AGENCY *VS.* STEWARDSHIP: PERFORMANCE, STRATEGIC FLEXIBILITY AND RISK

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Abstract

With taxpayers subsidizing the survival of publicly traded firms, questions of corporate governance, including the steward versus agency design of the firm, are now public policy issues. We use publicly traded insurance firms in the United States to study the value and risk relationship of agency versus stewardship firms. We find that stewardship and agency firms have different timing-related performance perspectives, have different degrees of strategic flexibility, and manage short term, or operational risk, and longer term risk differently. Our findings are consistent with the predictions of corporate governance theory.

Keywords: agency, stewardship, performance, strategy, risk

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INTRODUCTION

In the aftermath of the financial crises of 2008-09, government has taken on an increasing ownership stake in corporations. A higher level of government ownership has implications for firm governance because the goals of government may differ from those of traditional investors. We hypothesize that government, as a firm owner, seeks stewardship governance structures while traditional diversely owned firms tend to have governance structures dictated by the agency theory of the firm. Because government ownership tends to be in firms that have macroeconomic significance, this study, which provides evidence of the likely effect of the stewardship versus agency choice for risk and performance, has implications that go beyond those of the firms directly involved.

A central issue of corporate governance is how to align the goals of the firm's managers with those of its owners; agency theory is the most commonly discussed approach. The other approach is that of stewardship theory.[1] The literature provides evidence and logic for expecting a difference in the outcomes of firms managed by stewards as compared to firms managed by agents (Sundaramurthy and Lewis, 2003). Studies of the relative performance of an agency versus stewardship governance structures find a positive relationship (Berg and Smith, 1978; Rechner and Dahon, 1991), a negative relationship (Donaldson and Davis, 1991; Finkelstein and D'Aveni, 1994), or no relationship (Chaganti, Mahajan and Sharma, 1985; Molz, 1988).

Managers, the fiduciaries of a firm's owners, derive utility from consuming their wages and other corporate perquisites, both of which tend to increase as the size of the firm increases (Marris, 1963). Thus, managers have an incentive to grow the firm beyond the size owners consider optimum because growth increases the utility of managers (Jensen, 1986). Consequently, the agency framework recommends that the owners of the firm design a reward and control system that provides managerial incentives to act in ways that simultaneously increase the manager's utility and the utility of the owners. Stewards, with longer-term goals, prefer long-term investments and care less about short-run volatility but a consequence of the Agency reward structure is that the managers of Agency firms bear personal losses when the short run performance of the firm does not meet expectations. The differential performance perspective is an empirical extension provided in this study.

If we think of managers under an agency framework as mercenaries, then we can think of managers under the alternative framework of stewardship as good shepherds. Agent/managers are more individualistically motivated; steward/managers are collectivistically motivated (Sundaramurthy and Lewis, 2003, p. 398). Without the need for additional incentives, stewards act consistent with the interests of the firm's owners rather than pursuing their own goals when they have divergent interests (Davis et al.,

[1] For convenience, we do not consider how these issues would be different under the broader stakeholder theory.

1997). The literature speculates about the cause of this seeming self-sacrifice, for example, suggesting that perhaps actions that do not increase the utility of the firm's owners violate the steward-manager's self-perception and generates more disutility than utility (Caers et al., 2006). These managers act in the interests of the firm's owners because the manager's goals are already perfectly aligned with those of the firm's owners (Sundaramurthy and Lewis, 2003). Because the empirical literature does not consistently support the existence of a stewardship-agency distinction, we investigate whether steward-firms and agent-firms behave in a manner consistent with theory by focusing on the effect of timing on two of three hypothesized relationships. Specifically, we consider the theory that the stewardship and agency firms have different timing-related performance perspectives, have different degrees of strategic flexibility, and manage short term, or operational risk, and longer term risk differently.

To counteract the effect of diverging managerial/owner goals, agency theory explains that owners develop governance structures that provide both direct and indirect methods to control managerial actions, including the use of compensation incentives, so that the actions utility maximizing managers take also benefit the firm's owners. According to the traditional description of stewardship theory, owners specify the firm's mission and managers derive personal utility by achieving the mission; consequently, such firms have a longer run view and follow different governance procedures. For example, unlike the agency-firm, the stewardship literature explains that steward/managers are given a relatively high degree of authority and discretion. Thus, stewardship firms have board structures that rely on insiders, or affiliated outsiders, and it is advantageous to have one person simultaneously hold the positions of CEO and Board Chairman. In contrast, to enhance the monitoring required under agency theory, agency-firm boards rely on diverse outsiders and a separation of the CEO and Chairman position. Empirical studies of stewardship v. agency commonly focus on the implications of the different structures for firm performance (*e.g.*, Berg and Smith, 1978 and Donaldson and Davis, 1991). The existing empirical evidence regarding performance, risk taking and corporate form is mixed; these are the primary issues investigated in this synthesis and extension of the literature.

