the variance of the Incurred Losses in a given year,

[7] Keillor noted that the obvious exception to this is prairie fires (p.85). As a sidenote, Valgren (1924) provided an interesting example of the collective action ethos of township mutuals in Minnesota. When the east-central part of the state encountered losses far above the normal in 1918 and four township mutuals were facing dissolution as a result, the state association for township mutuals asked the township mutuals in the other parts of the state to make a voluntary assessment to enable these firms to survive. While they could not completely eliminate the burden of the excessive losses, the subscription rates to this voluntary assessment made it possible for these firms to survive (p. 96).

and (2) windstorm damage is not separable in the way fire damage is. Although in Minnesota different organizations specifically address the risk from windstorms, this question shaped the early township mutuals across the country.

The next question is that of property insured. The original intent of these policies was to cover farm building and equipment. However, two considerations make the application of this standard less clear, and they both concern the question of whether crops were covered in these policies. First, in determining the asset value to cover, 1/5 of all crops were assumed to be in storage on the farm, and they were included in the policy (Valgren 1924). Second, given the community nature of these firms, they had a broad level of discretion in assessing the damage from fire, and, if other members agreed, they could accommodate a broad range of mitigating circumstances. As a result, it is not clear whether crops or other assets are included in the property insured by these firms. That stated, the original intent was to cover only farm buildings and equipment.

The third question is that of territory. The use of the term "township" in their name reflects the original intent that these organizations be small and local in nature, limited to the "ethnic groups in a few contiguous townships [who] would form one mutual" (Keillor, p. 89). In fact, the 1875 law authorizing township mutuals in Minnesota limited their operations both only to certain counties and also only to one township per firm. These requirements were loosened before 1890, which served to expand the insurable area and provide even greater assurances that these firms could satisfy their obligations. [8]

[8] Valgren (1924) noted that the definition of township was the mechanism to achieve this expansion as "The designation of a company by the words "town", "township", or "county" no longer means that it is

A question that emerges from the discussion of territory is that of firm size and the effect of economies of scale. Valgren (1924) analyzed 1,566 companies between 1915 and 1917, creating groups of firms according to the number of townships or counties they serve and then comparing their expense ratio, which he used as a proxy for efficiency. The main finding, similar to that of the life insurance companies, was that efficiency increased over a certain range of firm size, only to then decrease beyond a certain point. The thresholds in his analysis were that efficiency increased as firm size increased to a coverage area of 6 to 10 townships but decreased as firms grew larger. Moreover, in his Appendix 4, Valgren showed that losses as a percent of total expenditures did not decrease significantly until a firm covers 4-5 counties, and, interestingly, expenses as a percent of total expenditures also increased after the same 6 to 10 township grouping.

One of the dominant features of these firms was the relatively low amount of capital necessary to start them. Since, at least in the early days, losses were paid for using assessments, significant amounts of working capital and reserves were not necessary. From the perspective of low-income rural farmers, this was a highly attractive feature, and it enabled the creation of many of these companies. However, this element of cooperative organizations long attracted the attention, unfavorable as it was, from the Minnesota Legislature and administrators. First, in the 1870 law authorizing the formation of cooperative associations, a provision linking dividend payment and cash reserves was included that had the effect of compelling early cooperative associations to have more working capital on hand. It was another element of the critique of the

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limited to a single unit of such area, but rather that the territory permitted is a given number of townships, or counties…." (p. 32).

Insurance Commissioner, who openly expressed his concern that these firms would not be able to cover their losses. However, as Hensley (1962, pp.51-52) commented, this feature was consistent with the mode of operation and the insurance products of these companies.

As mentioned above, these organizations were created with the imperative to lower the cost of fire insurance. The importance of this cannot be understated. In fact, as Keillor (pp.93-94) noted, whereas the Minnesota Insurance Commissioner viewed the traditional "high-value" services of insurance companies as evidence of their financial strength, the farmers who started township mutuals did not value these services and viewed them only as means by which the cost of insurance was increased. The source of value to these farmers was low cost. This imperative took the specific form of:

- The organizational form of a township mutual
- Adopting the assessment system to provide insurance
- Defining the insurable risks to limit their exposure
- Developing a system of strict inspections to lower the costs of losses
- Providing most of the administrative functions themselves and other means of lowering administrative costs

The organizational form of a township mutual was used to effectively lower the costs of insurance for a given group. Specifically, the size, the specialization of risks, the capital structure, and the ownership of the company by shareholders can all be put to that purpose. By being contained within a given community, a higher degree of transparency can be achieved than from, say, a large insurance company (stock or mutual) that is not

local. Moreover, because the company had the sole purpose of insuring fire risks, they developed a better understanding of how fires could be prevented. Keillor (2000, p.85) asserted that the opportunities for fraud in these organizations was small, as a result of community ownership and the relative lack of funds on hand. Finally, by being a form of mutual, these companies had democratic management and transparency as features.

The assessment system was introduced in Chapter 1. The specific means by which it lowered the cost of insurance are, first, to assess members directly for losses and not keep a significant amount of capital on hand, and, second, by not including the costs of administering a large company or paying dividends to shareholders. A more subtle effect on costs of the assessment system is that, particularly in small rural communities, assessments can be scrutinized by policyholders, who can withhold payment if they are judged to be excessive.

Third, by excluding windstorm loss, the founders of the early township mutuals limited the exposure and the risks they faced. Keillor (p.94) provided an example of another township mutual further limiting their exposure and achieving a lower loss expense per hundred dollars of insurance by, in addition to the other techniques described here, only insuring up to 2/3 of the value of the damaged goods and not initially covering losses from sparks from trains. While each company's policies were different, this method of defining the reimbursable risks helped to lower costs.

Next, by using inspectors, these companies could (1) help to educate members as to how to lower the risk of a fire, (2) evaluate claims more effectively, and (3) classify risks and behaviors according to their level of riskiness. Valgren (p.80) made the claim

that inspectors pay for themselves many times over by performing these tasks. Keillor (p. 95) added that the majority of policyholders in the early township mutuals actually favored close inspection, as it helped to keep costs low. He noted that because inspections were performed by neighbors, members of a community could develop a reputation, which would have a bearing on any claims they would make. One mitigating factor in this system, which could easily be put to negative use, was the fact that, if a disagreement was serious enough, policyholders still had recourse in the courts.

Fifth, these companies were organized around the principle of forward integration, where producers either perform certain functions themselves or otherwise eliminate middlemen. This mainly impacted administrative costs. Since a number of these organizations did not employ professional agents and acquired new members through word of mouth, the costs of a salesforce could be foregone. Furthermore, the low capital requirements meant that the cost of expansion would be relatively low. Also, the relatively small geographic area meant that other information and administrative costs were lower.

A final consideration in this discussion of lowering the cost structure was the claim by Valgren (pp.79-83), in his discussion of “false economies”, that this heavy focus on lowering costs had been taken too far and was in fact starting to hurt these organizations. For example, if by using a local secretary for the company, who is then underpaid, these companies are not able to attract or retain the best people for these jobs. He goes so far to assert that firms with lower than average costs perform less effectively than their higher-cost peers, although he ultimately ends this discussion by observing that

expense ratios are bad guides to predicting performance. By contrast, Keillor (p. 95) claimed that, to continue with this example, even “part-time, underpaid” officers, presumably motivated by a sense of duty to the community, performed their tasks well.

Application of Collective Action Principles

Collective action was not necessarily an end in itself to the members of the early township mutuals, but it heavily influenced their behavior. Keillor made the claim that the only asset of these companies is their assessable policies, which can be expanded to include discussions of the number and types of policyholders, the willingness of policyholders to pay assessments, and the belief that these assessments would cover the costs of their losses.

While the size of township mutuals has been discussed above, the nature of the communities providing insurance in this manner has not. The primary consideration here is the ethnic nature of these communities. Keillor (p.31) suggested that four factors determined the success of collective action activities in a given community: “(1) members purchasing and selling in the same market; (2) members having similar racial, religious, political, occupational, and linguistic characteristics; (3) members sharing a tradition of jointly running an organization such as a church or a voluntary association; and (4) an absence of factions or contradictory economic interests among members.”

He observed that, although the influence of these homogenous communities began to dissipate by the 1890s, township mutuals satisfied these requirements. Finally, he observed that prior experience in working together at the community level made the

adoption of these organizations relatively easy within the communities (Keillor 2000, p.83, p.96).[9]

The question of the enforceability of assessments, in addition to being another aspect of the concerns of the Insurance Commissioner in Minnesota, also provides a direct test of the free rider hypothesis. The ability of a given person to game the system by being a member of a township mutual and receiving benefits in the case of loss, but not paying assessments to cover the losses of other people is easily seen. However, the experience of early township mutuals in Minnesota was that the amount of unpaid assessments was low, as noted by Keillor (p. 91)

Finally, the methods and techniques used by the early township mutuals to lower costs were described above, a number of them—acquiring new members through word of mouth, having community members fill the roles with the companies, and using a strict set of inspections to manage the risk of moral hazard—are direct applications of collective action principles. Valgren (p.105) suggested these organizations achieved relatively high level of success, as a broad-based group, in lowering the loss rates of their members. He highlighted another manifestation of collective action in the subjective nature by which risks, premiums, and awards are evaluated. These organizations balanced the stated desire to lower costs with individual circumstances and needs and, at the same time, ensure the satisfaction or at least approval, of all their members. This last point speaks to the challenges of these types of enterprises. Finally, Valgren (1924) claimed that these organizations were able to lower their costs by managing the moral hazard

[9] Keillor also made the additional point that the norms of ethical behavior of the Scandinavians that comprised a number of these organizations also helped reduce the risks of moral hazard and unpaid assessments (p. 83). It should be noted that these factors mirror the common bonds of fraternals.

inherent in these products and making decisions in the best interests of the community as a community.

Other Forms of Mutuals

The mutual model was also used by farmers in hail and cyclone insurance. For example in 1927, there were 12 firms in this industry. These were Austin Mutual Insurance Company, Creamery and Cheese Factory Mutual Tornado Insurance, Farmers Co-operative Mutual, Farmers Home Mutual Cyclone, Farmers Mutual Tornado Cyclone and Windstorm, Home Farmers Mutual, Minnesota Farmers Mutual, Northern Mutual, North Star Farmers Mutual, St. Paul Mutual Hail and Cyclone, and State Farmers Mutual Hail and Insurance Company. These are beyond the scope of this dissertation.

Summary

Township mutuals were created by groups of farmers that wanted to mutually provide fire insurance to each other at a low cost. While this initially upset the political and commercial infrastructure in Minnesota, by working together, taking advantage of the homogeneity of both their background and their interests, these companies survived the initial challenges they faced, and many have survived into the current day.

These organizations represent a direct application of the collective action literature in that they remained small enough to continue to monitor their costs within the communities in which they operate, which was an essential component of keeping costs low. As many of the attributes that made these companies successful in their early days evolve (inability of commercial companies to compete effectively in rural areas, limited products, homogenous communities, etc.), these organizations have faced increasing

challenges in the markets where they compete. In particular, the decline in the rural population over time has resulted in mergers and consolidation of many of these township mutuals.

Chapter 6 : Determinants of Survivorship in Fraternals

The previous chapters have discussed a historical analysis of the insurance industry, the literature on collective action, and discussion of the relevant literature on fraternals and township mutuals. This chapter analyzes the determinants of survivorship in fraternals.

Discussion of Methods

Risch, Boland, and Crespi (2014) conducted an exhaustive literature review on empirical studies of entry and exit, and survivorship in industrial organization literature. The current industrial organization literature uses survival analysis to study survivorship,[10] and this dissertation both uses and extends this method. Another method, logistic ("logit") regression, was also used to both verify the results of the survival analysis and also to analyze the impact of the covariates in a shorter time interval. Ultimately, however, the questions posed by the logistic regressions are significantly different than those posed by the survival analysis, and, furthermore, survival analysis is more appropriate for a long-term analysis of this type of industry study.[11] As a result, the discussion of the logit regressions can be found in Appendix B.

[10] This study uses the term "survival analysis" to describe this method, although "duration analysis" is interchangeable.

[11] While linear probability, logit, and probit models have been used for some longevity studies, the length of the analysis timeframe and aspects of our data make survival analysis appropriate because of the use of conditional information in the estimators. In our data, the exit, not merely the closing, of a plant is conditional not only upon the plant being open but on how long it has been open. Traditional binary models assume independence of the errors and can work well in cases where plants open, close, and reopen again or use shorter analysis timeframes. With our long time series, this independence is not a valid assumption since not only is it the case that once a fraternal exits, it never reopens, but the hazard of closing is conditional on how long the plant has been open, information that the Cox proportional hazard model can take into account (see Cameron and Trivedi 2005, 573-610).

Survival Analysis

This methodology has its foundations in the evaluation of medical treatments: how long can a given patient, defined by a set of covariates, expect to survive in the presence of a given treatment? The concept is easily extended to a number of engineering and economics applications. If there were over 600 fraternals in 1900 and in 2013, there are 75, survival analysis can, using standard regression techniques, inform the question of what contributed to the durability of the survivors by analyzing which factors contributed most significantly to this decline, or, conversely, which factors are most strongly correlated with the survival of given members.

Survival analysis analyzes the time to failure, which is defined as the time until the subject exits the industry, which is not repeatable, and the probability of failure. The analysis takes specific form in the survivor function, *S(t)*, and a hazard function, *h(t)*. More formally, if *T* represents the time to failure and *t* represents a given point in time, then the survivor function is based on the cumulative distribution function of *T*, *F(t)*, which represents the length of time a subject "lives", and its corresponding probability distribution function, *f(t)*. These terms can be combined in the following equation:

$$S(t) \equiv 1 - F(t) = \Pr(T > t).$$

Equation 1: The Survivor Function

In words, the survivor function represents the probability, at any given point *t*, that the time to failure is longer than the elapsed time. *S(t)* can thus be interpreted as the probability of surviving past time *t*; by contrast, the hazard function, *h(t)*,is the probability that a given subject will "die" per unit of time. The hazard function is also

called the “instantaneous rate of failure or death”, and it can be represented as the following limit, which also highlights the relationship between *h(t)* and *S(t)*:

$$h(t) = \lim_{\Delta t \to 0} \frac{\Pr(t+\Delta t > T > t | T > t)}{\Delta t} = \frac{f(t)}{S(t)}.$$

Equation 2: The Hazard Function

With this foundation, the cumulative hazard function, *H(t)*, can be seen to be the total risk of failure up to time *t*, as

$$H(t) = \int_0^t \frac{f(u)}{S(u)} du = -\ln\{S(t)\}.$$

Equation 3: The Cumulative Hazard Function

The hazard function measures the number of failures per year. If the hazard function is constant at two failures per year, then the probability of witnessing at least one failure in a given year would be $1 - \exp(-2) = 0.865$, or 87%. As the hazard function changes, so does the probability of observing a failure. Conversely, if the hazard function remains constant, its reciprocal is the amount of time until a failure occurs. This perspective also enables the interpretation of the cumulative hazard function as the total number of failures over a given interval.

