LEAVING THE CORPORATE FOLD: EXAMINING SPIN-OFF ACTIONS AND PERFORMANCE

A Dissertation

by

MATTHEW BRIGGS SEMADENI

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2003

Major Subject: Management

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ABSTRACT

Leaving the Corporate Fold: Examining Spin-Off Actions and Performance.

(August 2003)

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This research examines the exit of a subsidiary from its corporate parent through spin-off, the actions taken by the firm management post spin-off, and the performance implications of those actions, all from the spin-off's perspective. While spin-off announcements are generally met with a positive stock market reaction, what occurs post spin-off remains largely unexamined, with performance predictions regarding spin-off firms often being equivocal. This raises questions as to what generates positive performance for spin-off firms, with agency, transaction cost, and upper echelons theories offering differing, and sometimes conflicting, predictions. By integrating these theoretical perspectives, a model of managerial action and its performance implications is presented. The model examines how the formation of new top management, the establishment of managerial monitoring and incentives, and the severance effects from leaving the corporate structure affect strategic, financial, and institutional actions, and how these actions affect performance.

The theory and hypotheses developed in this research are empirically tested on a sample of 176 corporate spin-offs completed by publicly traded firms between 1986 and 1997. Results for the action-based models indicate that background of the CEO or the

top management team (TMT), as well as CEO options, had no effect on actions. CEO and TMT ownership had opposite effects on financial actions, with TMT ownership increasing the likelihood of strategic actions and CEO ownership increasing the likelihood of institutional actions. Ownership by the parent firm and monitoring by officers of the parent serving as board members had no effect on the likelihood of actions, although having a chairman of the board from the parent decreased the likelihood of strategic actions. Finally, severance effects had limited influence on the actions taken post spin-off.

Results for the performance-based models indicate that strategic actions were negatively related to return on assets (ROA), while financial and institutional actions are positively related to ROA and institutional actions are positively related to market performance. In general, inaction was related to lower Tobin's q, with the signs of the coefficients for the other performance models negative, but not significant. Finally, the spin-off firm's relationship with its corporate parent had limited effect on the link between actions and performance.

DEDICATION

This research is dedicated to my wife Kari, who has patiently provided constant support and motivation to me in my doctoral studies.

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CHAPTER I

INTRODUCTION

Within the field of strategy, the use of corporate restructuring strategies to create shareholder value has received much attention (Donaldson, 1994; Gilson, 2001; Hoskisson & Hitt, 1994). When initiating a restructuring, corporate managers often deem it beneficial to separate a subsidiary from the corporation and a prevalent and often efficient method of doing this is through spin-off. A spin-off is defined as the "divestment of a business division to shareholders through a distribution of the subsidiary's common stock in the form of a dividend" (Miles & Woolridge, 1999: 1). While a notable body of research exists on corporate spin-offs, very little has examined the spin-off event from the spin-off's perspective. To date, much of the extant research on corporate spin-offs has focused on either the parent firm (e.g., Daley, Mehrotra, & Sivakumar, 1997; Desai & Jain, 1999) or the market value created by the spin-off (e.g., Miles & Rosenfeld, 1983; Rosenfeld, 1984), with little attention given to the spin-off's performance, whether market or otherwise (see Woo, Willard and Daellenbach (1992) for a notable exception). Consequently, this research examines the spin-off event from the spin-off's perspective.

Spin-offs are theoretically interesting both managerially and organizationally for several reasons. From a managerial perspective, while all initial public offerings, equity carve-outs, and spin-offs are marked by changes in managerial discretion, establishment

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of external monitoring, and increased information disclosure, a spin-off requires the designation of top officers to manage the new entity. These top officers may come from various backgrounds (e.g., divisional managers, corporate managers, or outsiders), and as such would bring to the spin-off different types of human capital, some firm specific and some more general in nature. In addition, the new CEO and top management will have operational, financial, and institutional responsibilities, some of which were not required of the spin-off while it was part of the parent's corporate structure. This portends the necessity of new or different human capital requirements for the spin-off to succeed.

From an organizational perspective, spin-offs will experience severance effects from leaving the corporate structure of the parent firm. Spin-off often requires the new firm to renegotiate contracts, find sources of capital funding, restructure operations to compensate for lost efficiencies of integration or scope, or establish itself as an independent entity within its institutional environment. Consequently, the spin-off is almost always in a situation where substantial action must occur to address the effects of departure from the corporate environment of the parent firm. These managerial and organizational aspects of spin-offs present an interesting setting to evaluate if managerial action will occur and how that action affects firm performance.