BACKGROUND

An individual may have one or more relationships with a firm; these include founder, owner, or employee. The agency theory presumes that utility maximizing individuals form firms that may have, or grow to have, capital requirements that exceed the means or prudence of a single owner. Others, sensing a financial opportunity, supply capital (stock or debt) to finance the venture; these individuals and firms have variable specific knowledge of the firm. Their decision to supply financing is based on their individual portfolio circumstances and risk/return preferences. The lower attention level of dispersed owners invites corporate inefficiency. Put differently, with ownership dispersion each owner has an incentive to shirk, thereby increasing the ability to use his time and energies on other tasks. Because the benefits and costs of ownership are borne by the owners in proportion to the number of shares they own, a portion of poorer firm performance, the ultimate shareholder cost of ownership shirking, is shifted to other owners. Because agents, like principals, are motivated by opportunities for their own personal gain, unchecked utility maximizing agents will logically incur expenses that maximize their own utility at the expense of their principals. To reduce the cost of the shirking-related inefficiency, to protect shareholder interests, the agency literature describes a number of methods for aligning agent behavior with the goals of the principals. These agent behavior modification methods include reward/punishment compensation plans and certain aspects of board governance (Jensen and Meckling, 1976; Demsetz and Lehn, 1985). One focus of the board governance structure literature is based on a presumption that the directors of the board will act as monitors of the firm's executive management. In sum, with diverging interests, the principal incurs costs associated with motivating or coercing the agent to behave in a manner consistent with the principal's interest. Owners accomplish this via proxy; the central feature in agency theory is a board with ultimate authority whose members are independent of management.

The principal-agent model relies on an assumption that there exists an ever-present opportunity for gain by either the principal or the agent at the expense of the other; "the model of the agent [is] inherently opportunistic... unless it is curbed through controls; moreover, because controls are imperfect, some opportunism will remain" (Davis, et al, 1997, p. 20). But in the special case when the interests of the principal and agent are coincident, there is no agency problem and agency costs are unnecessary. One situation where the principal and agent interests are coincident is when one individual fills both roles. This occurs, for example, in many small firms where the owner may be the only employee. Less trivially, an individual who owns all of a firm's voting stock bears all the expense of shirking so there is no incentive to shirk and no agency problem. As the ownership percentage falls below 100 percent, the majority shareholder is faced with incentives to shirk and incentives to expropriate wealth from minority shareholders; acting on either incentive would result in reported performance reductions.

Another reason suggested for the coincidence of principal and agent interests, referred to as stewardship theory, attributed to researchers in

psychology and sociology, is sometime considered a separate theory (Davis, et al. 1997, p. 20): "In particular, assumptions made in agency theory about individualistic utility motivations resulting in principal-agent interest divergence may not hold for all managers. Therefore, exclusive reliance upon agency theory is undesirable…" Whether stewardship theory is a separate theory or a special case where the utility function of the managers is coincident with that of owners is an argument for a more philosophical discussion. Operationally, it is argued that the goals of stewardship firms are easier to meet when the governance structure grants authority and discretion to the CEO (Donaldson and Davis, 1991). This grant of authority and discretion is often measured by the award to one individual of both the CEO position and the chairmanship of the board of directors. This award of power is considered bad governance under an Agency theory model (Demb and Neubauer, 1992). Thus, one piece of circumstantial evidence that a firm is organized as a stewardship is the holding of both the CEO and Board chairperson positions by one individual.

Empirical studies that seek to evaluate the relative performance of an agency versus stewardship governance structure have mixed results. Some find that the Agency-consistent structure, evidenced by different persons in the positions of CEO and Board chairmanship, is associated with higher firm performance (Berg and Smith, 1978; Rechner and Dahon, 1991); others find that the stewardship-consistent governance structure is associated with better corporate performance (Donaldson and Davis, 1991; Finkelstein and D'Aveni, 1994); and some find no relationship between this aspect of governance structure and firm performance (Chaganti, Mahajan and Sharma, 1985; Molz, 1988). There is a possibility that some firms classified as "Agency-consistent," firms with a management co-opted board, may behave like stewardship firms regardless of the relationship of the firm's CEO and board chair. For example, among stock firms there is difficulty determining whether management has co-opted the board but there is no such argument regarding mutual insurance companies. It is common for the largest mutual insurers to pass CEO/Board positions among family members from one generation to the next.[2] Such executive longevity suggests that the mutual insurer follows a stewardship model.[3] A variation of the family-stewardship link is made for Canadian stock firms (Klein, Shapiro and Young, 2005). The key, in this set of firms, is the ability to exercise corporate control by a small set of individuals, often a family.[4]

Focusing on one industry to reduce the potential measurement error associated with studies that consider cross-industry differences, we test whether the empirical evidence is consistent with the theoretical expectation of the way stewards versus agents manage publicly traded insurance firms. Consistent with the theory that a steward generates lower short-term profits for shareholders in anticipation of higher future profits we find that stewards take on less operational risk than agents and experience larger variations in firm value. Because the insurance industry is highly regulated, governance related performance variation should not be high in this industry. Thus, any finding of a difference strengthens the ability to generalize from the results. That is, regulation serves to restrict firm behavior, reducing the benefit of board monitoring. Demsetz and Lehn (1985) characterize "control potential" as the wealth gain that might be realized by more effective monitoring by a firm's owners. In stable markets, they argue, monitoring can be accomplished at relatively low cost. Because a regulated firm is effectively monitored both by shareholders and regulators, "the private benefits of control are likely to be lower in a regulated firm, as insiders typically have less discretion precisely because regulation limits managers' activities. … The available empirical evidence suggests that inside ownership is indeed lower in regulated firms." This last point is not consistent with more recent evidence provided in general for financial service sector firms (Holderness, Kroszner and Sheehan, 1999) and specifically for the insurance industry (Barrese, Lai and Scordis, 2007). The more recent finding may reflect the fact that these regulated industries are more difficult to understand, a reason contributing to the cause of their being regulated, and the potential gain from understanding accrues to inside owners.