Conceptual Model

This dissertation uses the Cox (1972) proportional-hazard model approach, the main benefit of which is avoiding the need to estimate a baseline hazard function. This is accomplished by making the assumption that the hazard rates across the firms are proportional and can be represented as a proportion:

$$\frac{h_i(t)}{h_j(t)} = \exp\left[\sum_k \beta_k (x_{ik} - x_{jk}) + \sum_m \beta_m (z_{im}(t) - z_{jm}(t))\right]$$

Equation 4: Survival Analysis Conceptual Model

In this equation, $h_i(t)$ represents the hazard rate of a given firm, with subscripts *i* and *j* denoting different firms. β_k represents the variables that do not change over time, β_m representing the variables that do change over time (in this study, the only time-varying covariate is industry phase), and x_{ik} and $z_{im}(t)$ represent the values of the covariates for a given firm, and, if appropriate, a given time. This model also has the feature of not having an intercept because the baseline hazard function is not estimated. This is an important consideration in terms of discussing the results.

This dissertation also utilizes the Kaplan-Meier (1958) estimate of the survivor function which represents a non-parametric estimate of the survivor function, *S(t)*, which is the probability of survival past time *t*. The benefit of this analysis is that it provides a readily accessible visualization of the survivor function, which can then be used to check the model specification.

Model to Be Estimated

This study suggests that the relative hazard rate for a given fraternal is a function of the nature of the common bond, size, growth, evolution of the common bond, phase of industry development and early entry. These variables can be translated into the following equation, where *i* indexes the firm:

$$\frac{h_i(t)}{h_j(t)} = \beta_0 + \beta_1 * CB_i + \beta_2 * Size_i + \beta_3 * Growth_i + \beta_4 * Evolve_i + \beta_5 * Phase_i + \beta_6 * Early_i$$

Equation 5: Survival Analysis Estimation Equation

where:

- $h_i(t)$ = hazard function, or the likelihood of failure, for a given firm *i* or *j*
- CB_i is the Common Bond, or the specific manner in which the members of a fraternal are related to each other

- $Size_i$ is the size of a firm, which tests the impact of economies of scale on a given firm
- $Growth_i$ is the growth rate of a given firm, which tests firm effects
- $Evolve_i$ is whether the fraternal has evolved its common bond since it began operations
- $Phase_i$ is the industry phase at a given time, which controls for industry effects
- $Early_i$ is an indicator of whether the fraternal was an early entrant into the industry

Each of these variables was derived from the literature. Specifically:

- *CB* comes from the literature on collective action, with the hypotheses and data suggesting that some form of group homogeneity will promote collective action results
- *Size* is suggested by the literature studying the insurance industry, specifically that economies of scale significantly impact the firm
- *Growth* is suggested by the structure of a survival analysis; because the research question concerns the relative survival probabilities of a group of firms, firm effects are an important covariate
- *Evolve* comes from Solt (2002), who suggested that fraternals must evolve to continue to survive
- *Phase* is the result of the literature on industry life cycle effects (see Appendix A for a discussion of this literature)
- *Early* is also suggested by the literature on industry life cycle effects

The only time-varying covariate in this model is industry phase, or *Phase*.

Hypothesis Tests

Returning to the specific variables, the common bond describes the relevant population the insurance products serve. Five categories of common bond are found in the literature and are used by the American Fraternal Alliance (the successor organization to the NFC) for defining its members. These are based on whether the fraternal identifies itself as

being defined by being of a certain geography (e.g. state or locale), religion, ethnicity, gender, or profession. For example, the Bohemian Roman Catholic Union of Texas has three common bonds (ethnicity, religion and locale). Similarly, the Greater Beneficial Union of Pittsburgh has a common bond of locale while the First Catholic Slovak Ladies Association of the USA has common bonds of religion, ethnicity and gender. The Brotherhood of Railroad Trainmen has a common bond of an occupation. These five categories will be represented by the labels "Locale," "Religion", "Ethnic", "Women" and "Professional". It should be noted that all fraternals have a common bond of some type, so this variable is testing the incremental effect of having a specific type of common bond. It is also testing whether fraternals for whom the common bond was more apparent or prevalent experienced longer durations.

The first hypothesis is related to common bond covariates and suggests that those based on religion and ethnicity will most positively impact duration, or, conversely, the hazard rate negatively. This follows from Williamson (2002), whose results can be taken to suggest that these types of bonds are the deepest, longest-developed and most enduring in human societies. Because the particular form of the analysis used to test Hypothesis 1 requires that the results be expressed exponentially, the hypothesis is that the coefficient is less than 1.

Hypothesis 1: $\beta_1 < 1$ for $\beta_{1,\text{Ethnicity}}$ and $\beta_{1,\text{Religion}}$

Equation 6: Hypothesis 1

Economies of scale are an important variable in industry studies and increasing returns to scale are seen more readily in smaller firms. Many studies have found significant scale economies in life insurance, as noted by Yuengert (1993) and Grace and Timme (1992).

Larger providers have an inherent cost advantage over smaller providers, resulting largely from the ability to both pool risk and spread the high fixed costs of the transaction systems necessary to administer the insurance across larger populations. Cummins and Zi (1998, pp.143,150) found that firms with less than $300 million experience increasing returns to scale while firms with more than $1 billion in assets experience decreasing returns. By comparison, Yuengert (1993) found increasing returns to scale in firms with less than $15 billion in assets, while results for firms with higher levels of assets are not significantly different from the level in the null hypothesis.

Greene and Segal (2004) proposed total insurance in force (TIF) as a more reliable approximation of size and economic activity than total assets. In this respect, asset levels represent a cruder measure, but one with greater data availability. The authors found that total insurance in force may be the most reliable indicator of economic activity in a life insurance organization because of the uncertainty of the social or profit goal being followed by the firm. Given the inconsistency in data reporting, the variable for *Size* is particularly challenging. Following Greene and Segal (2004), this study uses an average calculation of size across a range of years. The actual value of the size variable is calculated by taking natural log of TIF for a given firm in a given year. With the assumption of a random distribution of missing data at both the firm and state level, this approach should not have any predictable sources of bias. While many fraternals in this sample have a relatively unchanging size relative to their peers, the primary weakness of this approach is that it masks firm-level changes in relative size over time.

In the case of fraternals, this industry trend directly conflicts with the very nature of fraternals, namely their organization around a specific population or common bond, which thus limits the potential membership. This feature of fraternals provides a strict test of the impact of collective action: if fraternals compete with an inherent cost disadvantage relative to stock insurance companies, in the absence of some other factor, they would not be expected to survive. If the traditional model of economies of scale is stronger, size is negatively correlated with the hazard rate. If the collection action effects are stronger, then this coefficient will not necessarily be significant. This study offers the hypothesis that economies of scale do impact the fraternal industry:

Hypothesis 2: $\beta_2 < 1$
Equation 7: Hypothesis 2

To capture firm-level effects, from a theoretical perspective, profitability would be the obvious variable to use. However, as discussed above, these firms may not have profitability as their primary objective. Growth, by contrast, is a variable that is consistent with the mission and intent of fraternals. Although profitability and growth can obviously move in different directions within the same firm, the broader objective of this variable is to measure individual firm health and economic activity at a gross level because that is more consistent with the collective action imperative of these organizations. *Growth* is measured in the periods across which the firm reported. This analysis calculates a compound average growth rate (CAGR) for the firm based on the interval of available data for the given fraternal. While the variance in year-to-year growth is generally accommodated in a CAGR calculation, broader cycles of growth and

decline are not as clearly identified. The hypothesis concerning growth is that it is positively correlated with duration, or negatively correlated with the hazard rate.

Hypothesis 3: $\beta_3 < 1$
Equation 8: Hypothesis 3

Identification with a certain target market clearly limits the potential of a fraternal to grow and survive, particularly in an industry characterized by strong economies of scale. Furthermore, identifications on the basis of religion, ethnicity and the other categories have weakened over time as noted by Putnam (2000). As a result, evolution from, for example, a particular branch of the Lutheran church to identification with all Lutherans and later with all Christians could create the basis for a longer duration. Moreover, it could also create more of the bridging variety of social capital, which Putnam (2000) suggests can help drive long-term growth and success. Moreover, as noted above, Solt (2002) suggests, using an individual case study approach, that this type of evolution is a necessary ingredient for fraternals to position themselves for long-term survival. This dissertation seeks to test this hypothesis on a more systematic level. Evolution of the common bond (*Evolve*) is measured in two ways. First, did the firm merge with other fraternals who had a different common bond? Second, did the firm change its name in a way that masks its previously stated common bond? Two examples of the second case would be Association Canado-Americaine becoming ACA Assurance and The Czechoslovak Society of America becoming CSA Fraternal Life. As a result, this study hypothesizes that evolution of the common bond negatively impacts the hazard rate.

Hypothesis 4: $\beta_4 < 1$
Equation 9: Hypothesis 4

The phase of industry development impacts duration in multiple ways. Industry phases have different hazard rates and are associated with discrete significant events in the industry's history and thus participation in the industry during a given phase has consequences in determining the hazard rates of given firms. Within this survival analysis, the data is entered with multiple records for each unique identifier with each record having beginning and ending dates that correspond with the phases of the industry discussed in Appendix A. This is consistent with Agarwal and Gort (2002), who partitioned their data by industry phase. Second, four binary variable corresponding to the phases are included in the data, representing the four industry phases. An important question regarding the construction of these variables is whether they are distinct or additive. In other words, should a firm's tenure in Phase IV have only a value of "1" in the binary variable for Phase IV of the industry's development, or should it also have "1"s in Phase I, II and III, as appropriate? This study assumes that each industry phase is distinct in its impact on hazard rates.

In terms of how the different phases should affect hazard rates, participation in the industry during Phase I and Phase II should not impact hazard rates in a statistically significant manner. Theoretically, Phases I and II would naturally be characterized by low exit, as they are the initial and early high-growth phases. By contrast, Phases III and IV should positively impact the hazard rate, as they represent the phases where entry and exit are roughly equal and net exit is higher, respectively. This literature also suggests that the hazard rate in Phase III should be lower than that of Phase IV, implying that, as a result of the exponential form of the results, the value of β_5 should be less for Phase IV

than for Phase III. These effects are measured in terms of variables related to the specific industry phases.

Hypothesis 5: $\beta_{5,\text{PhaseI}}$ and $\beta_{5,\text{PhaseII}} <> 1,\ \beta_{5,\text{PhaseIII}} > 1, \beta_{5,\text{PhaseIV}} > 1,\ \beta_{5,\text{PhaseIII}} < \beta_{5,\text{PhaseIV}}$

Equation 10: Hypothesis 5

A sixth hypothesis related to the discussion of industry phases is that early entry into the market is correlated with longer survival because of the impact of experience and the relative ease of gaining market share in a new market. Klepper (1996) concluded that the largest and most profitable firms come from the first entrants, who, in addition, have the greatest opportunity to continuously earn supernormal profits. Finally, early entrants (*Early*) in the industry are defined in the context of this study as those firms that entered before 1900, which is recorded as a binary variable in the data. This reflects the industry-changing event that occurred on August 23, 1899, namely the publication of the mortality table of the NFC, which effectively signaled both a structural change in how the industry would conduct business and also the demise of the assessment system as a funding mechanism. This is different than the 1913 date used as the end of Phase II because any firm that entered after this 1900 date would be obligated, sooner or later, to conduct business in a different, and less favorable, manner than firms than that which firms who entered before this date. The 1900 date, therefore, seems to most accurately capture the phenomenon of early entry. Early entry into the market is hypothesized to be positively correlated with duration.

Hypothesis 6: $\beta_6 < 1$

Equation 11: Hypothesis 6

Data Discussion and Summary

Data Sources

The data represents a unique profile of fraternal benefit societies as an industry, which, to the best of this author's knowledge, has not been performed before. It includes significantly more fraternals than any previous study, and it updates Kip (1953), which is the closest equivalent to it. However, Kip (1953) included fewer fraternals and less information about them. Finally, it creates a profile of the industry over time.

The data in this analysis comes from three primary sources. The first is the 1909 *Statistics, fraternal societies* published by the NFC (NFC). The second is the A.M. Best *Life Insurance* reports (Best) spanning from 1934, the first year where data was available, to 1968 when Best stopped reporting on fraternals as a separate group of firms. The third is the annual *Statistics of Fraternal Benefit Societies* reports published by the National Fraternal Congress of America since 1968 (NFCA, which is now the American Fraternal Alliance). Other sources have verified, corroborated or corrected the information in the database, primarily Schmidt (1980).

The Best and NFCA reports have assembled as complete a profile of the fraternal benefit society industry as possible, but they have indicated, as put most succinctly by the NFCA in 1968 (p.2):

> The statistical information contained in this publication does not include every organization licensed as a Fraternal Benefit Society. Those societies for which information was not available, however, represent a very small proportion of the fraternal insurance in the United States.

As a result, any database examining fraternals as an industry is a sample, and the biases in the data, given this feature, are to include larger firms, more financially stable and

strong firms, firms with a more diligent management team, and firms in those states with a tradition of enforcing regular reporting. All of these biases err on the side of overstating duration and understating failure as a final disposition. A consideration mitigating this bias is seen in Yuengert (1993), who excluded small and low output companies in his study of scale economies in life insurance because of their ability to distort the data.

Data Reporting and Consistency Issues

Data collection involved two challenges. First, because reporting is completed at the state level, there is no legal or regulatory compulsion for fraternals to report to these trade organizations. Second, no organization has compiled the data with an eye to establish a common dataset over time, so there are a number of inconsistencies in the data requiring manual reconciliation. Some examples of this manual reconciliation include:

- The names of fraternals may be reported differently in different years, and name changes may not have been documented in the data sources.
- The start date for a number of fraternal was inconsistently reported. In these cases, assembling a series of the data would reveal the most frequently cited start date.
- Certain fraternals offer both life insurance and accident insurance. For example, the Order of Railroad Conductors of America reported their fraternal insurance in either department, reported separately, in different years.
- In their 1968 report, Best changed the standard for reporting data, going from a January 1 of a given year to December 31 of that same year. Triangulating the data with the subsequent NFCA report, it became clear that certain states (e.g., Pennsylvania, New York, Oregon, Alabama, California and Texas) did not adapt to this change and subsequently misreported the data for this year. Moreover, Pennsylvania is the state with the second most fraternals in the sample.

The data includes a unique identifier to each fraternal and records current and previous names and the dates associated with the name changes, when available. This represents the organization point for each record. Next, the start date, exit date and form of the

disposition are included. For this analysis, data records were included only if they contained a clear, verifiable start date, end date and disposition. The 1909 NFC data had 95 unique firms matching this description, and Best had 251 such entries. Sixty firms were in both sources, and they were consolidated, producing an initial number of 286 unique firms. The NFCA data, starting in 1968 and continuing to 2013 included only firms that had previously appeared in one of the two other sources. Of these 286 firms, 10 were excluded because of data quality issues with the start date, end date or disposition, leaving a total of 276 firms. Of these, 7 were excluded because the data inconsistencies in the year-to-year data suggested the data was not credible, 1 did not report consistently enough to produce credible estimates of firm size, and 19 more were excluded because they did not have enough data to produce credible estimates of growth. The remaining sample had a total of 249 unique firms with sufficient data to complete the estimates required by this analysis. A list of the included and excluded records is included in Appendix C.