Multiple theoretical perspectives have been applied to examine corporate spin-offs, yet there has been no holistic examination from the firm's debut through its subsequent years of performance. This gap is addressed here by proposing a theoretical model derived from upper echelons theory, agency theory, and transaction cost

economics that examines the post-debut influence of new top management on managerial actions as well as the effect of managerial actions on spin-off performance.

PURPOSE

The purpose for this research is two-fold. The first is to understand how the spin-off affects top management action. The top managers of spin-off firms are motivated to act by both the incentives embedded in the new governance relationship as well as hazards posed by severance effects accompanying the spin-off's exit from the parent's corporate structure. Moreover, spin-offs are not disadvantaged by liabilities of newness or liabilities of smallness inherent to many new firms (Singh, Tucker, & House, 1986; Stinchcombe, 1965). Hence, a situation exists that *should* motivate the top management of the spin-off to take actions to address opportunities and threats inherent to the spin-off event. These firms are, however, subject to structural inertia (Hannan & Freeman, 1984) influencing both internal (Nelson & Winter, 1982) and external (DiMaggio & Powell, 1983a; Pfeffer & Salancik, 1978) actions, making actions in the face of change difficult and even dangerous (Amburgey, Kelly, & Barnett, 1993). Moreover, the human capital composition of the new top management may limit its ability to perceive the need for action (Ocasio, 1997), or even to take action if the need is perceived (Hambrick & Mason, 1984). Thus, this research seeks to better understand management actions to take advantage of the opportunities and to mitigate the threats inherent to market debut.

A second purpose is to understand the performance implications of the governance change from corporate subsidiary to publicly traded firm. While the debuts

of spin-off firms are often greeted with market gains (Hite & Owners, 1983; Miles & Woolridge, 1999; Schipper & Smith, 1983; Seward & Walsh, 1996), the realization of improved performance has been equivocal (Desai & Jain, 1999; Miles & Woolridge, 1999; Woo et al., 1992). This raises an interesting discontinuity based in differing theoretical perspectives. For example, agency theory posits the spin-off should experience gains from better monitoring of and incentives for management, while transaction cost logic suggests that spin-offs will experience both gains and losses accompanying their exit from the corporate structure. Additionally, upper echelons theory suggests that the characteristics of the spin-off's newly formed top management and an increase in organizational discretion will have substantial impact on what actions are taken, which in turn affects the performance of the spin-off (Hambrick & Mason, 1984). This research seeks to reconcile these perspectives by developing a model based upon three theoretical perspectives that examines firm performance following spin-off.

CONTRIBUTIONS OF THE STUDY

The model of spin-off action presented in this research makes several contributions to the strategy literature. First, the model addresses human capital issues in the formation of the spin-off's top management. The model proposes that the previous positions held by the spin-off's CEO and top officers (with their attendant human capital accumulation) will affect the actions taken by the spin-off, and will ultimately affect spin-off performance. The model extends the preliminary theory developed by Hambrick and Stucker (1999) and the empirical work done by Wruck and

Wruck (2002), who found that stock market reaction to the spin-off announcement was affected by the composition of the top management team.

Second, the model emphasizes the importance of actions taken by the spin-off. Prior research on spin-offs has treated the spin-off firm as a black box, examining post spin-off performance with limited consideration of intervening actions taken by top management. The model proposes three categories of action: strategic, financial, and institutional, and defines the relationship between top management composition and managerial actions. The model also ties these actions to market, accounting, and managerial performance measures, providing a better view of how top management actions affect firm performance post spin-off.

Finally, the model provides a more holistic perspective of spin-offs in general, reconciling perspectives from agency, transaction cost economics and upper echelon theory. The model provides a multidimensional approach that offers a better insight than the unidimensional theoretical perspectives that have been applied in past research. This is particularly important in examining differing predictions. For example, taken alone, agency theory predicts that performance improves with increased monitoring and information disclosure as well as with performance contingent contracts, suggesting that spin-offs should experience positive performance. The transaction cost perspective, taken alone, predicts that there will be both losses and gains accompanying the severance from a corporate parent, which include the losses of economies of scope, integration, or internal capital markets, and the renegotiation of contracts. Upper echelons theory, by itself, predicts that managerial characteristics and composition, as

well as managerial discretion, will have a substantial impact on what actions are taken by the spin-off, and the actions taken by management will affect spin-off performance. Hence, a multidimensional theoretical approach is required to reconcile the various perspectives.