With government subsidizing the survival of publicly traded firms, questions about the structure of corporate governance, including the choice of steward versus agency design of the firm, become public policy issues, with differential consequences for corporate risk taking and for the short-run versus long-run return to taxpayers. This has consequence for such operational issues as strategic flexibility. Stewards, who are hypothesized to have a longer-term

[2] The report on succession at State Farm, a mutual insurer that is one of the largest US companies, observes: "At State Farm, lineage counts for a lot. Retired farmer George Mecherle, who passed on the presidency to his son Ramond in 1937, founded the company in 1922. When Ramond gave up the post in 1954, it passed to his father's right-hand man, Adlai Rust, whose son and grandson have followed in his footsteps. … This tight-knit family rule has certainly given State Farm a strong sense of corporate mission." France, Mike (1999) "Father Knew Best – and so did Grandfather" *Business Week* (at http://www.businessweek.com/1999/99_45/b3654191.htm).

[3] For data consistency reasons mentioned in the paper, we do not include mutual insurers in our sample.

[4] We intended to rely on the findings of Klein et al (2005) to better identify the stewardship firms in our sample by specifying that stewards were evidenced by either a joint CEO/Chair or by family control. This direction proved unnecessary in the data of the current study, however, because in each instance of family control the same person served as both CEO and Chair.

perspective than agency firms, have a lower need for quick adjustments in the face of short-term opportunities and risks. Thus maintaining an ability to be flexible in the face of strategic opportunities or risks, an ability evidenced by the availability of undistributed cash, is more likely to be associated with agency firms (Cudd and Duggal, 1993). This cash positioning is consistent with the theory that agency firms prefer greater short-term gains because the ultimate goal of having such flexibility is the ability to extract short-term returns. In sum, we should witness the following set of stewardship versus agency relationships: Stewards should have lower strategic flexibility, lower short run performance and operating risk, and both higher long run performance and risk.

MODEL AND DATA

The results of existing empirical studies of the differences in the performance of stewardship versus agency firms are mixed (Molz, 1988; Rechner and Dahon, 1991; Finkelstein and D'Aveni, 1994); there is less evidence regarding the risk stance and strategic flexibility of the two governance types. By considering performance, risk and strategic flexibility together, this paper synthesizes the existing studies. By adding a long- and short-run perspective, the paper extends the existing studies; a summary of the hypotheses considered follows:

H_1: The short run performance of Stewardship firms is lower than that of Agency firms.

H_2: The long run performance of Stewardship firms is higher than that of Agency firms.

H_3: The short run risk stance of Stewardship firms versus that of Agency firms is not determinate.

H_4: The long run risk stance of Stewardship firms is higher than that of Agency firms.

H_5: The strategic flexibility of Stewardship firms is lower than that of Agency firms.

We estimate these hypotheses using the following general function:

SA = *f*[PERF(HPR,MTB), OPR(CEDE,SE), SF(UCF), SIZE(A)).

In this section, we describe the sampled firms and the variable definitions and measurements for the agency/stewardship classification variable (SA), performance in the short-run (HPR) and in the longer run (MTB), short and longer run risk (CEDE and SE), strategic flexibility (UCF), and firm size, measured by assets (A). A summary explanation and description of expectations regarding each variable also is provided in Appendix 1.

Sample

It is long hypothesized that a firm's risk stance and its performance are related. It is also observed that the risk management actions of a firm seem to depend on the nature of competition in its market and on the risk management actions of its competitors. Prior research demonstrates this dependency by using single industry data (MacKay and Phillips, 2005; Adam et al., 2007; and others). Research on risk management has repeatedly used the gold mining industry, the oil production industry, the airline industry, and the insurance industry. We use the insurance industry because this industry has an organizational structure that reduces the uncertainty regarding whether a particular firm follows a stewardship or an agency approach, one of the more difficult problems in empirical studies of the stewardship/agency relationships and where such firms are more common than in other industries. Moreover, it is an industry where regulation of its solvency creates relatively homogenous industry behavior but where individual firms within the industry still differ in terms of their risk management practices. Thus differences identified in this industry between performance, risk, and stewardship versus agency are less likely to have an unidentified source. The sample was constructed using all property-casualty insurers identified on the SEC database who were in operation in 2007. We did not include the latest available year, 2008, a year of a severe recession.

The risk management actions of a firm seem to depend on the nature of competition in its market and on the risk management actions of its competitors. Prior research demonstrates this dependency by using single industry data (MacKay and Phillips, 2005; Adam et al., 2007). Research on risk management has repeatedly used the gold mining industry, the oil production industry, the airline industry, and the insurance industry. Some properties of the insurance industry make the industry an attractive laboratory for comparing the two theories and incorporating a recent empirical innovation in the stewardship literature (Klein, Shapiro and Young, 2005). That is, the stock portion of the US insurance industry is characterized by ownership patterns that look like those investigated by Klein et al; there is significant family or block ownership/control (Barrese, Lai and Scordis, 2007). Thus, using a sample of insurance firms from the property-casualty sector of the insurance industry, in addition to studying the traditional performance difference between stewardship-firms and agency-firms, we also compare the strategic flexibility and risk characteristics of the two groups.