The data consistency issues mentioned above promoted the use of more creative data management and manipulation techniques. For example, in 1945, the state of Wisconsin, which is the home of many of the most significant fraternals and otherwise a strongly diligent reporter of the information, simply did not get their data to Best in time to be included in the publication. It is the only lapse in Wisconsin's reporting. Similarly, several fraternals (e.g., New Era Association, Royal Highlanders) did not produce data in the data collection period before they exited the industry. If these incomplete records

were included in the database, the statistical software would not include the records in its analysis. Under this approach, less than 25 firms would remain in the sample.

There are two approaches to addressing this challenge. First, develop a solution to make the best use of available data; and, second, to generate imputed values for missing data. This study has chosen the first approach, which is more manual but also provides the opportunity to identify and address outliers and other data anomalies. Furthermore, data imputation does not impact the results, but is merely a method to include data records that would otherwise be excluded. The relative level of bias with either method is expected to be the same.

Data Censoring Issues

Data censoring arises as an issue with survival analysis, but it is worth noting in the context of assembling this type of industry portrait with different data sources. It can take two forms: right- and left-censoring. Right-censoring occurs when the experiment stops before witnessing a failure event. These are the firms who survived to the current date. Left-censoring occurs if a given subject fails before the observation period began, and it is a source of concern. In the context of this study, this refers to the number of fraternals that were not included in the study because they failed prior to the first significant period of data collection, which is 1909. Two considerations mitigate against the impact of left-censoring in the data. First, according to the industry life cycle model, exit in Phases I and II will be low or non-existent, as the definition of the onset of Phase III is the increase of the exit rate. As a result, because the end of Phase II in the data (1920 in this sample) occurs when more regular data collection occurs, the number of firms who exited

in this period would be expected to be small, relative to the survivors. Second, even in an ideal data collection environment, the best source of available data prior to the data available in 1909 is 1895 while the industry has a start date of 1868, so even in an ideal situation, there would be some form of left-censoring in the data.

Data Definitions

Next, the analysis interval, which in this study is the period between entry and exit, requires consistent definitions of entry and exit, and a definition of the unit of time. In the case of fraternals, entry is straightforward: in what year did the fraternal begin operations? The question of what defines exit is more complicated, however. This study defines exit as either the date a fraternal failed to remain operationally viable, merged into another organization or converted its form of business organization.

The unit of time is years. This study uses a much longer time period than many of the studies utilizing survival analysis, 145 years compared to an average of 5-10 years. As a result of this long span, entry and exit are specified in terms of years, not days or months. An implication of using years as the analysis unit is that the number of "ties" in terms of the survival duration of two (or more) fraternals increases, and this is a problem in the Cox model. Ties may result from either imprecise or discrete measurement, and the reason affects the selection of the preferred solution from among the four options. Since the major cause of ties in this study is discrete measurement, the Breslow (1974) approximation is used to modify the analysis accordingly. Again, the imprecision resulting from this choice is believed to be small, as noted by Cleaves et al. (2010).

Summary Statistics

Table 1 provides descriptive statistics for the continuous variables.

Statistic	Size: ln(TIF)	Growth: TIF CAGR
Mean	16.35	2.52%
Median	16.22	1.73%
Minimum	12.17	-28.22%
Maximum	23.08	50.48%
Std. Deviation	2.00	7.94%

Table 1: Fraternal Continuous Variable Summary Statistics

Figure 3 shows that Illinois and Pennsylvania represent the largest concentration of fraternals, with New York and Ohio following, likely the result of their large geography. Given the prevalence of economies of scale in the insurance industry, the size of the individual fraternals is a relevant concern.

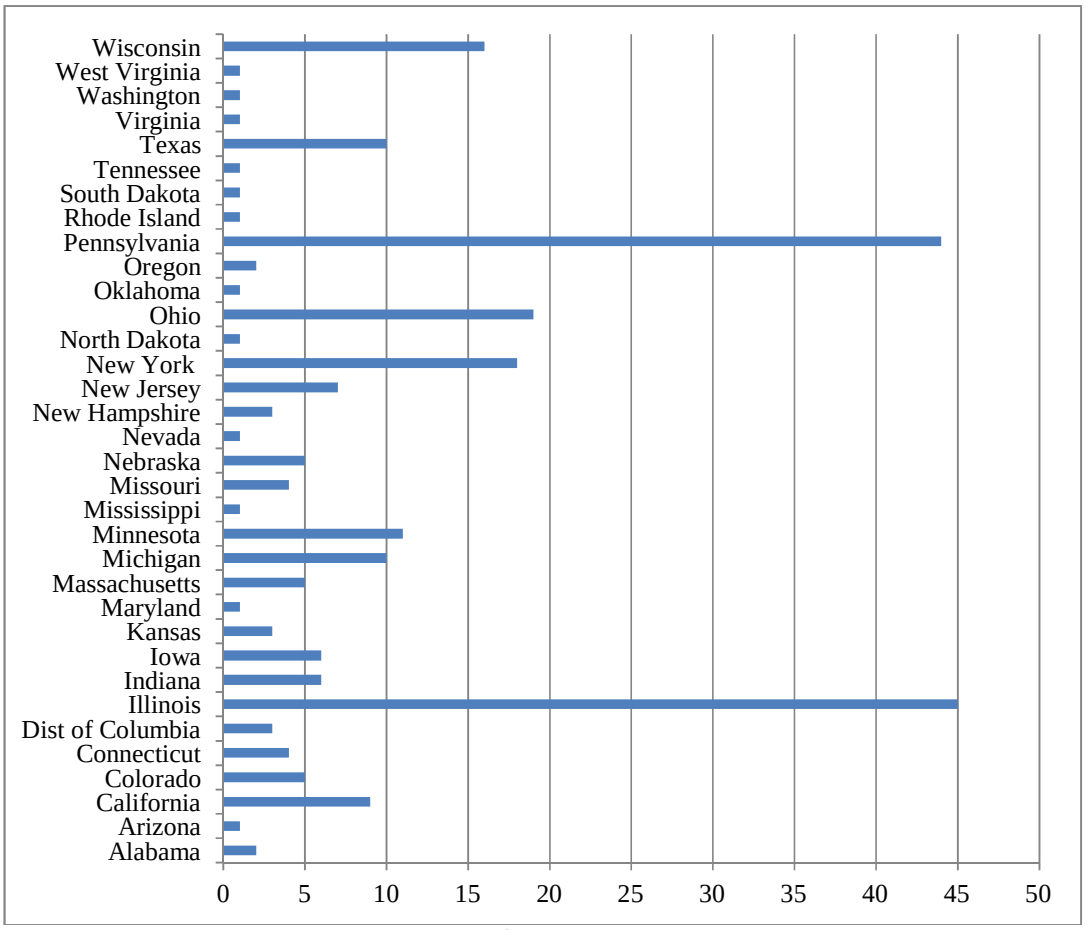

Figure 3: Number of Fraternals by State, 1868-2013

For the 77 surviving firms in 2013, TIF is shown in intervals and displayed in Figure 4, resembling a normal distribution.

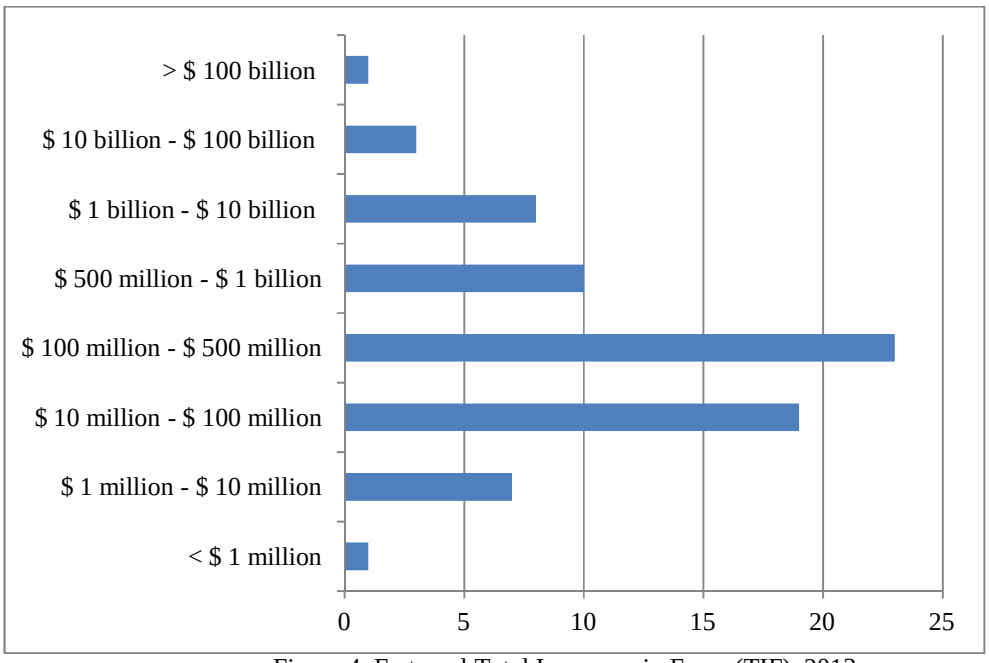

Figure 4: Fraternal Total Insurance in Force (TIF), 2013

Figure 5 shows the count for each type of disposition. Of note are the small number of business failures and the high number of mergers.

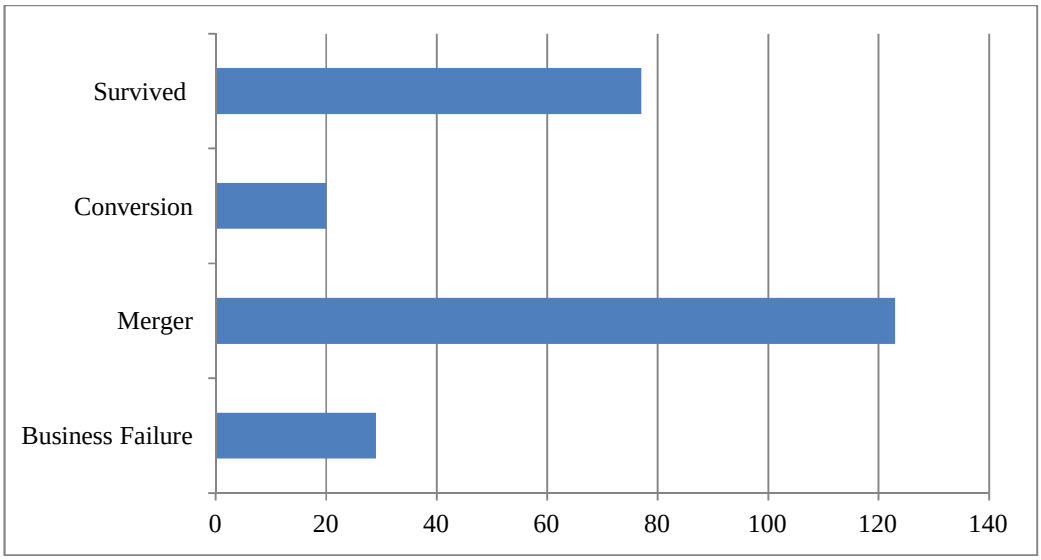

Figure 5: Fraternal Common Bonds by Type, 2013

Figure 6 shows the distribution of common bonds among the fraternals in the sample, segmented by type of disposition.

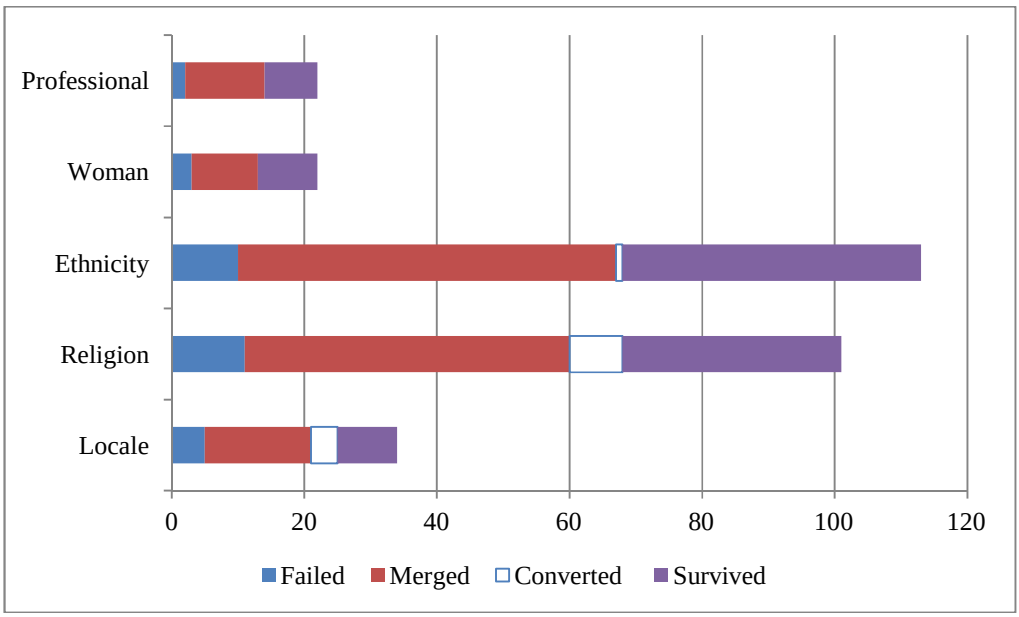

Figure 6: Disposition of Fraternals by Common Bond, 2013

Controlling for the relative distribution of common bond, a higher number of fraternals using locale as a common bond failed, a higher number of ethnically-organized fraternals merged, and a higher number of religion-based fraternals survived.

Figures 7 and 8 below organize the start and end dates for fraternals into five year intervals to more clearly demonstrate the trends. Figure 7 is a description of the entry and exit patterns by interval while Figure 8 shows the total number of fraternals in the industry across each interval.