RESEARCH QUESTIONS

1. How does the composition of the spin-off's top management affect subsequent strategic, financial, and institutional actions?
2. Do severance effects from leaving the parent's corporate structure affect the relationship between top management composition and managerial actions?
3. Does monitoring by the board of directors affect the relationship between top management composition and managerial actions, particularly monitoring by top managers from the former parent corporation?
4. Does the level of parent corporation ownership post spin-off affect the actions taken by top management?
5. Do incentive contracts and managerial ownership affect the relationship between top management composition and managerial action?
6. What are the performance implications of strategic, financial, and institutional managerial actions taken by the firm post spin-off?
7. Do severance effects from leaving the parent's corporate structure affect the relationship between managerial actions and spin-off performance?

OVERVIEW OF RESEARCH METHODS

The theory and hypotheses developed in this research are empirically tested on corporate spin-offs completed by firms publicly traded on the New York Stock Exchange, the American Stock Exchange, or the NASDAQ that occurred from 1986 to 1997. The time period selected covers both periods of recession as well as economic growth, increasing the generalizability of the results. Up to a five-year panel of data is collected for each spin-off, comprising data from the five years post spin-off. The data were extracted from various archival sources with the complete database containing information on top management composition, board composition, managerial compensation and ownership, relationship with the former parent, managerial actions, and performance. Time series cross-sectional (TSCS) linear models using feasible generalized least squares (GLS) are estimated (Maddala, 1992) as well as random effects TSCS negative binomial regression models (Long, 1997). Models of this type are commonly found in econometric analyses (Greene, 2000).

ORGANIZATION OF THE DISSERTATION

The remainder of the dissertation is organized as follows. Chapter II provides a review of the relevant literature focusing primarily on agency theory, transaction cost economics, and upper echelons perspectives of spin-off. Chapter III provides a brief discussion of spin-offs, concentrating on the motivations as well as the opportunities that the spin-off event presents to the parent firm, the spin-off firm, and to the shareholders. Chapter IV develops theory and hypotheses by integrating the three theoretical perspectives covered in Chapter II into a model of spin-off action and performance post

debut. Chapter V describes the research methods used to empirically test the hypotheses generated in Chapter IV.

Chapter VI presents the results of the empirical tests for the hypotheses generated in Chapter IV. Chapter VII provides a discussion of the results reported in Chapter VI. Chapter VIII presents conclusions, limitations of the study, and implications for research and practice.

CHAPTER II

REVIEW OF RELEVANT LITERATURE

The purpose of this chapter is to provide a review of the extant finance and management literature surrounding corporate spin-offs. Corporate spin-offs have been examined from three major theoretical perspectives: agency theory (Aron, 1991; Krishnaswami & Subramaniam, 1999), transaction cost economics (Desai & Jain, 1999; Hite & Owners, 1983; Schipper & Smith, 1983), and most recently upper echelons theory (Hambrick & Stucker, 1999; Wruck & Wruck, 2002). Some cross-theoretical perspectives have also emerged (Seward & Walsh, 1996; Woo et al., 1992). By reviewing the related literature in these three theoretical perspectives, a basis for further theoretical integration will be developed.

AGENCY THEORY

Agency theory has a rich multi-disciplinary tradition in the fields of economics, finance, and management, as well as others (Eisenhardt, 1989). In particular, the corporate control aspect of agency theory is relevant to spin-offs. The general thrust of the theory centers on the misalignment of incentives, leading to differing risk preferences between principals (owners) and their agents (managers). This misalignment is further affected by information asymmetry between principals and agents, which may lead to opportunism on the part of the agents. Although applicable to many settings, agency theory focuses on the separation of ownership and control in large corporations. For example, Jensen and Meckling (1976) examined the ownership

structure of the firm, particularly how ownership by managers aligns the managers' interests with those of the shareholders. Fama (1980) examined the role of managerial and capital markets as efficient mechanisms to curb opportunistic behavior by managers. Fama and Jensen (1983) suggested that the board of directors acts as an information channel that stockholders can use to monitor top management to preclude opportunistic behavior. In general, agency theory proposes that alignment of incentives and lower information asymmetry decreases agency problems.