There are just under 4,000 separate property/casualty and life insurance companies licensed in the United States (U.S.). This large number of companies exists because of peculiarities in the insurance regulatory system; this is in contrast to other industries where a single firm sells multiple products nationally and internationally. The peculiarities in the insurance regulatory system encourage the formation and licensing by a holding company of separate insurance companies then tend to specialize in a narrowly defined line of business in a regionally defined market. Production at the various holding company subsidiaries is joint and the separate insurance companies are arranged in business clusters referred to as insurance groups. For example, Bayside

Insurance Company, a Florida insurer, is a subsidiary of Drive Insurance Holdings, an Ohio insurer, which is a subsidiary of Progressive Corporation, the publicly traded insurer. Once we follow each insurance company licensed in the U.S. to its ultimate and controlling owner, at the end of 2008 we are left with 111 publicly traded property/casualty/life insurance holding companies that file with the Securities and Exchange Commission (SEC). Additionally, because some of the variables used in our study require five years of data, we lose some firms and other firms such as are focused on specialty lines that are more in the nature of bonding than insurance. Removing 19 firms from the data for these reasons yields a sample size of 92 firms (Appendix 2).

The Steward/Agent Measure

The first difficulty in empirical work of the steward/agency theories is how to identify particular firms as stewardship or agency firms. The most frequent rule used to identify stewardship firms is whether the same person holds the positions of CEO and Board Chair. More recently, a study on family-owned Canadian firms by Klein et al. (2005) suggests that closely controlled firms are managed in a manner consistent with stewardship. The combination of the two criteria – joint CEO/Chair or closely-held – may allow for a reduction in the variable measurement error stemming from a sole reliance on either criterion, but the innovation is not relevant in this study as all closely-held firms sampled had the same person serving as CEO and chairperson.

Allowing the same person to serve as Chief Executive Officer (CEO) and Board Chairman concentrates power and authority. Stewardship theory views such concentration of authority as empowering and thus desirable (Donaldson and Davis, 1991). In this view, owners place the same person in the CEO and Board Chairman positions if they perceive that there is no inner motivational problem between the executive and the owners. Because agency theory, on the other hand, presumes that managers and owners have different goals, it views the concentration of authority as bad governance (Demb and Neubauer, 1992). Consistent with the existing literature, we view as stewards those managers who are both their firm's CEO and Board Chairman and we view as agent-firms those whose managers serve only as CEO.

The work of Klein et al. (2005) on family-owned businesses, suggests that the presence of closely controlled firms increases the likelihood that there are firms in the population managed by stewards. From an agency theory perspective, if managers control the firm they will expropriate shareholder wealth. One purpose of the Agency governance structure is to reduce this potential conflict but recent reviews of the corporate ownership data demonstrate that the control of many Canadian and even US firms by a small group of individuals and families may be more common than previously thought (Holderness, Kroszner and Sheehan, 1999; Klein, Shapiro and Young, 2005). In this environment, the agency perspective is less relevant. Klein, et al., note that "although Canada may be thought of as being similar to the United States in terms of its national governance structures, ownership concentration in Canada tends to be higher since individuals, families or private holding companies effectively control many of the largest firms … In this regard, ownership in Canada more closely approximates ownership structures in most countries around the world." The ownership pattern is relevant for empirical studies because, except for family firms, Klein, et al. find no relationship between an index of good governance and firm performance. When isolating the family firms, they find a negative relationship.[5] Corbetta and Salvato (2004) observed that the governance-performance relationship is an open question when ownership is concentrated in the hands of families. Contributing an answer to that question, Klein et al. find that Tobin's q is lower than average for family-owned firms. They conclude "the family-owned firm may be better viewed from the vantage point of stewardship theory, which sees the role of the board as providing service and advice rather than monitoring and control." The work of Klein et al is one of the reasons we use the insurance industry to link operational risk and stewardship; because, as Barrese et al (2007) show, the industry includes firms with diversified ownership and a sizeable number of firms where few individuals or a family control a significant number of shares.

The criteria we suggest to identify a firm as a stewardship is the combination of the two criteria: (1) if a firm has a common CEO and Chair, the traditional method of identifying stewardship firms, and (2) any firm that is closely or family held. All other firms are considered agency firms. Of the 92 firms in the sample, there are 52 joint CEO/Chair firms; at least five of these are family or closely held firms, lending support to the validity of the Klein et al (2005) classification suggestion.

Strategic Flexibility

The management of cash flow can provide valuable strategic flexibility (Cudd and Duggal, 1993; Vogt, 1997). Because managers can spend this cash without creating value for the firm's owners, undistributed cash flow is often used as an indicator for the presence of conflicts of interests between managers and owners. We use UCF, the firm's coefficient of variation of undistributed cash flow, as a relative measure of its ability to exercise strategic flexibility. The measure is computed using the reported

[5] Klein, et al. (2005) recognize as a limitation of their classification scheme the fact that their study, like most others, does not consider the influence of blockholders who do not serve on the board of directors but they justify this by noting that the focus of their study is family ownership rather than the possibility that any significant blockholder might influence performance. Also see, Holderness (2003).

undistributed cash flow over the five-year period from 2003 through 2007. The theoretical relationship between performance and undistributed cash flow is not clear. Higher UCF values represent a firm with cash on hand. Such a cash stance allows the firm to take advantage of strategic opportunities but excess cash can make the firm an attractive takeover target. On balance, adding the fact that agency firms are more likely to have a short run perspective, a perspective that is served when available cash allows the firm to take advantage of short-run opportunities, we expect the higher values to be associated with agency firms (Vogt, 1997).