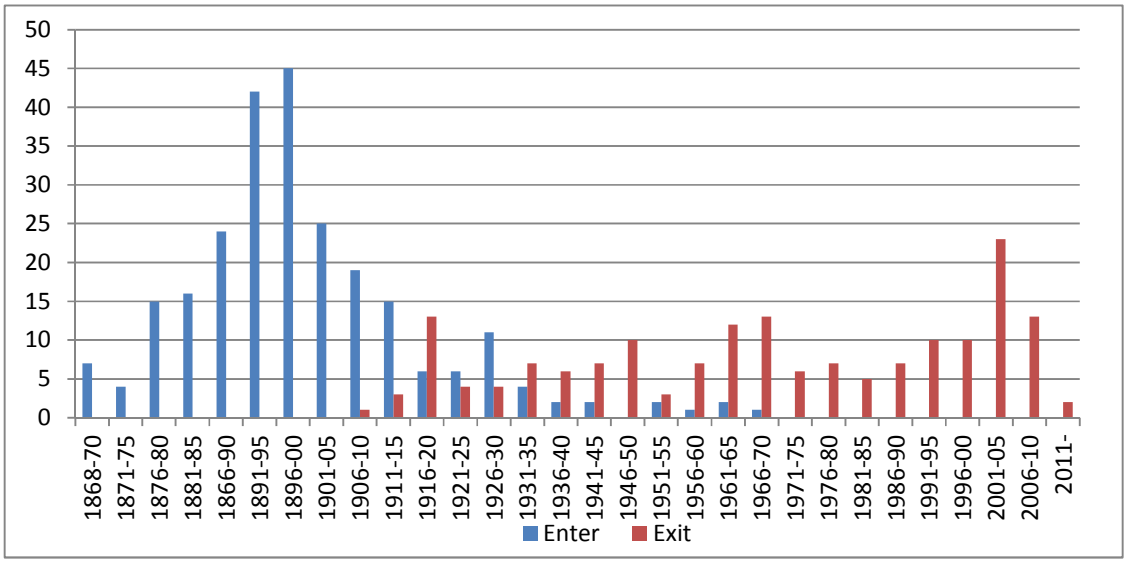

Figure 7: Fraternal Entry and Exit by Five-Year Intervals, 1868-2013

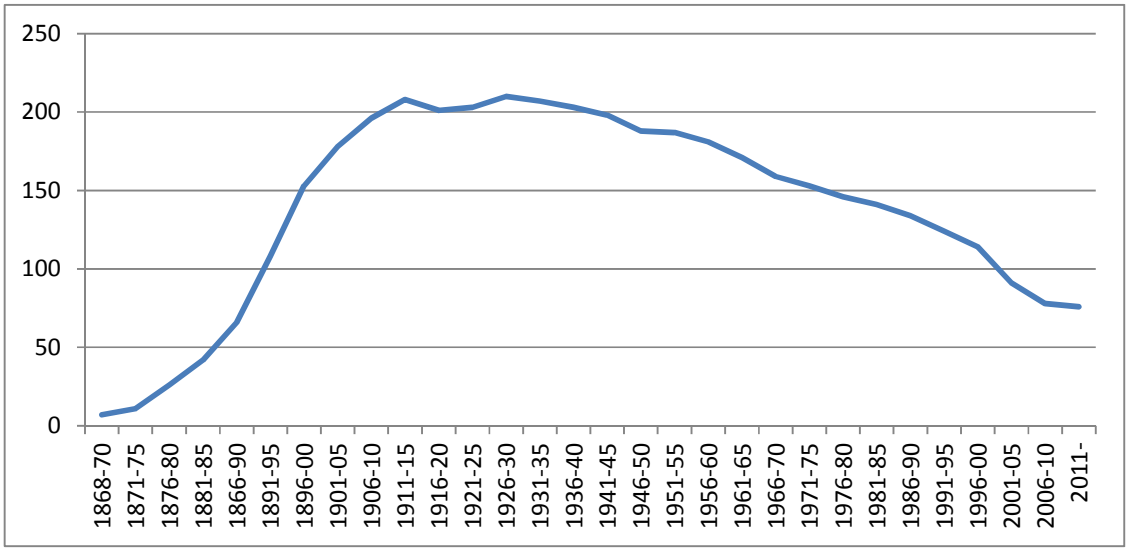

Figure 8: Number of Fraternals by Five-Year Intervals, 1868-2013

The patterns shown by these graphs correspond closely to the general industry life cycle phase analysis in Appendix A. The one notable exception is the amount of exit observed in the period 2001-2005. The data shows that several Catholic fraternals merged with a number of smaller, similar organizations. Discussions with industry representatives indicated no precipitating event caused this event; a number of longer-term trends converged at the same time to produce this result (American Fraternal Alliance 2013).

Figure 9 shows the distribution of duration of the fraternals in the dataset, or the number of firms that survived or have survived a certain number of years. If a firm is still operating, 2013 was used as the end date.

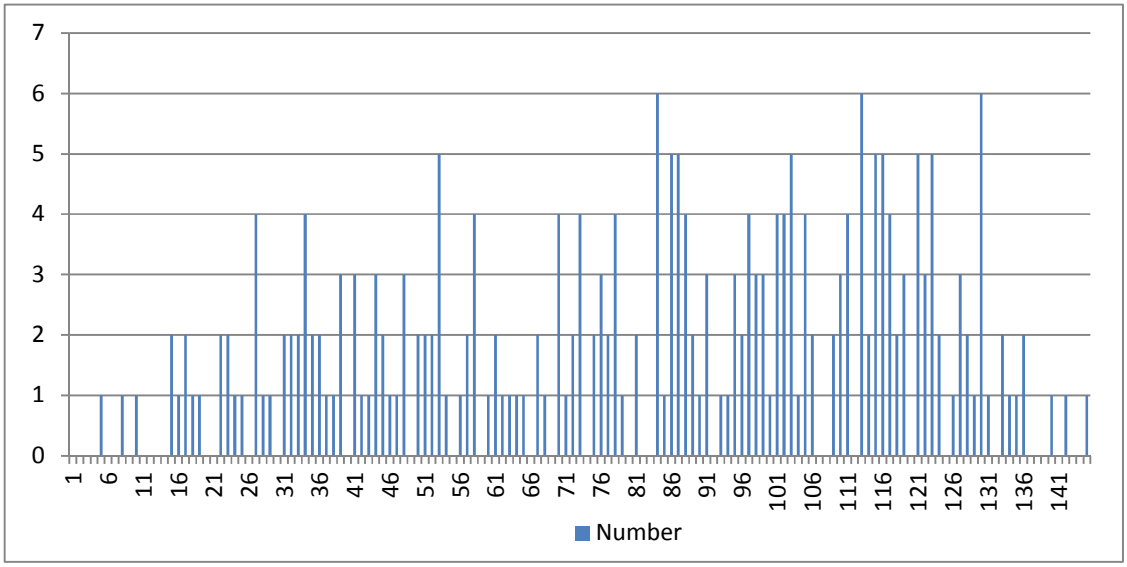

Figure 9: Distribution of Fraternal Duration, 1868-2013

Finally, Figure 10 shows the growth in Total Insurance in Force (TIF) across the sample between 1934 and 1968. While these numbers are not highly precise as a result of the data reporting issues, they do indicate the general direction of the industry. A further consideration is that these growth rates are calculated as an average of the firm level results, making firm individual growth rates equal. Extreme outliers were excluded.

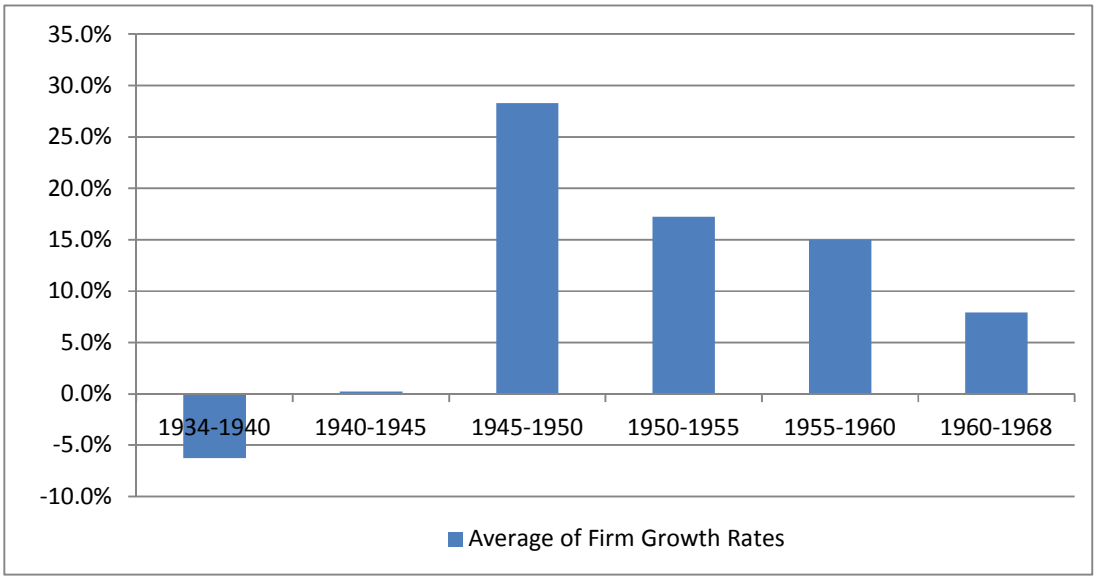

Figure 10: Fraternal Growth Rates, 1934-1968

Note that the count for *Evolve* is 37, and *Early* is 148.

Results

The Kaplan-Meier estimate of the survivor function, shown in Figure 11, shows a natural evolution of the industry, which helps to verify the validity of the data.[12]

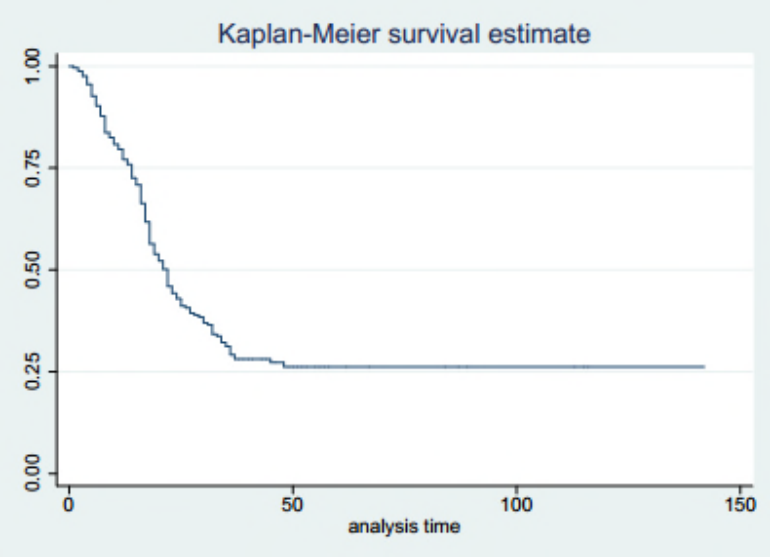

Figure 11: Fraternal Survival Analysis Kaplan-Meier Graph

[12] The line at the end of the step function is the result of a number of firms surviving to the end date.

The results from the survival analysis regression are listed below in Table 2[13]:

Covariate	Parameter Estimate	Standard Error	Z Statistic	Prob > z
Common Bond: Locale	1.58 *	0.39	1.88	0.06
Common Bond: Religion	0.74 *	0.14	-1.65	0.10
Common Bond: Ethnicity	0.76	0.15	-1.44	0.15
Common Bond: Women-Only	1.27	0.40	0.74	0.46
Common Bond: Professional	1.00	0.30	-0.01	0.99
Size: ln(TIF)	0.74 ***	0.036	-6.08	0.00
Growth	6.51 **	5.83	2.09	0.04
Evolve	0.14 ***	0.051	-5.31	0.00
Industry Life Cycle: Phase II	0.08 ***	0.038	-5.24	0.00
Industry Life Cycle: Phase III	0.014 ***	0.0077	-7.62	0.00
Industry Life Cycle: Phase IV	.0066 ***	0.0045	-7.40	0.00
Early Entry	0.19 ***	0.040	-7.85	0.00

* = Significant at the 10% level, ** = 5% level, *** = 1% level (n=246, $X^2 = 0.00$)

Table 2: Fraternal Survival Analysis Regression Results

The first question is the impact of the different common bonds on the hazard ratio, with the expectation that religion and ethnicity would be the common bonds most clearly associated with longer duration. To reiterate, Hypothesis 1 indicates that the coefficients for the common bond covariates for religion and ethnicity would be less than one. The parameter estimate for religion is significant at the 0.10 level of significance, and ethnicity is significant at a 0.15 level of significance, which is weak support for this hypothesis. Moreover, interestingly, the parameter estimate for locale is also significant at the .10 level, but in the opposite direction, suggesting that fraternals identified with a specific geographic area were more likely to exit than those without this association. Interestingly, this is also consistent with Hypothesis 2.

Hypothesis 2 indicated that the expected impact of size on the hazard ratio would be less than one, providing evidence of economies of scale in the fraternal insurance industry. This data clearly supports this hypothesis. Similarly, Hypothesis 3 stated that

[13] See Appendix B for the results of the corresponding logit regressions discussed in the "Discussion of Methods" section.

growth within a given fraternal, serving as a rough proxy for financial health, would have the same type of effect. This data is significant, but in the opposite direction of that predicted.

Hypothesis 4 addressed the question of expanding the nature of the original common bond, either through merger or redefinition. To reiterate, this could have two effects, both of which would increase duration or decrease the hazard rate. First, it would simply expand the target market, which would create greater opportunities for long-term success; and, second, it would increase the "bridging" variety of social capital, which Putnam suggests is a determinant of long-term success. As a result, Hypothesis 4 stated that the coefficient on this covariate would be less than one, and there is strong support for this hypothesis.

A somewhat surprising result is the strength of the impact of industry phase on duration and hazard rates. To avoid collinearity, and because it had the lowest incidence among the fraternals, Phase I was excluded from the regression. Phases II, III and IV are all less than one and highly significant. Even though Phase II is significant (which is contrary to Hypothesis 5), it is less so than Phases III and IV. Finally, the parameter estimate for Phase IV is smaller than that of Phase III, which Hypothesis 5 predicted.

The last hypothesis is the impact of early entry on duration and hazard rates. Specifically, Hypothesis 6 indicated that the expected coefficient on the variable measuring early entry (entry before 1900) would be less than one. The parameter estimate for this data is less than one and significant. It is noteworthy that the value of the

coefficient is lower than those of the industry phase and evolution of the common bond, suggesting a smaller impact.

The full discussion of the implications and limitations of these results are in Chapter 8.

Chapter 7 : Township Mutual Fire Insurance Company Analysis

The evolution in the township mutual industry has dramatically changed the competitive landscape for these organizations. Approximately 50 percent of the township mutuals that entered the market in Minnesota in the 19th and early 20th centuries survived to 2013. This chapter is an essay on the determinants of survivorship in township mutuals. Because the methodology is similar to that in the previous essay, it is not discussed here.

Township mutuals are different than fraternals, in terms of the shape of the firms and the communities in which they operate. First, township mutuals do not have to address the legal requirements that fraternals face to gain tax exempt status. Second, they are not as easily identifiable as collective action organizations. While some of the early township mutuals had "Scandanavia" in their name, this has since passed.[14] The equivalent of a common bond for township mutuals is "locale", although the ethnic and religious homogeneity of the communities where these organizations are located was a strong motivation in the 19th century. These types of identification have grown weaker over time, as noted by Putnam in *Bowling Alone*.

Conceptual Model

The analytical framework is the same as the fraternal essay, with the following difference: the analysis on township mutuals does not contain time-varying covariates that require the treatment given those covariates in the fraternal analysis. As a result, the conceptual model for the township mutual survival analysis is given by the equation:

[14] This ethnic affiliation had strong ties in many forms of collective action. A well-known cooperative creamery in Minnesota had a bylaw stating that an equal number of Danes, Norwegians and Swedes were to serve on the Board of Directors. This bylaw is no longer in place.

$$\frac{h_i(t)}{h_j(t)} = \exp\left[\sum_k \beta_k (x_{ik} - x_{jk})\right]$$

Equation 12: Township Mutual Conceptual Model

The specific covariates for this analysis are discussed below.