In the particular case of spin-offs, the agency issues are multi-faceted, addressing different sets of principals and agents. For example, Aron (1991) uses an agency theory perspective to argue that the spin-offs are *ex ante* effective for the motivating of divisional managers (as agents) by corporate managers (as principals). In other words, she argues that the spin-off possibility provides incentive to the divisional managers to run their division in the best interests of the corporation (since it may be spun-off) rather than trying to obfuscate the true performance to maximize their personal benefit at the expense of the corporation. She states, "when a division is part of a multiproduct corporation, the stock value of the firm is a noisy signal of the market's evaluation of any one divisional manager's productivity" (1991: 506). Although accounting performance measures exist, divisional managers may manipulate many of these measures, leading to a misalignment of corporate and divisional incentives. Aron states, "the difficulty with compensating a manager as a function of accounting value of his division is that as long as net cash flows differ from accounting income, the manager's incentives will differ from the desires of the shareholders. For example, suppose the

manager knows that it is an appropriate time to build a new plant….the effect of the investment may well be to increase the value of the firm but to depress the accounting return [of the division] because of a large expenditure" (1991: 507). Since divisional managers have the best information as to when these expenditures should be made, they may exploit this information asymmetry between them and corporate managers to their best advantage, leading to potential opportunism and increasing the bureaucratic costs of monitoring by corporate managers (Jones & Hill, 1988). If, however, the divisional managers hold the belief that their divisions could be spun-off, providing the opportunity for the divisional managers to gain from market direct incentives based on their performance, they will act in such a way to maximize their divisional performance in harmony with market performance, thus achieving the objective of corporate managers and reducing agency costs.

More traditional principal-agent relationships (cf. Berle & Means, 1932) exist in the agency perspective on spin-offs as well. Krishnaswami and Subramaniam (1999) argue that spin-offs often occur where a higher degree of information asymmetry exists between top managers and owners, and that this asymmetry is lessened by the spin-off event. Measuring the information asymmetry as the difference between analyst projections and actual earnings, they found that valuations improved significantly subsequent to the spin-off event, indicating greater clarity in the principal-agent relationship for both the parent and the spin-off. In this same vein, Allen (2001) found that spin-off top managers invested substantially in the new firm post spin-off, and this was significantly related to positive abnormal returns. His research indicates both a

decrease in the level of information asymmetry (given that such purchases are publicly disclosed) and an increase in the alignment between owners and managers through increased ownership by top managers (Jensen & Meckling, 1976).

Finally, Allen and colleagues (Allen, Lummer, McConnell, & Reed, 1995) argued that spin-offs often represent a "correction of error" when the spun-off subsidiary is a previous acquisition. They argued and found that the negative investor reaction to the acquisition was negatively and significantly related to the positive investor reaction to the spin-off announcement. They argue that the results suggest that the information asymmetry and potential opportunism created by the acquisition of the subsidiary is reversed to some degree in the spin-off (Amihud & Lev, 1981).

Conclusions

In conclusion, two points are worth noting regarding the relationship between agency theory and spin-offs. First, spin-off affects the information asymmetry between shareholders and managers by changing information disclosure requirements and managerial monitoring. Post spin-off, the firm is required to disclose financial accounting and organizational information in filings with the SEC, increasing the ability of principals to observe the actions of the agents. However, a board of directors, rather than corporate management, monitors the firm after spin-off and this may indicate a decrease in monitoring of the spin-off management. Corporate managers are generally able to exact detailed subsidiary information from divisional heads and are generally cognizant of the operations of the subsidiary. In contrast, the board is often limited in its ability to exact information from the firm's management and may have less knowledge

of the operations of the spin-off. There is, however, a decrease in the bureaucratic costs described by Jones and Hill (1988) that are incurred as corporate managers monitor divisional managers. These costs are borne by shareholders of the corporation and are eliminated by the spin-off of the subsidiary, ostensibly making the spin-off more efficient.

Second, spin-off allows for better managerial incentive arrangements. As an independent market entity, the board of directors can draft market-performance contingent contracts that will better align the interests of owners and top managers, going beyond the sometimes problematic accounting performance measures that are often used to evaluate and reward divisional managers. In addition, top managers may now take an ownership stake in their specific company rather than in the larger, multidivisional parent corporation. This change further aligns the interests of top management and owners (McConnell & Servaes, 1990). In conclusion, it is important to note that from an overall agency theory perspective the spin-off event, taken by itself, should lead to positive market performance.