Risk Appetite

In the agency theory literature, it is common to argue that awarding managers call options on the firm's stock increases the manager's willingness to take risk commensurable with levels desired by shareholders. The holder of a call option has the right to purchase stock at a specified price within a specified time. This has relevance for operational risk because the holder of such a call option has an incentive to increase short-term cash flow in order to see an increase in the underlying share price. Ross (2004) explores nuances in this conventional view and shows that, to increase an agent's willingness to take longer-term risks, there needs to be more of a focus on offering downside protection than on offering them upside potential.

Evidence and theory suggests that the stewardship form of corporate governance does provide managers with downside protection. For example, evidence from mutually owned insurance firms, a governance structure that fits well with the stewardship model of corporate governance, suggests that mutual managers enjoy such downside protection.[6] Mayers and Smith (1986) and McNamara and Rhee (1992) find, respectively, that when stock insurers convert to a mutual structure, managerial compensation and turnover declines, and likewise, managerial compensation and turnover increases when mutuals convert to a stock structure. It is reasonable, therefore, to hypothesize that there are timing differences in the way stewards and agents manage the firm's risk, with stewards taking on less short-term operational risk.

The most popular operational risk management tool in the insurance industry is the use of reinsurance. Reinsurance, often described as insurance for insurance companies, smoothes operating results and thus reduces the probability of insolvency (Baur and Breutel-O'Donoghue, 2004; Powell and Sommer, 2007; Adams et al., 2008). Reinsurance is a transaction in which one insurance company indemnifies, for a premium, another insurance company against the loss that it may sustain. For example, suppose insurance company "A" receives $1,000 in premiums for issuing policies to homeowners. This is the direct premium written by insurer "A" (DPW). Insurer "A" pays 30 percent or $300 of its DPW to insurer "B". Insurer "A" has ceded or bought reinsurance. Insurer "B" has assumed or sold reinsurance. In exchange for the $300 it has received from insurer "A", insurer "B" is now responsible for a portion, say 30 percent, of any payments insurer "A" becomes liable for to the homeowners it has insured.

Often, insurance companies simultaneously buy and sell reinsurance. Once the flow of premiums from all reinsurance transactions is either taken out or added to the direct premium written, the result is the net premium written (NPW) of the insurer. We measure the use of reinsurance by CEDE, the ratio of ceded premiums to gross premiums written; the ratio is a measure of operational risk. Increases in this ratio mean the firm is reducing its exposure to operational losses. Agency firms are more likely to attempt to avoid short-term losses while stewardship firms are more likely to avoid longer-term losses. Unfortunately, interpretation of the variable is problematic; ceded premiums can relate to either short or long term (short and long tail in insurance parlance) losses. For this reason the expected relationship between CEDE can be positive, insignificant, or negative; its sign and significance will speak more to the mix of short v. long tail business of the firms sampled. A negative slope would suggest that most ceded business is short tail; a positive slope suggests most of the sampled firms ceded business that is long tail; an insignificant result could reflect a mix of business rather than the lack of a relationship. While information to construct a more granular measure of CEDE are available at the individual firm level, this information does not aggregate. That is, 10-K information combines all firms in the holding company and the data is worldwide. Individual statutory reports cover subsets of the firm and only relate to US operations.

Investors and firms take on higher levels of risk for the possibility of earning a higher return. In the short-run, this does not mean that risk guarantees a high return; it means there is a wide variance of return possibilities. Evidence does not show a strong positive relationship between risk and short-run return. However, evidence demonstrates that holding a portfolio of riskier investments for the longer-run, a strategy that is consistent with stewardship firms, does yield a higher investment return (Bandi and Perron, 2008). The higher investment return becomes a part of the overall firm return and thus plays a part in the organizational structure/performance study.

To meet the obligations to its policyholders, insurance firms invest a portion of their premium revenues to meet the future liabilities associated with the policies they have issued. The investment choice possibilities for these funds, referred to as the loss reserves of an insurance firm, are regulated. In

[6] Mutual insurance companies are not included in the sample because of data problems. The lack of stock market trading data makes it impossible to create a long-term profit measure consistent with that used in this study.

addition to their reserves, insurance firms accumulate funds, or surplus, beyond the loss reserve levels required by prudence and regulation. The primary purpose of surplus is to serve as a reservoir of wealth that allows the insurer to remain solvent when losses exceed the expectations of the insurer. In fact, Carson and Hoyt (1995) find that insurers that have low but highly volatile surplus over time have a higher probability of insolvency.