Model to Be Estimated

In determining the variables to include in this analysis, the shape, nature and evolution of the industry play a more direct role. Specifically, the early legal prohibition and later self-imposed limits on size provide a basis for examining the collective action nature of these organizations. Second, the relative lack of competition from commercial insurance in the rural property insurance market until the late 20th century provides another basis on which to examine the business model. The question of survivorship in township mutuals is better addressed by examining the business drivers that determine the success or failure of a firm. Finally, the changes in the competitive environment, specifically the reduced number of farms and hence potential clients, are also included.

The timeframe of this analysis is 1974 to the current date. The reason for this time period is that, unlike fraternals, township mutuals survived relatively intact as a mature industry until the early 1980s when a number of events occurred. First, the Farm Financial Crisis reduced the number of farms and potential customers of these organizations. Moreover, in the 1990s, competition from commercial insurance picked up significantly, symbolized by the investment that Warren Buffett made in GEICO or the investment State Farm Mutual Insurance made in marketing to rural customers in late 1980s. Also, in 1996, Congress increased the levels at which they subsidized crop insurance. Although this last change did not directly impact the township mutuals, it was

another dramatic change in an industry and market that had been relatively stable up to that point.

The Covariates

The model examines the impact of size, income growth, firm effects, competition, and the impact of the environment on the firm.

- *Size* measures the conflicting factors of economies of scale and collective action considerations. If collective action is more successfully performed among smaller groups of people, and economies of scale do not dominate the provision of fire insurance (resulting from the nature of the risk), then this variable is a test of the impact of collective action on the firm.
- *Income Growth* measures the impact on survivorship of growth in income, which serves as a proxy for growth.
- *Surplus* proxies for profitability and is a test of firm effects.
- *Competitors* assesses the impact on survivorship on either having a number of competitors in the same market space or not having those competitors. This variable is thus an indirect test of management and firm effects, which given the evolution of these firms is not something that should be taken for granted. A firm with few or no competitors cannot sustain itself, in the absence of strong environmental effects.
- *Farms* measures the impact of the environment on the firms and to what extent did the reduction in the number of farms impact the township mutuals. This variable is a test of the social effects mentioned in Chapter 3.

The equation for the survival analysis is, with *i* indexing the firm:

$$\frac{h_i(t)}{h_j(t)} = \beta_0 + \beta_1 * Size_i + \beta_2 * Income\ Growth_i + \beta_3 * Surplus_i + \beta_4 * Competitors_i + \beta_5 * Farms_i$$

Equation 13: Township Mutual Estimation Equation

Hypothesis Tests

There are two conflicting theoretical justifications for the impact of size on township mutuals. On one hand, economies of scale should be positively correlated with survival. However, economies of scale are not as strong in this industry as most other insurance

products. Meanwhile, the collective action literature suggests that the size of groups attempting to provide this type of collective good would be inversely proportional to its success, a finding supported by the early cost management techniques of these organizations described in Chapter 5. However, by the time of this analysis (i.e., 1974), using Putnam's framework, community-based participatory organizations were in decline. As a result, there are two diametrically opposed theoretical bases for predicting which effect will be more closely correlated with survival. With no clear theoretical direction, this dissertation asserts that economies of scale is stronger than the remaining impact of a collective action culture.

Hypothesis 7: $\beta_1 < 1$[15]
Equation 14: Hypothesis 7

Income Growth is naturally positively correlated with financial health, so the expected effect of income growth on survival is positive. Similarly, *Surplus*, a proxy for profitability, is likewise expected to positively correlate with survival:

Hypotheses 8 and 9: $\beta_2 < 1, \beta_3 < 0$
Equation 15: Hypotheses 8 and 9

The number of direct competitors a firm has is expected to be negatively correlated with success. However, two considerations make this question more interesting in the context of township mutuals. First, in the early days of township mutuals, firms were organized at the township or community level, and they had relatively little competition, except from other township mutuals, which would likely be at an inherent disadvantage because they were not in the same geography. Valgren notes, almost in passing, that once township

[15] Recall that the survival analysis equation are measuring the hazard rate, or the probability that a given firm "dies", and thus the signs are inversely related to the question of survival. Moreover, given the exponential form of the equation, the results are less than 1.

mutuals established themselves, commercial insurers did not aggressively compete in this market space (Valgren 1911). This would argue for this coefficient to not be significantly different than zero. Second, the type of competition that emerged in this timeframe was not direct competition; it came from organizations that had different product profiles and different resources to bring to the market. As a result, if a township mutual had enjoyed a relative monopoly in its market, then they would not be prepared to compete with these entrants. As a result, this study hypothesizes that the number of competitors is positively correlated with survival because these competitors would better prepare the firm to compete with these new entrants:

Hypothesis 10: $\beta_4 < 1$
Equation 16: Hypothesis 10

Finally, the Farm Financial Crisis and other social trends resulted in a generally reduced number of farms and hence potential customers for these firms. As a result, it is expected that the number of farms in the market space of a given township mutual is positively correlated with survival, or a reduction is negatively correlated with survival.

Hypotheses 11: $\beta_5 < 1$for all intervals
Equation 17: Hypothesis 11

Data Discussion and Summary

The data associated with the analysis of township mutuals had similar issues in its collection and use as the data for fraternals.

Data Sources

The primary source of data was the Minnesota Insurance Commissioner's *Annual Report*, which was prepared as a bound volume between 1870 and 1935. After this time, individual firm data was available more sporadically on an annual basis. Finally, starting

in 1971, the Minnesota Department of Insurance again began preparing summary reports at an industry level. A secondary data source is the U.S. Department of Agriculture's Census of Agriculture, which provided the farm counts on a by-county basis.

Two aspects of the data conversion are relevant to this analysis. First, given the time series nature with firms entering and exiting, averages of individual firm performance were calculated using the available data, as per Greene and Segal (2004), which was discussed in Chapter 6. Second, the parameters were converted to unitless measures, which has the effect of controlling for direct industry effects. This conversion captures the impact of industry-level events, to the effect that all firms were equally impacted by them. The specific covariates used in both analyses are:

- *Size* is an average of the relative TIF over this interval, measured as a proportion of the sample population average
- *Income Growth* is an average of the period to period growth in premiums, measured as a proportion of the sample population average
- *Surplus* is an average of the surplus the firms reported over this interval, measured as a ratio of the sample population average where surplus for an insurance company is defined as assets minus liabilities. Surplus is used to make insurance payments for buildings that are burned and thus, more surplus means a stronger balance sheet to face unexpected events in the future.
- *Competitors* is the number of competitors a firm has from the sample in the county where it is organized
- *Farms* is the growth in number of farms in the county in which a township is organized, measured at the publication of a Census in Agriculture.

Summary Statistics

The following table reports the mean, standard deviation, minimum and maximum values for each of these covariates.

	1974			1984		
	Assets	Surplus	Premiums	Assets	Surplus	Premiums
Mean	181,258	172,949	101,064	479,620	341,984	237,372
Median	149,302	144,274	87,808	410,000	306,000	207,000
Std. Deviation	146,604	140,930	69,925	352,712	302,735	144,494
Minimum	9,462	9,462	2,729	28,000	(116,000)	6,000
Maximum	842,323	832,368	329,439	2,352,000	1,857,000	711,000
	1994			2010		
	Assets	Surplus	Premiums	Assets	Surplus	Premiums
Mean	971,145	777,418	397,932	2,618,170	2,182,923	870,151
Median	876,058	702,728	349,116	2,474,380	2,063,305	708,111
Std. Deviation	631,339	572,647	240,470	1,594,674	1,373,969	612,575
Minimum	111,350	12,422	83,135	442,074	307,332	149,108
Maximum	4,863,378	4,280,055	1,461,222	8,599,508	7,949,570	3,545,888

Table 3: Township Mutual Summary Statistics

Figures 12, 13 and 14 below show the patterns of entry, exit and duration for township mutuals.

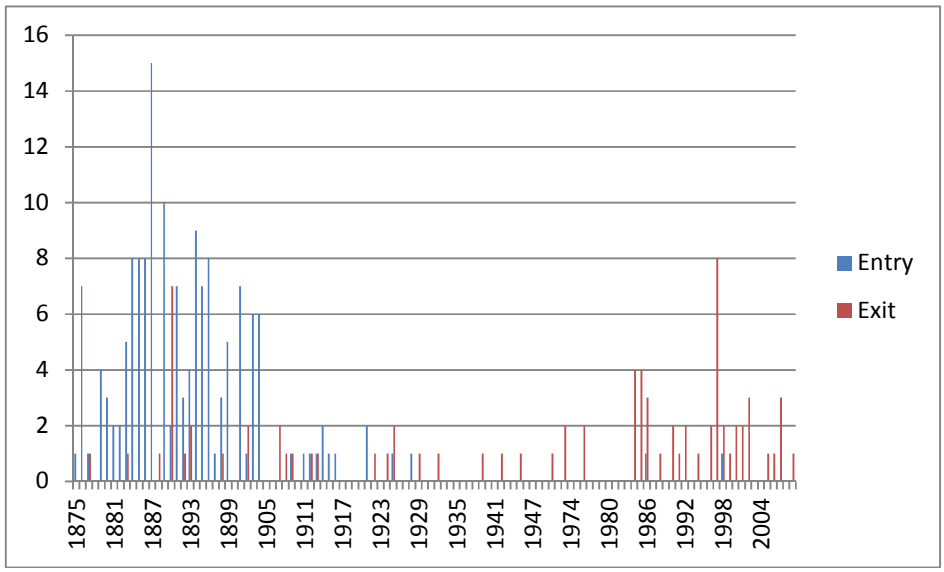

Figure 12: Township Mutual Entry and Exit

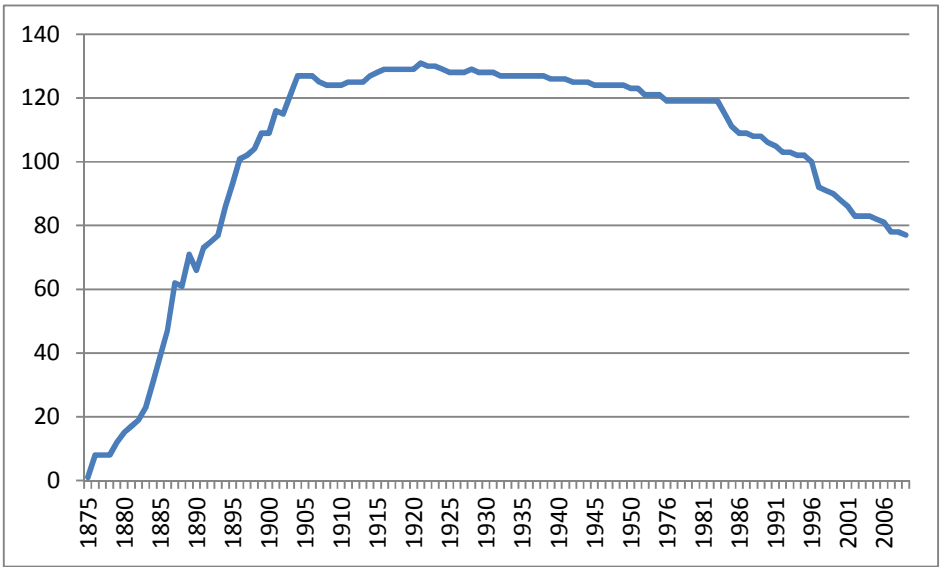

Figure 13: Township Mutual Cumulative Number of Firms, 1875-2013

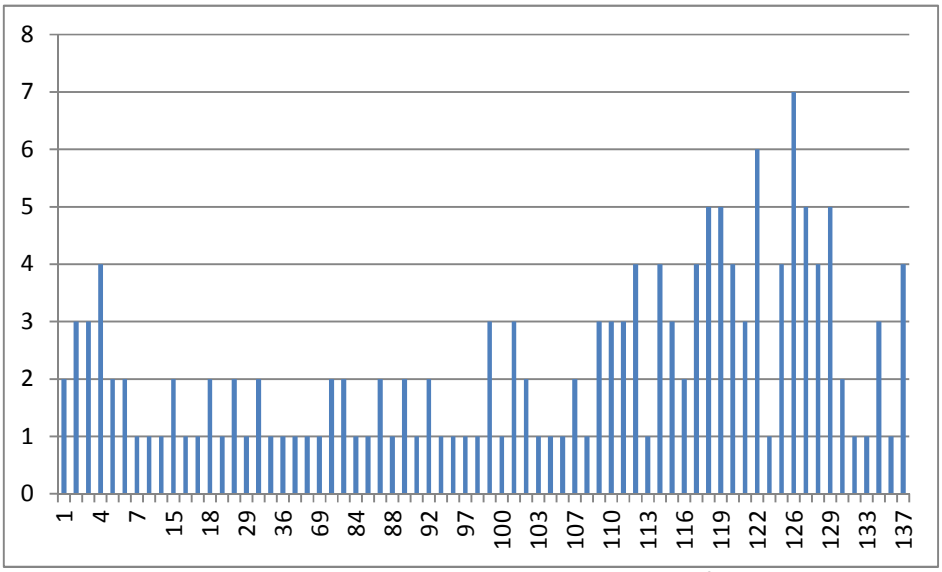

Figure 14: Township Mutual Duration by Number of Firms

Figure 15 shows the number of firm by their surplus levels in 2010, the last data collection period:

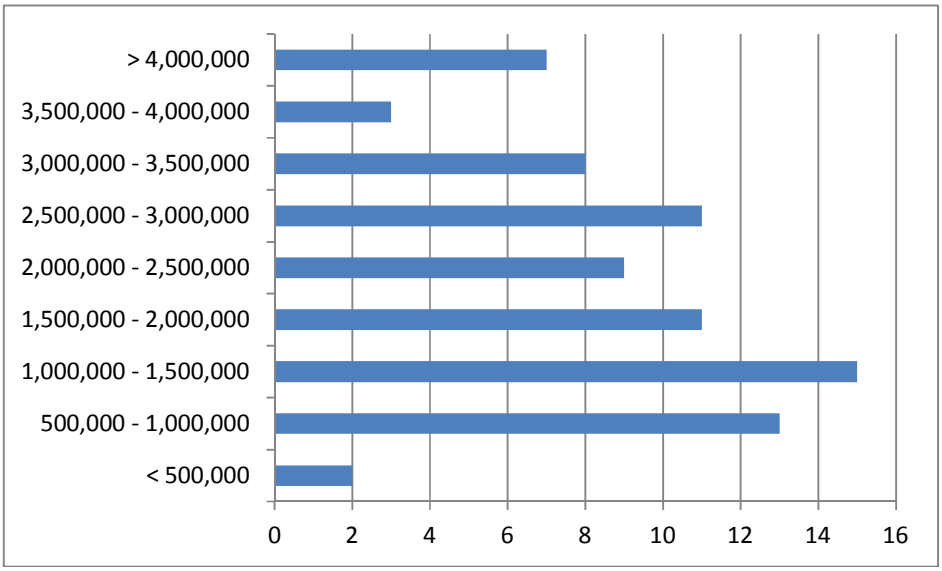

Figure 15: Township Mutuals by Surplus Level, 2010

Appendix D lists the township mutuals in the data and those remaining in 2013.