TRANSACTION COST THEORY

The transaction cost economics perspective (Williamson, 1985) is often used to explain the gains from spin-offs. Transaction cost logic was initially proposed as a theory to define the boundary between markets and hierarchies (Coase, 1937), with the focus of the theory being to minimize costs. Simply stated, the market will be selected over hierarchy when the transaction costs fall below the bureaucratic costs of

maintaining the hierarchy, while hierarchy will be selected over markets when the cost of transaction exceed the bureaucratic costs of the hierarchy (Coase, 1937).

Transaction cost theory gained prominence by providing a dominant rationale for explaining the use of the multidivisional structure and vertical integration. For example, Teece (1980) argued that when economies of scope are based on proprietary knowledge or the use of a specialized, indivisible asset, diversification is a transactionally efficient manner of organizing. Teece (1982) expands this perspective arguing that diversification is an efficient way to overcome high transaction costs associated with trading the services of specialized assets (particularly organizational knowledge) in multiple markets. Klein and colleagues (Klein, Crawford, & Alchian, 1978) argued that internalization through vertical integration led to lower economic costs when production involved the use of specialized assets. The internalization process lowered the information asymmetry that would otherwise exist between buyers and sellers (Williamson, 1975) as well as obviating the need for complex contracts (Arrow, 1974). Finally, Jones and Hill (1988) provide a useful discussion of the transaction cost perspective behind the various diversification forms (related, vertical integration, and unrelated), as well as a description of the boundary conditions and performance implications for the various forms of diversification.

Regarding spin-offs, Hite and Owners (1983) use a transaction cost perspective to describe spin-offs as the antithesis of mergers. They state that while the logic surrounding mergers is often "2+2 = 5", the logic of spin-offs is "4 – 2 = 3". They argued and found that spin-offs offer both parent and spin-off a way to eliminate

diseconomies in contracting, offering greater contracting flexibility to both in the future, thereby lowering transaction costs and improving market performance. Similarly, Schipper and Smith (1983) examined market reaction to spin-off announcements by examining the assertion of Galai and Masulis (1976) that spin-off gains were the result of wealth transfers from bondholders to shareholders through a redistribution of claims on corporate assets. They found that shareholder gains come from decreased transaction costs through tax or regulatory advantages as well as better managerial governance rather than from the wealth transfer assertion. Moreover, Miles and Rosenfeld (1983) found that spin-off announcements enhance shareholder wealth and argue that this wealth creation occurs due to the elimination of negative synergies rather than the transfer of wealth from bondholders to shareholders.

Spin-offs, however, are not always marked by positive performance, particularly in the area of operational performance. For example, Daley and colleagues (1997) found that post spin-off operating performance improved for the parent but not for the spin-off. They reconciled this with the positive abnormal returns that mark the announcement of a spin-off by proposing that spin-offs provide a focus-increasing event for the parent firm, but are not always in the best interest of the spin-off since it will be severed from the corporate resource base. In this same vein, Silberman (1995) found that operating performance of the parent and spin-off, taken together, does not significantly increase post spin-off, and that the operating performance of the spin-off decreases post spin-off. Furthermore, Powers (1999) argued that spin-offs are generally motivated by a desire to eliminate structural inefficiencies for the parent firm rather than to benefit the spin-off.

Examining a cross-industry sample of 51 spin-offs during the period from 1975 to 1986, Woo and colleagues (1992) also noted that no spin-offs showed post spin-off improvements in operating performance, and some, particularly spin-offs that were unrelated to their former parents' business, were marked by declines. The researchers were somewhat puzzled by this finding and called for further research to determine what affects performance in spun-off firms.

On a positive note, Powers (1999) found that spin-offs in good (bad) industries tend to invest less (more) relative to their stand alone industry peers if the other divisions of the parent are in good (bad) industries, but this pattern goes away post spin-off. This demonstrates that under the corporate structure, profitable divisions subsidize less profitable ones (Scharfstein & Stein, 1997), but that this possibly inefficient behavior is eliminated through the spin-off.

Conclusions

In conclusion, several points are noteworthy. First, transaction cost logic is a dominant rationale for diversification (Jones & Hill, 1988), and it also provides a rationale for spin-offs. Several researchers have found contracting, tax, or regulatory advantages arising from spin-offs, each of which will decrease the transaction cost of the parent corporation, the spin-off firm, or both. For example, a spin-off event may allow the parent corporation or the spin-off firm to renegotiate a long-term contract to obtain better terms or to end a contract completely (for example, see Salter, 2000). However, it is important to note that the transaction cost effects of the spin-off event on the spin-off firm remain largely unexplored in spin-off research.