We use a stylized coefficient of variation of shareholders equity over the five years from 2003 through 2007 as a measure of longer run risk. Instead of computing the variable as the ratio of the standard deviation to the mean, we recognize that shareholder equity generally rises over time. The mean growth over the period is estimated by a simple regression beta, a regression of shareholder equity on time; the standard deviation used for the CV computation is the standard error of the estimate of that OLS beta. The result is a broad measure of the effect of risk on the firm, the higher the value of this ratio – i.e., the larger the standard deviation of shareholder equity relative to its trend line – the higher the short-term riskiness of the firm. Because stewards are presumed to have a longer-run perspective, short-term volatility will be less important to a steward than to an agent, who may experience a personal loss due to short-term volatility. Thus we expect a positive relationship between this risk measure and the likelihood that the firm follows the stewardship approach. Thus we consider two measures of risk: the use of reinsurance and the stylized coefficient of variation of company surplus.

Performance

This study adds to the empirical evidence evaluating the relative performance of stewardship versus agency governance structures. Some find that firms managed by stewards perform better (Donaldson and Davis, 1991; Finkelstein and D'Aveni, 1994). Others find that firms managed by agents perform better (Berg and Smith, 1978; Rechner and Dahon, 1991). And some find no relationship between a stewardship versus agency governance structure and firm performance (Chaganti, Mahajan and Sharma, 1985; Molz, 1988; Baliga et al. 1996). By limiting our focus to one financial service sector industry, we avoid some potential causes of the diverse results in the existing literature. In addition, we more directly consider the issue of timing on the relationships. Because stewardship/agency performance differences relate to the different timing perspective of the two approaches, we control for firm performance using two performance measures. We measure current short-term performance with the holding period return. We measure future long-term performance with the market-to-book ratio.

The most commonly used measure of a firm's short-run market performance is the holding period return, HPR. The holding period return is the total return to the firm's owners during 2007, the year of our study. It is the sum of dividends and capital gains shareholders have received during the year divided by the stock price of the firm at the beginning of the year. Because firms, operating consistent with the agency approach, wish to maximize short run returns as a method of seeing a rising share price, we expect a negative relationship between HPR and the likelihood of a firm following the stewardship approach, P(Steward). The steward/agent theories imply that the agency firms will report higher, perhaps more volatile, but generally higher, short-run performance. Longer-run performance is more problematic. It is not possible to determine the future performance of a firm, but, as an aid to analysis, the market-to-book ratio, MTB, is commonly used for this purpose (Smith and Watts, 1992; Graham and Rogers, 2002). The stock's book value represents the equity value that would remain if the firm were liquidated, and assets and liabilities are accurately represented on the balance sheet. Firms are generally expected to grow in order to generate sustainable economic profit for their stockholders. When stockholders believe in the ability of managers to convert growth opportunities into value, they will pay more than the residual value of assets for the firm's stock, and, accordingly, the firm's market-to-book ratio will exceed one. The market-to-book ratio is a measure of longer-term performance as evaluated by investors on the basis of growth opportunities. A positive relationship between MTB and P(Steward) is expected because a central component of stewardship theory is the notion that stewardship firms have a longer run perspective than agency firms. The steward/agent theories suggest that higher long-run performance potential is more likely to be associated with stewardship firms.

Size

Researchers include a measure of size for a variety of reasons. Marris (1963) observes that managerial utility is correlated with firm size; larger firms may provide managers with higher levels of salary, power, and status. Insurance researchers have used a number of different measures of size; these include the level of premiums, revenue, loss levels, the value of assets, and net worth.

When the owners of a firm hold diversified portfolios of assets, the limited liability nature of stock creates an incentive for stockholders to increase risk. If the higher risk pays off, the stockholders enjoy windfall profits. If the risk does not pay off and the firm defaults, immunity from liability protects the stockholders from losing more than their small investment in the firm. But, when shareholders have concentrated wealth in a single firm, default is costly to them. Furthermore, the assets of the firm already in-place in relation to its growth opportunities moderates the benefits of risk-taking by shareholders (Scordis et al., 2008). While there are individual growth opportunities in the insurance industry, the large asset base of insurance firms encourages management to actively control operational risk.

Another indication of differences in the way firms in our population manage their operational risk, suggested by the work of Scordis et al. (2008), is the disparity in the assets already in-place for firms in our population. When managers act to reduce their firm's volatility of cash flow, they also affect the systematic risk of their firm's stock. Scordis et al. demonstrate that the direction of the relationship between cash flow volatility and systematic risk depends on the relative value of the firm's growth opportunities in relation to the firm's assets-in-place. This is important in our study because there is substantial variation in the size of assets in our population; the 2007 market value of financial assets ranges from $135 million to $558,562 million, with a median asset market value of $4,720 million. We also considered liabilities and net worth as size measures with little difference in results. However, to avoid heteroskedasticity problems, the net worth variable was identified as a weight using White's test without cross product terms. The empirical results are obtained using a weighted probit model.

EMPIRICAL RESULTS

Using a sample of 92 firms drawn from the property-liability insurance market operating in 2007, we model SA, a dichotomous variable set to one for stewardship firms, as a function of short and long run performance, short-term operational risk and longer-term overall risk, strategic flexibility, and firm size. The following table reports the sample means of each variable for stewardship and agency firms. Almost 57 percent of the sample of 92 firms is characterized as a stewardship. This is higher than most industries. For example, the dissertation of Balta (2008, p. 166) relies on a general sample in which 101 Greek listed organizations; 43 of the 101 firms have CEO duality. In the high percentage in our sample is not unlike that of another relatively concentrated US industry; of the 16 firms in the "Scheduled Air Transportation" (SIC 4512) industry filling, 11 firms have the same person as the Chairman and the CEO.