Results

The results of the survival analysis on township mutuals are presented in Table 5. The Kaplan-Meier function graph is included as Figure 16.[16]

Covariate	Parameter Estimate	Standard Error	Z Statistic	Prob > z
Size: TIF	0.93	0.34	-0.19	0.85
Income Growth	0.12 ***	0.82	-3.10	0.002
Surplus	0.18 ***	0.089	-3.41	0.0001
Competitors	1.02	0.088	0.21	0.84
Farm Growth: 1974-1978	80.43	284.56	1.24	0.215
Farm Growth: 1978-1982	39.75	191.31	0.77	0.44
Farm Growth: 1982-1987	0.011	0.058	-0.86	0.39
Farm Growth: 1987-1992	1,356.73 *	5,574.09	1.76	0.08
Farm Growth: 1992-1997	0.027	0.063	-1.53	0.125

* = Significant at the 10% level, ** = 5% level, *** = 1% level (n=120, X^2 = 0.0001)

Table 4: Township Mutual Survival Analysis Regression Results

[16] The shape of the Kaplan-Meier graph is the result of the structure of the analysis. Specifically, only firms operating in 1974 were included in the analysis, even though they had all started operations earlier.

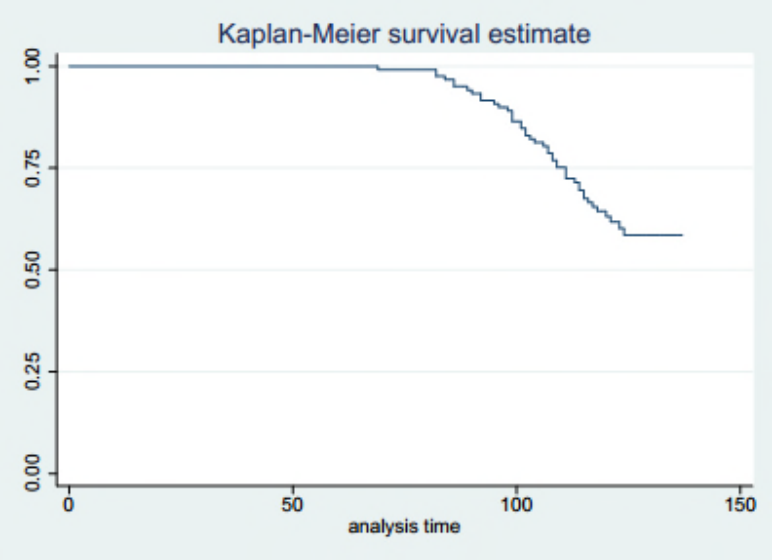

Figure 16: Township Mutual Kaplan-Meier Function

Size was not significant. If Hypothesis 7 was a rough test of whether economies of scale or collective action effects were more powerful in explaining the survival of individual firms, this study provides evidence for the conclusion that the structure of the township mutual industry expressed either in terms of the nature of the risk or the organization of the firms is not as dependent upon the benefits of economies of scale and that collective action effects are present and powerful.

Income Growth was correlated with survival in this industry, both in the direction predicted by Hypothesis 8 and at significant levels. Similarly, profitability, reflected in the *Surplus* variable was highly significant, and in the directions predicted by Hypothesis 9. This stands to reason because of how surplus is defined and the reason why state regulatory agencies monitor the level of surplus in an insurance company.

The number of competitors in a township mutual's home county was not significant in either regression, and the signs associated with it were not consistent with

each other. This outcome is likely a reflection of the novel definition of the variable used to measure the impact of competition on township mutuals, and the data suggest this approach to defining competition is not useful. Given the discussion of the conflicting ways in which this variable might impact the results, this question deserves further study. Hence, the data do not support Hypothesis 10.

Finally, the impact of farm growth, as measured in the years between Census of Agriculture publications, shows varying results depending on the interval. The large coefficients and standard errors in both regressions suggest that these results are highly sensitive to the covariates, as they are expressed in the data. Since the units within the data table are consistent across the variables, these results suggest these variables are extremely powerful predictors of survival. The only interval that was significant was 1987-1992, suggesting that the impact of the Farm Financial Crisis of the 1980s also negatively impacted the township mutuals. Even though Hypothesis 11 predicted that the variables would be significant across all intervals, given the pattern in the results, this analysis concludes that these data provide support for Hypothesis 11, and also that the discussion of Hypothesis 11 should be amended to only reflect the changes of significant, time-constrained events rather than general patterns.

The implications of these results are discussed in Chapter 8.

Chapter 8 : Conclusions and Implications

Conclusions

This study examines the factors contributing to the survival of the firms in two industries, fraternal benefit societies and township mutual fire insurance companies over a period of more than 140 years. These organizations have aspects of collective action in their history, evolution and operations, and, as a result, this dissertation examined the impact of collective action on their evolution over time.

Looking first at fraternals, this study provided evidence that, compared to one another, only the common bonds of locale and religion significantly impacted long-term survival and these only weakly and in opposite directions. This result suggests that the mere presence of a common bond can help explain survival among fraternals as a whole, but there is not strong evidence that any one type of common bond is better than another, with the possible exception of ethnicity.

The more far-reaching story with fraternals is the importance of managing the business. The significance of the variable measuring whether a fraternal evolved beyond its original common bond suggests that the economies of scale evident in life insurance are more powerful than the collective action elements of fraternals. Put another way, if the leadership of these organizations realized or accepted that they must move beyond the original definition of their common bond—Slovakian Catholics, for example—to embrace a larger target market, they had a much better chance of surviving, according to this data.

Furthermore, the strictly economic criteria in this analysis—size, growth, industry life cycle phase, and early entry—apply to firms in any industry. There is nothing unique

to fraternals in these attributes. This feature further supports the conclusion that the differences between fraternals and commercial life insurance providers are growing smaller over time. A response to these assertions might be that, to paraphrase a Thrivent Financial employee, that the form of fraternals is the same as commercial life insurance companies, but the essence is completely different, meaning that the specific character, programs and objectives of a fraternal may attract a certain segment or segments of customers so that their growth and size may be limited over time (Thrivent Financial personal interview, June 2011). Furthermore, as the CEO of Thrivent has said, fraternals cannot create social capital, but they can enhance it (Brad Hewitt personal interview, April 2013). These considerations suggest that, to return to the discussion of Olson's (1965) by-product theory, neither the business nor the fraternal, social and philanthropic aspects of these organizations are by-products to one another, and this realization can drive long-term survival and success.

The challenges are more significant for township mutuals. While these organizations served a need for a market in the past, this dissertation suggests that they will face increasing challenges over time. Specifically, the discussion of social capital and participation-based organizations provided evidence that the affinity the customers of these organizations have for them is not what it has been in the past. Next, the data in this dissertation provide support for the claim that the shrinking number of farms in their market areas negatively impacts long-term survival. This consideration is even more significant to organizations that, as a result of their legal and historical legacies, have remained smaller than their commercial competitors. Moreover, the variable that was

most significant in these analyses was surplus, or profitability. While it is helpful to know that profitability is heavily correlated with long-term survival, this finding does not provide a basis on which a practitioner can realize this result.

A factor working in favor of the township mutuals is the ambiguity concerning the impact of size on survival. In other words, economies of scale do not drive the fire insurance market in the same way they drive other insurance markets. This result, coupled with the specialized need the products of these firms provide to their customers, may result in their continued success serving their markets, at least for a while. However, the limits placed on the types of products they can offer, as part of their authorizing legislation, provide another challenge they must face in responding to their competition.

Limitations of this Analysis

While this analysis has provided data on the determinants of long-term survival for fraternals and township mutuals, there are a number of ways in which it could be improved and expanded.

- This data is limited in scope to the life insurance operations of fraternals. Many fraternals expanded to include different forms of insurance and, eventually, annuities and financial services more generally. However, life insurance represents both the first and the primary reason that fraternals were organized. An extension of this study could be to analyze the different types of insurance products offered by fraternals. For example, fraternals were the first to develop long-term health care insurance products. This was a new line of business for all insurance companies. In 2013, the number of firms offering such products has declined dramatically. It is believed that fraternals may have the largest market share in this line of insurance.
- The competitive dynamics of fraternal insurance as compared to commercial life insurance were not explored in depth in this analysis. Specifically, the efficiency of fraternals compared to commercial firms would provide more insight into the impact of collective action on business results.

- If, as Putnam suggest, the broad-based tendency of people in society to participate in these types of organizations waxes and wanes over time, a more detailed analysis of the determinants and predictors of these movements would be relevant to this analysis.

- This dissertation was limited in its ability to effectively measure the level and nature of the competition faced by township mutuals. An extension of this research would be to more thoroughly examine the competitive dynamics between township mutuals, both with other township mutuals and with commercial insurance organizations.

- Comparing the evolutionary dynamics of township mutuals and fraternals may provide more insight into the evolution of both of these industries. Specifically, the industry phases and the role of size may highlight some unique aspects of the development of the industry. Interviews with industry leaders may provide the data necessary to perform this analysis.

- A more thorough examination of the specific manifestation of the cultural, ethnic and religious bonds within township mutuals may provide more insight into the role of collective action in their business operations.

Suggestions for Further Research

To improve the analysis of the questions in this study, a number of different questions could be analyzed or incorporated into further research in this area. Specifically, the research in this dissertation could be expanded to include the following questions:

- The decision to change the nature of the common bond calls into question the very nature of these organizations. If, for example, a fraternal was organized around the common bond of being a Slovakian Catholic, what does it mean for that organization to become a Southeastern European Catholic Organization, or a Christian Slav organization? Moreover, some fraternals have expanded geographically and hence, expanded their common bond in a different way, as suggested by the dissertation's analysis. For example, the Knights of Columbus, a Catholic fraternal has expanded to Canada, Cuba, Dominican Republic, Guatemala, Lithuania, Mexico, Panama, Poland, The Philippines, and Ukraine. Regardless of the method of expansion, the questions would be the same. How will the original members respond? Will they exit the organization or embrace the change as a way to ensure the survival of an organization that, at least at some level, appealed to their ethnic and religious pride? If the tax exemption that these organizations receive is based at least in part on their social and charitable contributions, which is predicated on the bonds they have with their fellow members, will the evolution of the common bond reduce the willingness of

individual members to contribute to these causes? Do the common bonds become meaningless in this context?

- A.M. Best, Moody's, Fitch's, and Standard & Poors rate companies that issue corporate bonds. In 2013, there were ten insurance firms that were rated in their highest catgeories (e.g., A++, etc.). Four had the word Mutual in their name (i.e., Massachusetts Mutual, State Farm, etc.) and two others were fraternals (i.e., Knights of Columbus, Thrivent).

- The question of why fraternal insurance waned compared to commercial life insurance in the first part of the 20th century was not part of the scope of this dissertation, but it is an interesting question. What were the competitive dynamics in the first part of the 20th century that played out in the dominance of commercial insurance and the decline of fraternal insurance?

- African-American fraternals, and those of other socially disadvantaged groups, were not discussed in depth in this analysis, particularly their role in responding to the unique needs of that community,. An extension of this research, in the spirit of exploring the social and social welfare aspects of the early fraternals, would be to conduct more in-depth research on specific groups of fraternals.

- With regard to township mutuals, further study of additional variables is needed. Congruent with the decline in number of farms which is correlated with fewer rural homes to insure, is a decline in buildings used on farms. It was far more common for farms to be diversified with different buildings to house animals, feed, etc. The 1996 Farm Bill accelerated the process of specialization in agriculture, a trend that had already started. Does the fact that farms today have fewer buildings and hence less physical property to insure important? A second variable is the fact that, while the number of buildings and number of farms is declining, the value of rural houses, machine sheds, crop storage facilities, manure slurry tanks, etc. have increased. Are mutual sophisticated enough to be able to accurately measure the risks for each of these different types of structures and be able to handle a loss of a much greater valued structure? Finally, there are other other economic variables in the township mutual data that could be analyzed as covariates.

- Appendix C indicates that 23 of the remaining 77 fraternals have the word "Catholic" in their name suggesting that this religion has been a common, common bond. Only seven fraternals with the word 'Catholic" in them no longer exist and five of those seven had a locale common bond as well in their name. This bears future research to understand why this common bond has existed and whether it will continue to exist in the future. White and Boland (2013) have written a case on broadening the mission of Thrivent, formerly a Lutheran fraternal, into a broader Christian fraternal. A case study could be written to better understand Catholic fraternals and consider their ability to survive. The Catholic fraternals appear to be a unique type of fraternal.

- The questions raised by the logit regressions concerning the interrelationship of firm size, and its corresponding economies of scale, and Net Growth, combining the impact of new business and customer retention, is not directly relevant to this dissertation, but the results provide further avenues for investigation. Specifically, is the impact of size mitigated by the social capital aspects of fraternals, or does the explanatory power of Net Growth in a recurring revenue business overwhelm that of economies of scale?

Summary

Fraternals and township mutuals filled an important niche in the insurance industry. The idea of a common bond was a powerful tool to help grow this category and fill an important need for large families who would be devastated if there was a loss of a parent or home. The private sector saw the market response and began to enter this industry as well. Congress furthered entered this industry with legislation passed in the 1930s starting the Social Security program and later, Great Society legislation, and now health care coverage.

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Appendix A: Industry Life Cycle Literature Review

Any study of an industry requires knowledge over industry effects that impact that industry. Often times these are embedded in a life cycle framework. A model that informs this question has been well established in the literature. Gort and Klepper (1982) proposed a five-stage model across a dataset of 46 industries over the period 1887-1960. The left-hand side variable in this model is the net entry rate of firms into the industry, which is calculated by taking a cumulative total of the number of firms who enter the market each year and subtracting the number of firms who exit. Klepper (1996) expanded this basic model to include more precise formulations of the dynamics of entry and exit. The findings of these two studies are summarized in the table below.

Phase	Characterized by
Phase I	Begins with product introduction and ends with sharp increase in entry rate
Phase II	Rapid increase in the number of firms in the industry with a wide range of competing versions of the product and processes for delivering it
Phase III	Exit and entry nearly balance one another, leaving a rate of net entry into the industry of roughly zero and a declining number of entrants and slowly increasing number of exits drives the reduction in the change in net number of firms. Firms begin to focus on process innovations rather than product innovations and a diversity of product innovations declines
Phase IV	Steady decline in the total number of firms, which is driven by an exit rate that greatly exceeds the entry rate and the the entry rate will decrease to zero or nearly zero. The total output of the industry will likely continue to increase, even though the number of firms is decreasing. The rate of change in market share declines for the largest firms, which stabilizes the leadership of the industry.
Phase V	May or may not occur, depending on the industry. Second period of approximately zero net entry

Table 5: Gort, Klepper and Agarwal's Description of Industry Life Cycle Phases

This table combines the findings of Gort and Klepper (1982, p. 639) and Agarwal and Gort (1996). They note that this life cycle can be found in all industries and they provide

documentation of more than 40 industries from the U.S. economy. The studies in this literature also argue that the structure of a given industry is shaped by the episodic or discrete nature of innovations, which can be more broadly described as disruptive events. Technical changes and the flow of information between and among producers is not a continuous phenomenon, but follows more of a pattern with a disruption followed by a time of reacting to and adopting the change followed by a period of relative calm followed by another disruption.

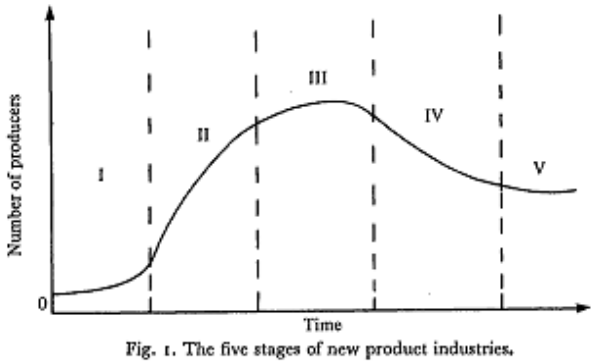

Fig. 1. The five stages of new product industries.

Figure 17: Gort and Klepper (1982)'s Description of Industry Life Cycle Phases

Another aspect of the industry life cycle model is that a specific industry phase is associated with varying attributes of both the industry and the firm Agarwal and Gort (1996, 2002). At the industry level, the level of market demand and the “rate and form of technical change” are a function of the industry phase. At the firm level, both the impact of cumulative experience on cost and revenue performance and also the “obsolescence of initial endowments” are affected by the specific industry phase. Moreover, they suggest that the industry phase can impact the covariates associated with survival or duration in two ways: by directly impacting those covariates or by impacting the variables that ultimately (and directly) impact survival.

To further link the model of industry phase development to this study, Agarwal and Gort (1996, 2002) convert this type of analysis into a survival analysis framework, which is one of the methodologies in this study. The important conclusions from this adaptation are the explicit statements that the stage of market evolution is "an additional factor in explaining entry, exit and survival" and that different phases have different hazard rates, which is the specific output of the estimations used in this study. In the 2002 study, they make the further claim that there are "large differences" in the hazard rates associated with different industry phases.

Across the articles in this literature, different explanations of the cause of the entry and exit of firms in the different phases are offered, and, similarly, this study looks to identify, for the relevant industries, the factors that help to explain the causes of exit or, conversely, the factors that contribute to longer duration. One of the explanations of the dynamic evolution of industries is the adoption of technological change, which is broadly defined to include both actual technology but also business practices.

Another explanation of varying levels of entry and exit is the effect on the firm of the phase of industrial development. As Gort and Klepper (1982) point out, "learning by doing" or developing the knowledge, skills and expertise to reduce costs and increase product quality can become a barrier to entry in the later phase of an industry's development. Contrasted with the benefit this feature provides incumbents is the relative lack of significant technical developments in these phases, implying that new entrants in these phases must either offer an expansion of the basic market along geographic or

demographic lines or provide a disruptive technological change. As innovations decrease, the opportunity provided by free entry diminishes over time.

This argument is related to the impact of economies of scale on the firm's development over time. As established in the discussion of economies of scale above is that at low levels of scale, firms will experience increasing returns to scale. As the firm grows, they will begin to experience constant and then decreasing returns to scale. Transformed to the industry level, in Phases I and II, the market is relatively untapped and hence all firms are small relative to the industry potential, suggesting these phases would be characterized by increasing returns to scale. As the market matures and the size of incumbent firms increases, these phases would be largely characterized by constant or even decreasing returns to scale. Clearly, new entrants, to the extent that they can continue to take market share from incumbents, would still experience increasing returns to scale; however, other aspects of the model make this possibility much more of an exception than the rule.

Moreover, this model establishes the conclusion that any unique equilibrium number of firms in an industry is limited by time and will change over time. This is contrary to the neoclassical view that firm-based "U-shaped cost curves" will determine the number of firms in an industry. By contrast, in this model, entry is motivated by innovation.

This question of the role of innovation is complex because, as mentioned above, the discrete events of innovation impact entry and exit rates and thus shape the development of the industry. However, market demand for the product is both a function

of the industry phase and a source of the incentive to innovate. In other words, as demand slows, this provides the motivation both to innovate and helps direct the forms of innovation (process vs. product, incremental vs. revolutionary, etc.). As a result, innovation is both the cause and a product of industry phase evolution. A final factor driving innovation is firm size, which is also a function of industry phase. In particular, Klepper (1996) concluded that innovation varies inversely with firm size. In other words, large firms will be more closely associated with incremental and process innovations compared to smaller firms, but again, average and relative firm size also increases with industry phase evolution.

In a related manner, the initial endowments of resources and skills has a more direct impact on individual firms. Specifically, particular endowments will lead to particular innovations. Agarwal and Gort argued that initial endowments are a factor associated with long duration, but also that changes in these endowments impact survival.

The development of fraternals since their inception also follows this basic pattern. The change that enabled the development of this market was the idea, borrowing from mutual insurance companies, that small groups of people could come together to help provide for each other's financial security without being at the mercy of large corporate interests. In the first phases of the industry's development, different technologies of offering the product (the "assessment system" and the "reserve system") competed with each other to establish themselves in the market, with one of these technologies (the reserve system) establishing itself as the clearly better choice. Moreover, different varieties of the product (a burial benefit, term life insurance, whole life insurance) can be

simultaneously offered to address specific customer needs. Finally, the basic nature of the product, having been well established in the early phases of industry development, does not significantly change in the later phases. Put simply, these days a life insurance contract is a well-established commodity, and firms seek to differentiate themselves in other ways (price, service, offering a portfolio or bundle of services, etc.).

For the case of township mutuals, the technical innovation was the application of the class mutual system to farmers. While the evolution of the industry was less dramatic than that for fraternals, the same basic pattern ensued. Moreover, the range of products in the case for township mutuals is significantly more limited than that of fraternals.

In the case of township mutuals, the nature of the insurance product mitigates this effect. As a result, the question of size should be considered from a different perspective, namely does the size of a given township mutual, above a minimum threshold, create more administrative burdens than benefits from economies of scale.

Appendix B: Fraternal Logit Regressions

A second approach to analyzing survivorship is to assess the impact of a set of covariates on the probability of realizing a given outcome. Two forms of this methodology are distinguished by how many outcomes are possible. If the set of possible outcomes is binary, this question can be addressed through logistic ("logit") regression, and if it has more than two elements, it is a multinomial logit regression. For this dissertation, four possible outcomes or dispositions were used to segment the sample: business failure, merger, conversion of business model and survival. The outcomes represent the left-hand variables in the regression, and they are defined by the use of this technique as being unordered or having no logical progression or sequence between them. As Cameron and Trivedi (2005) note, the use of multinomial logit models is appropriate when the covariates do not vary over the alternative outcomes. Finally, the probabilities of the different outcomes must sum to one.

The question addressed by logit and multinomial logit regressions can be represented in the equation $P(y = j\,|x)$, where $P(\quad|\quad)$ is a conditional probability function, y and j represent the general and specific form of the outcome, respectively, and x represents the covariates used to determine these relative probabilities. In other words, this analysis is of the probability that the outcome variable has a certain value, given the set of covariates. This dissertation will focus on the logit regression, as early results with multinomial logit were invalidated by a low number of responses for certain dispositions, most notably conversion.

To reiterate, the purpose of conducting the logit regressions was twofold: first, to verify, to the degree possible, the results of the survival analysis; and, second, to examine the effects of the covariates on survival in shorter time intervals. With this in mind, the construction of the logit regressions was to create five-year intervals and analyze the data within each interval. In this dataset, the data from A.M. Best was used to analyze the intervals: 1934-1940, 1940-1945, 1945-1950, 1950-1955, 1955-1960, 1960-1965.

This construction of the regressions provided both opportunities and limitations in respect to the variables used in the survival analysis. On the opportunity side, the shorter intervals meant that one data source (A.M. Best) could be used for all intervals, meaning more data elements were available in a given interval, and more fraternals could be included in a given interval, as data irregularities became less problematic. On the limitation side, three variables used in the survival analysis ("Evolve", "Early" and "Phase") were excluded from the logit regressions because either not enough observations occurred in a given interval, or, in the case of Phase, all observations occurred in the same industry phase.

The result of these data issues is that a different set of variables were included in the logit analysis. As mentioned above, "Evolve", "Early" and "Phase" were excluded, and variables measuring the age of a fraternal in an interval, Net Growth, New Business and a rough measure of profitability (Claims Paid/Income) were included. Age is a more dynamic measure of the impact of experience and learning than the binary variable "Early", Net Growth can now measure both new customers and customer retention, New Business is a direct measure of growth rates, and profitability is a more direct measure of

firm effects. This discussion should indicate that a tradeoff between the two types of analysis is occurring here, namely more precision in the individual measurements for the longer-run perspective of a survival analysis.

These variables produce the following regression equation:

$$P_i(y = 1|x) \equiv p_i(x) = \beta_0 + \beta_1 * CB_i + \beta_2 * Size_i + \beta_3 * NG_i + \beta_4 * NB_i + \beta_5 * \left[\frac{Claims}{Income}\right]_i + \beta_6 * Age_i + \varepsilon$$

Equation 18: Logit Regression Estimation Equation

With this equation established, the following hypotheses can be developed. As should be immediately apparent, these follow the survival analysis hypotheses very closely:

1. The Common Bond categories of Ethnicity and Religion will have the greatest impact on the probability of survival, with the expectation that they will be correlated with a greater probability.
2. Size will be positively correlated with probability of survival.
3. Net Growth will be positively correlated with probability of survival.
4. New Business will be positively correlated with probability of survival.
5. Profitability (measured by Claims to Income) will be positively correlated with probability of survival.
6. Age will be positively correlated with probability of survival.

These hypotheses reflect the expected positive impact of bonding social capital, economies of scale, growth and retention of customers, new growth, firm effects and experience effects, respectively.

The results of the logit regressions can be summarized in the following table:

Variable	34-40	40-45	45-50	50-55	55-60	60-65
CB: Locale	-0.65 (0.45)	-2.92 * (1.55)	0.60 (1.20)	-0.61 (1.20)	-2.37 ** (1.08)	-0.69 (0.99)
CB: Ethnicity	-4.22 (2.96)	1.86 (1.30)	2.62 ** (1.30)	2.02 ** (1.01)	2.07 ** (1.04)	1.08 (0.76)
CB: Religion	2.21 (3.19)	0.64 (1.11)	1.64 (1.21)	1.19 (0.99)	1.39 (1.08)	-0.35 (0.77)
CB: Women	-3.19 (6.95)	0.19 (1.59)	-0.59 (1.85)	-1.81 (1.35)	Omitted	1.03 (1.37)
CB: Profession	-3.88 (6.86)	1.33 (1.55)	-0.77 (1.01)	0.65 (1.15)	-0.23 (1.03)	0.24 (0.88)
Size	3.79 (2.83)	2.24 (3.00)	0.47 (0.61)	1.21 (1.04)	1.29 (1.13)	0.21 (0.24)
Net Growth	7.98 ** (3.09)	7.09 *** (1.74)	4.42 *** (1.12)	4.37 *** (0.85)	4.91 *** (0.98)	3.85 *** (0.71)
New Business	-5.43 (15.32)	0.04 (2.09)	0.17 (0.52)	-0.44 (0.43)	-0.59 (0.49)	-0.13 (0.16)
Claims to Income	5.80 (5.81)	-0.81 (0.83)	-0.17 (0.55)	-0.45 (0.80)	0.34 (0.52)	-.06 (0.38)
Age	-3.77 (2.67)	4.68 (4.15)	-1.64 (2.99)	1.61 (2.42)	-1.64 (2.26)	2.12 (1.74)
n	214	190	192	219	205	206

These results indicate that the only consistently significant covariate is Net Growth. This is consistent with the result, observed in corporate finance, that customer retention rates are the most sensitive variable in financial models with recurring revenue streams, such as insurance. Because Net Growth captures the impact of both new business and customer retention, it is not surprising that it would be both this large and significant an effect. A covariate that is significant in certain intervals is Common Bond: Ethnicity.

While this result is not completely consistent with the hypotheses above, it does reflect the power of ethnicity as a common bond.

One of the more interesting results of these regressions is that size is not significant. While this result differs from the survival analysis results, it reflects the fact that, first, Net Growth was not included in the survival analysis, and, second, the social capital aspects of fraternals mitigate the impact of size on survival. In other words, given the extra-normal results of fraternals, the minimum scale necessary for a fraternal would be lower than a comparable commercial insurance company. This subject could easily represent an extension of this research.

Moreover, New Business was also not significant, and was even negative over certain intervals. This is a reflection of the fact that New Business is less essential to a fraternal, given the social capital effects of a fraternal compared to a commercial insurance company, and the fact that the data was taken over one year, which would increase the amount of normal annual variation in the data. Profitability was also not significant, but this appears to be the result of the data collection period (one year), the crudeness of the specific measure, and the characteristic of fraternals, observed above, that fraternals may not have profit maximization as an organizing principle.

Finally, Age was not significant. This result appears to reflect the impact of the variation in management styles across fraternals. Briefly, some fraternals are organized primarily as businesses, and they are managed accordingly. By contrast, some fraternals exist primarily to represent the interests of a given community, and they are managed according to these precepts. As a result, experience would be less correlated with

survival, as some older firms would experience the life cycle and generational effects discussed above and exit, and some newer firms (e.g., Everence [previously Mennonite Mutual Aid]) would continue to evolve and grow in a way not correlated with their relative level of experience.

Other results from these regressions include that these results indicate that period effects could be observed: specifically, the results and level of significance differed over the intervals for a number of the covariates (e.g., Common Bond: Locale and Common Bond: Ethnicity). Moreover, although the results of the logit regressions are not directly comparable with those of the survival analysis, they are largely consistent with them.

Additional data from these regressions is reflected in the table below:

Variable	**34-40**	**40-45**	**45-50**	**50-55**	**55-60**	**60-65**
Failures	24	16	12	22	21	20
Entrants	12	8	6	7	7	2
Average TIF ($mil)	$23.4	$23.0	$24.3	$30.7	$31.1	$52.1
Average Written ($mil)	$1.87	$1.89	$2.63	$2.99	$3.97	$7.05

These data verify earlier conclusions, namely:

- The number of fraternals that entered went down over this period (1934 – 1965).
- The number of fraternals that exited was roughly constant across each of the intervals (the numbers for 1940-1945 and 1945-1950 were impacted by larger than normal data availability issues in 1945..
- The average size of the fraternals went up over this period.
- The amount of Insurance Written also went up over this period.

Appendix C: Included and Excluded Fraternal Records

The names listed below are the original names of the given fraternals. A number of these have changed over time, some more dramatically than others.