Before correcting for interrelationships, the data show that the average steward sampled has both lower short run and longer run performance but the only statistically significant differences are for the steward versus agency values of CEDE and A. Table 1 reports the sample means of each variable for stewardship and agency firms.

Table 1. Descriptive Statistics, by SA

Independent Variables	Steward	Agency	Total
Number of Firms	52	40	92
Use of Reinsurance (CEDE)	0.13	0.19	0.16
CV of Surplus (SE)	0.84	0.92	0.87
Holding Period Return (HPR)	-5.92%	-0.92%	-3.74%
Market to Book (MTB)	1.21	1.31	1.29
Undistributed Cash (UCF)	1.42	1.47	1.44
Assets (A)	3.91	3.46	3.72

Because the data suffers from a heteroskedastic error, the probit model corrects for heteroskedasticity using a net worth weight (Paez (2006) provides an example of this correction). The predictive power of the model reported below is acceptable; the concordant and discordant percentages are 71.7 and 28.2, respectively.

The results are consistent with expectations; they show that the higher the short run performance, measured by HPR, and the higher the level of undistributed cash, the measure of strategic flexibility, the more likely the firm is follows the agency prescriptions.[7] Also as expected, stewardship firms are more likely to be found among those firms with better long term performance, measured by the market-to-book ratio, and with lower tolerance for longer run risk, measured by the coefficient of variation of shareholder equity. The only measure that is initially confusing is the measure of short-run operational risk, ceded reinsurance to total premiums written. This result, which is negative, is counterintuitive; it suggests that firms with higher levels of short-term risk are more likely to be stewards. Among the ways to explain this anomaly, most have to do with variable measurement error. For example, two firms with the same total premiums written may cede $100 in premium to a reinsurer. This represents a risk reduction. However, if the $100 ceded is for a short-tail line in one firm and a long-tail line for the other, the amount of risk shifted to the reinsurer will not be equal.

We first estimate our model using a univariate probit procedure and then we use the raw values from the estimated coefficients to calculate respective marginal effects at the mean values of our variables. We report these results in Table 2. We discuss the

[7] The sign and significance of the short-run performance measure is invariant with respect to the measure used (HPR, Excess Return, Tobins Q).

marginal effects of our estimation because they allow for a comparison of the relative strength of each of the independent variables.

Table 2. Univariate Probit Estimates
Dependent Variable: One if Steward, Zero if Agent

Independent Variables	Expected Sign	Estimates	p-value
Raw Estimated Coefficients			
Constant	–2.347	0.0001	
CEDE: Use of Reinsurance	+/-	–1.242	0.0275
SE: CV of Surplus	+	+0.162	0.0349
HPR: Holding Period Return	–	–1.529	0.0015
MTB: Market to Book	+	+0.405	0.0247
UCF: Undistributed Cash	-	+0.415	0.0334
A: Assets	+	+0.704	0.0001
Marginal Effects at Mean Variables Values			
CEDE: Use of Reinsurance		–0.382	0.055
SE: CV of Surplus		–0.519	0.023
HPR: Holding Period Return		–0.621	0.000
MTB: Market to Book		+0.243	0.008
UCF: Undistributed Cash		+0.062	0.000
A: Assets		+0.137	0.014

There is not a well-accepted goodness-of-fit measure for the probit model. A common measure is the Chi-squared test (115.3), another is the likelihood ratio index (8 percent), and another is a pseudo R-squared (7 percent). These measurements suggest an acceptable fit and are supported by the fact that the model correctly predicts the existence of a stewardship firm in 78.1 percent of the population.

The marginal probabilities allow for easier comparisons of the relative impact of each variable on the prediction. In this study, because the average probability is high, in the 90 percent range, the marginal effect of any variable will seem small. By comparison, if the average were in the 50 percent range, the marginal impact of a variable might seem high because it is detecting movements near the mean of the probability distribution rather than movements in the tail of the distribution. The benefit of the marginal probabilities is that they provide a sense of the relative impact of a percent change in each of the variables and thus allow for easier to understand variable to variable comparisons. The marginal effects indicate that the largest signal of whether a firm is a stewardship or agency firm is given by short-term profit, HPR, and long-term risk, SE.

The results show that a stewardship-agency difference signals a short versus long run distinction regarding the firm's risk stance. The use of reinsurance to take on additional operational risk reduces the probability that the manager is a steward by 0.38 percent while a one percent increase longer-term risk, measured by the stylized coefficient of variation of the insurer's surplus increases the probability that the manager is a steward by 0.51 percent.

Similarly, short and long run distinctions in the performance perspective of the firm also are associated with a stewardship/agency difference. A one percent increase in the current profitability of the firm, as measured by its holding period return, reduces the probability that the manager is a steward by 0.62 percent while a one percent increase in the market-to-book ratio, a proxy for the expected future profitability of the firm, increases the probability that the manager is a steward by 0.24 percent. A one percent increase in the mean size of undistributed cash flow available to the manager increases the probability that the manager is a steward by 0.06. Overall, the model correctly identifies 72 percent of the firms.