* = surviving fraternal

INCLUDED RECORDS
Afro-American Sons & Daughters
Aid Association for Lutherans (Thrivent Financial) *
Alianza Hispano-Americana
Alliance of Poles in America
American Fraternal Insurance Society
American Hungarian Catholic Society
American Insurance Union
American Lithuanian Roman Catholic Women's Alliance
American Stars of Equity
American Union of Polish Brotherhood of St Joseph
American Woodmen, Supreme Camp
Ancient Order of Gleaners *
Ancient Order of United Workmen of Kansas
Ancient Order of United Workmen of Massachusetts
Ancient Order of United Workmen of Minnesota
Ancient Order of United Workmen of North Dakota
Ancient Order of United Workmen of Oklahoma
Ancient Order United Workmen of Texas
Ancient Order United Workmen of Washington
Ancient Order United Workmen of West Virginia
Ancient Order of United Workmen
APPB: Associacao Portuguesa Protectora e Beneficiente *
APUMEC: Associacao Protectora Uniao Maderiense Do Estado Da California
Artisans Order of Mutual Protection *
Association Canado-Americaine
Association of Lithuanian Workers
Association of Polish Women in the US
Association of the Sons of Poland *
Baptist Life Association *
Beavers Reserve Fund Fraternity *
Bohemian Roman Catholic Union of Texas *
Brith Abraham, Independent Order
Brotherhood of America
Brotherhood of American Yeomen
Brotherhood of Railroad Trainmen
Catholic Aid Association of Minnesota *
Catholic Benevolent League of Indiana
Catholic Benevolent Legion
Catholic Family Protective Association *
Catholic Knights and Ladies of America

Catholic Knights and Ladies of Illinois *
Catholic Knights of America
Catholic Knights of Ohio *
Catholic Knights of St George
Catholic Knights of Wisconsin *
Catholic Ladies of Columbia
Catholic Life Insurance Union *
Catholic Mutual Benefit Association
Catholic Order of Foresters *
Catholic Staatsverband of Texas *
Catholic Women's Benevolent Legion
Central Verband Der Siebenburger-Sachsen *
Christian Burden Bearers Association
Christian Mutual Benevolent Association
Church Fraternal
Cleveland Hungarian YM&L Society
Concordia Mutual Benefit League
Conestoga Fraternal
Court of Honor
Croatian Catholic Union of USA *
Croatian Fraternal Union *
Czech Catholic Union *
Czechoslovak Society of America *
Danish Brotherhood in America
Daughters of Norway
Degree of Honor, AOUW *
Electrical Workers Benefit Association
Employees' Mutual Benefit Association *
Equitable Fraternal Union *
Evangelical Slovak Womens Union of America
Federation Life Insurance of America
Firemen's Mutual Aid and Benefit Association *
First Catholic Slovak Ladies Union, USA *
First Catholic Slovak Union, USA *
First Slovak Wreath of the Free Eagle
First Windish Fraternal Benefit Society *
Fraternal Aid Association
Fraternal Bankers Reserve Society
Fraternal Brotherhood
Fraternal Mystic Circle
Fraternal Reserve Association
Fraternal Reserve Life Association
Fraternal Union of America
German Beneficial Union *
Grand Carniolian Slovenian Catholic Union of USA *
Grand Court Order of Calanthe *

Grand Fraternity
Greek Catholic Carpatho-Russian Benevolent Association
Greek Catholic Union of Russian Brotherhood *
GUG Germania
Home Guards of America
Homesteaders
Hungarian Aid Association of America
Hungarian Reformed Federation of America *
Ideal Reserve Life Association
IDES: Conselho Supremo Da Irmandade Do Divino Espirito Santa Do Estado Da California
Improved Order of Heptasophs
Independent Order of Brith Sholom
Independent Order of Free Sons of Israel
Independent Order of Puritans
Independent Order of St Luke
Independent Order of Svithiod
Independent Order of Vikings *
Independent Scandanavian Workingman's Association
ISDA Fraternal Association **
Italo-American National Union
Katolicky Delnik (Catholic Workman)
Knights and Ladies of Honor
Knights and Ladies of Security
Knights of Columbus *
Knights of Honor
Knights of Pythias
Knights of the Maccabees of the World
Ladies Auxiliary, Ancient Order of Hibernians
Ladies Catholic Benevolent Association *
Ladies of the Amaranth, General Chapter
Ladies of the Modern Maccabees *
Ladies Pennsylvania Slovak Roman and Greek Catholic Union *
Life Insurance Society Of America
Lithuanian Alliance of America
Lithuanian Roman Catholic Alliance of America
Locomotive Engineer Mutual Life & Accident Insurance Association
Loyal Americans of the Republic
Loyal Association
Loyal Guard
Loyal Mystic Legion of America
L'Union St Jean Baptiste D'Amerique
Lutheran Brotherhood
Lutheran Life Association
Massachusetts Catholic Order of Foresters *
Mennonite Mutual Aid Association *
Modern Brotherhood of America

Modern Order of Praetorians
Modern Romans
Modern Samaritans
Modern Woodmen of America *
Moslah Benefit Fund *
Mutual Benefit and Aid Society
Mystic Workers of the World
National Fraternal League
National Fraternal Society of the Deaf
National Union
National Union
New England Order of Protection
New Era Association
North American Swiss Alliance *
North American Union
North Star Benefit Association
Order der Hermannns Schwestern
Order of Home Guardians
Order of Mutual Protection
Order of Railway Conductors of America (Mutual Benefit Department)
Order of the Amaranth
Order of the Golden Seal
Order of the Iroquois
Order Sons of Italy in America *
Pennsylvania Slovak Roman and Greek Catholic Union
Plattduetsche Grot Gilde von de Vereenigtehn Staaten von Nord Americka
Police & Fireman's Insurance Association *
Polish Alma Mater of America
Polish Association of America
Polish Beneficial Association *
Polish Falcons of America *
Polish National Alliance of Brooklyn
Polish National Alliance of the USA *
Polish National Union of America *
Polish Roman Catholic Union of America *
Polish Union of US of NA *
Polish White Eagle Association
Polish Women's Alliance of America *
Portuguese Continental Union of the United States of America
Preferred Life Assuarance Society
Progressive Order of the West
Protected Home Circle
Providence Association of Ukranian Catholics of America *
Railway Mail Association
Rokocgi Hungarian Sick Benefit Society
Roman and Greek Catholic Slovak Brotherhood

Royal Arcanum *
Royal Highlanders
Royal League
Royal Neighbors of America *
Russian Brotherhood Organization *
Russian Consolidated Mutual Aid
Russian Independent Mutual Aid Society
Russian Orthodox Catholic Mutual Aid Society
Russian Orthodox Catholic Womens Mutual Aid Society
Russian Orthodox Fraternity "Lubov"
Serb National Federation *
SES: Conselho Supremo Da Sociedade Do Espirito Santo *
Slavonic Benevolent Order of Texas
Slovak Calvanistic Presbyterian Union
Slovak Catholic Sokol *
Slovak Evangelica Society
Slovak Evangelical Union Augsburg Confession of America *
Slovak Gymnastic Union Sokol of USA *
Slovene National Benefit Society
Slovene Progressive Benefit Society
Slovenian Mutual Benefit Association *
Sociedad de Proteccion Mutua de Trabajadores Unidos
Sons of Hermann *
Sons of Norway *
Sons of Zion
South Slavic Benevolent Union-Sloga
South Slavonic Catholic Union of USA *
SPRSI: Conselho Supremo Sociedade Portuguesa Rainha Santa Isabel Do Estado Da California
St George Hungarian Greek Catholic Union
St Vito Fraternal Aid Association of Ricigliano in Chicago
Supreme Tribe of Ben Hur
Transport Employee's Mutual Benefit Society
Tri-State Counties Mutual Life Association
True People of America Fraternal Benefit Society
Ukranian National Aid Association
Ukranian National Association, Inc *
Ukranian Workingmen's Association
Union and League of the Roumanian Societies
Union of Poles in America
Union of Polish Women in America
United American Mechanics, Jr Order, Beneficiary Degree *
United Artisans
United Danish Societies of America
United Order of Foresters
United Order of the Golden Cross
United Polish Women of America

United Russian Orthodox Brotherhood of America
United Societies of Greek Catholic Religion of USA
United States Letter Carriers' Mutual Benefit Association *
Unity Life and Accident
Unity of Bohemian Ladies
UPC: Uniao Portuguesa Continental Do Estad Da California
UPEC: Conselho Supremo Da Uniao Portuguesa Da California
UPPEC: Uniao Portuguesa Protectora Do Estado Da California
Verhovay Fraternal Inurance Association *
Western Bohemian Fraternal Association *
Western Catholic Union *
Western Slavonic Association *
Women of Woodcraft
Women's Catholic Order of Foresters *
Woodmen Circle
Woodmen of the World, Pacific Jurisdiction *
Woodmen of the World, Sovereign Camp *
Workingmen's Beneficial Union of US of NA
Workingmen's Sick Benefit Federation
Workmen's Benefit and Benevolent
Workmen's Circle
Workmen's Sick and Death Benefit
World Fraternal Benefit Society
Yeomen of America
Zivenna Beneficial Association
EXCLUDED - SIZE DATA
Pike County Mutual Life Association
EXCLUDED - GROWTH DATA
Assurance League of America
Columbian Woodmen
Farmers Life Insurance Association
Brotherhood of Locomotive Firemen and Engine-Men (Beneficiary Department)
AOUW - Neb.
American Catholic Union
American Order Sons of St George
American Workmen
Bavarian National of NA
Bohemian American Union
Chicago Fraternal Life Association
Forestiers Franco-Americains
Hancock County Mutual Life Association
Lutheran Mutual Aid Society
Russian National Mutual Aid Society of America

Slavic Progressive Beneficial Union
Slovenic Croatian Union
Tatran Slovak Union
Teachers Protective Union
QUESTIONABLE DATA
American Standard Insurance Corporation
Grand Court of Calanthe
Holy Family Society of USA
Knights of Peter Claver
National Union Security Association
National Slovak Society of the USA
Workmen's Benefit Association

Appendix D: Township Mutual Companies Included

Holden & Warsaw Mutual Fire Insurance Company
Farmers' Mutual Insurance Company, Manchester *
Kenyon, Holden, Warsaw Mutual Fire Insurance Company *
Wanamingo Mutual Fire Insurance Company *
Wheeling Mutual Insurance Company
Wilmington Mutual Insurance Company *
Vernon Edda Mutual Fire Insurance Company *
Hassan Mutual Fire Insurance Company (The) *
Hay Creek Mutual Fire Insurance Company
Norwegian Mutual Fire Insurance Company *
Sumter Mutual Fire Insurance Company *
Acoma & Lynn Mutual Fire Insurance Company
Hawk Creek Mutual Fire Insurance Company
Preble Farmers Mutual Fire Insurance Company *
Arctander & Lake Andrew Mutual Fire Insurance Company(The) *
New Sweden Mutual Fire & Lightning Insurance Company *
Rochester Farmers Mutual Insurance Company *
Acton & Gennessee Mutual Fire Insurance Company
Harmony Farmers Mutual Fire Insurance Company
Pleasant Mound Mutual Fire Insurance Company
Shelby Mutual Fire Insurance Company
Leon Mutual Fire Insurance Company (The) *
Rose Dell Mutual Fire Insurance Company
Stark Farmers Mutual Fire Insurance Company (The) *
Sverdrup Mutual Insurance Company *
Vineland Mutual Insurance Company *
Young America Mutual Fire Insurance Company *
Beaver Creek Mutual Insurance Company *
Delaware Mutual Insurance Company (The) *
Louisville Mutual Fire Insurance Company
Mound Prairie Mutual Insurance Company
Oscar Farmers Mutual Insurance Company (The) *
St. Joseph Mutual Fire Insurance Company *
Vasa-Spring Garden Mutual Insurance Company
Hallock Farmers Mutual Fire Insurance Company *
Leenthrop Farmers Mutual Ins. Company (The) *
Palmyra Farmers Mutual Insurance Company *

Parkers Prairie Effington Mutual Insurance Company
Rollingstone Mutual Fire Insurance Company
Spring Vale Mutual Fire Insurance Company *
White Bear Lake Insurance Company *
Agassiz & Odessa Mutual Fire Insurance Company *
Collinwood Mutual Fire Insurance Company (The)
Delafield Farmers Mutual Fire & Lightning Insurance Company
Flom Mutual Fire Insurance Company *
Foster Farmers Mutual Fire Insurance Company
Kelso Farmers Insurance Company *
Lac Qui Parle Mutual Insurance Company *
Madelia-Lake Crystal Mutual Insurance Company *
New Auburn Mutual Fire Insurance Company
North Branch Mutual Fire Insurance Company *
Sweet Township Mutual Fire Insurance Company *
Barber Farmers Mutual Fire Insurance Company
Blue Earth Farmers Mut. Fire Insurance Company *
Fairmont Farmers Mutual Fire Insurance Company
Hope Farmers Mutual Insurance Company *
Plainview Farmers Mutual Fire Insurance Company
Westbrook Mutual Insurance Company *
Bloomfield Township Mutual Fire Insurance Company
Garfield Farmers Mutual Fire Insurance Company *
German Farmers Mutual Fire Insurance Company *
Halstad Mutual Fire Insurance Company *
Kerkhoven & Hayes Mutual Fire Insurance Company *
Lake Park & Cuba Insurance Company *
Minnesota Lake Farmers Mutual Fire Insurance Company
New Prague Mutual Insurance Company *
Bird Island Mutual Fire Insurance Company *
Cokato Mutual Fire Insurance Company *
Laketown Mutual Fire Insurance Company
Bray Mutual Fire Insurance Company *
Flora Mutual Fire Insurance Company *
Gillford Mutual Fire Insurance Company *
Nessel Farmers Mutual Fire Insurance Company
Buffalo Lake Farmers Mutual Fire Insurance Company *
Ceska Mutual Insurance Company
Claremont Farmers Mutual Fire Insurance Company *

Murray County Mutual Insurance Company
Little Rock Mutual Fire Insurance Company
McPherson Farmers Mutual Fire Insurance Company *
Paynesville & Zion Mutual Insurance Company *
Albany Mutual Fire Insurance Company *
Moe & Urness Mutual Fire Insurance Company *
Redwood County Farmers Mutual Insurance Company *
Wakefield Farmers Mutual Fire Insurance Company
Wilmont Mutual Fire Insurance Company *
Comstock & Holy Cross Farmers Mutual Fire Insurance Company *
Crate Farmers Mutual Fire Insurance Company *
Eureka Farmers Mut. Fire Insurance Company
Gordon Mutual Insurance Company
Graham Mutual Insurance Company *
San Francisco Mutual Insurance Company
Shible Mutual Fire Insurance Company *
Stanton Farmers Mutual Fire Insurance Company
King Town Farmers Mutual Fire Insurance Company *
Tara Mutual Fire Insurance Company *
Elmdale Farmers Mutual Insurance Company *
Gentilly Farmers Mutual Fire Insurance Company
Glendorado Farmers Mutual Fire Insurance Company
Marshall County Mutual Insurance Company *
Holmes City Farmers' Mutual Insurance Company *
Melrose Mutual Farmers Fire Insurance Company *
Mower County Farmers Mutual Insurance Company
Pierz Farmers Mutual Fire Insurance Company *
St. Leo Farmers Mutual Fire Insurance Company
Grove Mutual Fire Insurance Company *
Bluffton Mutual Fire Insurance Company *
Long Lake Mutual Insurance Company
Lund Mutual Fire Insurance Company
Parke Mutual Fire Insurance Company
Roseau County Farmers Mutual Fire Insurance Company *
Farmers Township Mutual Insurance Company, Deerwood
Huntsville Farmers Mutual Insurance Company
North Fork Mutual Fire Insurance Company *
Crow River Mutual Insurance Company
Border Farmers Mutual Fire Insurance Company

Itasca Farmers Mutual Fire Insurance Company *
Lakeland Farmers Insurance Company *
Mid-State Mutual Insurance Company *
New Munich Farmers Mutual Fire Insurance Company *
Palo Farmers Mutual Fire Insurance Association *
Rice County Mutual Insurance Company *
Spring Valley Township Mutual Insurance Company