CONCLUSION

Our results suggest that on average a firm that has the same person as CEO and Board Chairman will take prefer long to short term operating risks and will have superior performance over the long term. While we have used the population of publicly traded insurance firms in the U.S., we know no reason why our results are not representative of other industries. In fact, Patham (2009), as a by-product of his investigation of banks' corporate governance, finds results consistent with ours; CEOs who can control their Boards take less risk. The stewardship vs. agency debate has

implications for public policy. With taxpayers subsidizing the survival of publicly traded firms, questions of corporate governance, including the steward versus agency design of the firm, become public policy issues. That is, our results confirm that stewardship firms adopt lower levels of operating risk, have lower probabilities of insolvency, and have a longer-run performance perspective. Perhaps taxpayers, in addition to vetting the managers they appoint for their technical and managerial expertise, should also scrutinize how well the manager's utility fits with that of the public purpose. If the government's interest is best served by a longer-run perspective and a lower probability of insolvency, the stewardship governance structure is one that should be pursued. This, of course, has consequences for the minority shareholders and for intergenerational equity.

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Appendix 1. Explanation of Variables

Dependent Variable
SA: One if Steward determined if the same person serves as CEO and Chairperson (or if the firm is family controlled), Zero if Agent. Stewardship theory views the concentration of authority of the CEO and Board Chairman positions as desirable. Agency theory views the same concentration of authority as undesirable.

Independent Variables
Operational Risk Measures:
CEDE: A measure of the use of reinsurance. Reinsurance smoothes out operating results and thus reduces the probability of insolvency. Positive values indicate that the insurer is using reinsurance to take on additional operational risk. Negative values indicate that the insurer is using reinsurance to decrease its operational risk. Because CEDE is a one year measure, the variable is considered a measure of the firm's short term risk appetite.

SE: A stylized coefficient of variation (CV) of the firm's net worth over a five year period from 2003 to 2007. The CV is a popular measure of relative risk. Insurers with low and volatile surplus or with a large CV value face a higher probability of insolvency. The measure is computed as the standard error of the observed deviation from a trend line to the trend value over the period.

Performance Measures:
HPR: The Holding Period Return is a commonly used measure of a firm's one-year market performance; it is the total return to the firm's owners during a given time, one year in this study. Other short-term measures considered are Tobin's Q and Excess return.

MTB: The Market-to-Book ratio is a commonly used measure of a firm's longer run and anticipated future performance; it is the ratio of the current market value of an ongoing firm to its current accounting liquidation value. When stockholders are optimistic about future profitability possibilities of the firm, this ratio exceeds one; otherwise the ratio is one or less.

Strategic Flexibility Measures:
UCF: The CV of undistributed cash over the five year period from 2003 to 2007. Agency theory implies that undistributed cash is either an agency cost or a tool used by managers to exploit short-run opportunities. The longer run perspective of stewards does not place a value on holding cash, especially as it makes the firm attractive as a takeover target.

Control Measures:
A: Assets, a measure of firm size.

Appendix 2. Firms Sampled

21st Century Holdings
ACE Ltd.
Affirmative Insurance Holdings
AFLAC Inc.
Alleghany Corp.
Allied World Assurance Holdings
Allstate Corp.
American Equity Investments
American Financial Group
American Physicians Capital
American Safety Insurance Holdings
Amerisafe Inc.
Amtrust Financial Services Inc.
Arch Capital Group Ltd.
Aspen Insurance Holdings
Assurant Inc.
Atlantic American Corp.
Axis Capital Holdings
Baldwin & Lyons
Berkley (W R) Corp.
Chubb Corp.
Cincinnati Financial Corp.
Citizens Inc.
CNA Financial Corp.
Conseco Inc.
CRM Holdings Ltd.
Delphi Financial Group
Eastern Insurance Holdings
EMC Insurance Group
Employers Holdings
Endurance Specialty Holdings
ERIE Indemnity
Everest Group Ltd.
FBL Financial Group Inc.
First Acceptance Corp.
First Mercury Financial
Flagstone Re. Holdings
FPIC Insurance Group Inc.
Gainsco Inc.
Hallmark Financial Services
Hanover Insurance Group
Hartford Financial Services
HCC Insurance Holdings
Horace Mann Educators
Infinity Property & Casualty Corp.
IPC Holdings Ltd.
Kansas City Life Insurance Companies
Lincoln National Corp.
Markel Corp.
MAX Capital Group
Meadowbrook Insurance Group Inc.
Mercer Insurance Group Inc.
Mercury General Corp.
Metlife Inc.
Montpelier Re Holdings
National Interstate Corp.
National SEC Group Inc.
Navigators Group Inc.
NYMagic Inc.
Odyssey Re Holdings Corp.
Old Republic International Corp.
Partner Re Ltd.
Phoenix Companies Inc.
Platinum Underwriters Holdings
PMA Capital Corp.
Presidential Life Corp.
Proassurance Corp.
Progressive Corp.
Protective Life Corp.
Prudential Financial Inc.
Reinsurance Group of America Inc.
Renaissancere Holdings Ltd.
RLI Corp.
Safety Insurance Group Inc.
Seabright Insurance Holdings
Selective Insurance Group Inc.
Specialty Underwriters
State Auto Financial Corp.
Torchmark Corp.
Tower Group Inc.
Transatlantic Holdings
Travelers Companies Inc.
Unico American Corp.
United America Indemnity Ltd.
United Fire & Casualty
Unitrin Inc.
Universal Insurance Holdings
Unum Group
Validus Insurance Group
White Mountains Insurance Group
XL Capital Ltd
Zenith National Insurance