Second, spin-off eliminates any corporate cross-subsidies that the spin-off may have been paying to subsidize or have been receiving from other divisions of the firm. The spin-off event separates the firm from the corporation's internal capital markets, forcing it to seek other sources of capital to support its operations. While this may decrease the transaction costs of spun-off subsidiaries that were paying out to other divisions, it will increase the transaction costs of spun-off subsidiaries that were receiving support from other divisions as they seek to replace their lost internal capital financing.

Finally, several researchers have found that operating performance either stays the same or declines for spin-offs post debut. Although some researchers acknowledge that their window of observation may need to be longer to find performance improvements (e.g., Woo et al., 1992), in general the operating performance stasis or decline post spin-off suggests that the spin-off firms are experiencing higher costs post spin-off than they did as a subsidiary of the parent corporation. Overall, from a transaction cost perspective the performance implications of debut via spin-off are somewhat equivocal.

UPPER ECHELONS THEORY

Upper echelons theory (Hambrick & Mason, 1984) has recently been applied to the examination of spin-offs. Upper echelons theory argues that firms are reflections of their top managers and that the characteristics of the top managers (i.e., biases, preferences, knowledge and skills) will affect their strategic decisions for the firm. This perspective is based upon the bounded rationality and vision of top management in the

execution of their tasks. Hambrick and Mason argue that the field of vision of managers will be selective, and what is viewed will be interpreted through "filters woven by one's cognitive base and values" (1984: 195). This perspective is also proposed by Ocasio (1997), who described managerial attention as being focused on certain items and actions to the exclusion of others. Hambrick and Fukutomi (1991) further develop this logic by arguing that the perspective and attention of a CEO changes over the CEO's tenure, moving through several "seasons" with different foci and outcomes. Finally, Hambrick and Finkelstein (1987) propose that discretion is an important factor in assessing what actions top management will take. They propose three types of discretion, namely environmental (discretion outside the firm), organizational (discretion within the firm), and individual (discretion of personal action). Spin-off has a substantial impact upon organizational discretion, given that the new top management is effectively loosened from its corporate parent to take action, but environmental and personal discretion remain largely unchanged by the spin-off event.

Taken together, the upper echelons perspectives argue that top management characteristics and composition will have a significant impact on the attention and decisions of top management, thereby affecting the actions taken by the firm. Additionally, there are temporal elements such as the "season" of the CEO's tenure (and, by extension, top management tenure) to consider. From the perspective of spin-offs, all CEOs and top managers are technically in the same "season" of their tenures (response to mandate) given that spin-off event in effect starts the tenure clock for CEO of the new firm (Hambrick & Fukutomi, 1991). This may be less the case for insider divisional

managers who become top managers. Insider divisional managers that become the CEO or top managers of the spin-off may view the spin-off event as less a resetting of the tenure clock than just another stage of their employment with the subsidiary that is now an independent firm. Finally, these top managers are granted greater organizational discretion (latitude of action to make changes within the firm) as a result of the spin-off event although the other forms of discretion remain unchanged.

Applying upper echelons theory to spin-offs, Hambrick and Stucker (1999) argue that careful consideration needs to be given to the formation of the top management of a spin-off. They assert that getting the right mix of human capital resources (i.e., firm-specific as well as general knowledge) is essential to the spin-off's success. The human capital needed to manage the division (i.e., operational knowledge and knowledge of corporate resource allocation) is only part of what is needed to manage an independent entity, which requires top managers to manage not only operations, but also internal and external constituencies. The management of these constituencies is often symbolic (Pfeffer, 1981; Smircich & Morgan, 1982), requiring top managers to have a grasp of the institutional environment as well. Furthermore, spin-off top managers no longer have internal capital markets to draw upon, but rather must obtain funds from external sources through debt or equity means.

Wruck and Wruck (2002) empirically examine the issue of top management human capital by studying the composition of top management in corporate spin-offs. They categorized managers according to their previous employment, yielding the categories of insider divisional (with firm-specific human capital), insider corporate

(with both firm specific and general human capital), and outsider (with general human capital). They found that the market value created by the spin-off announcement is related to the composition of top management, with positive abnormal returns on the announcement day related to the presence of both firm-specific and general human capital in the spin-off management team.

Conclusions

Although the upper echelons perspective has been applied only recently to market debuts via spin-offs, it provides several important insights. First, top management characteristics will have a significant impact on the perspective taken by top management, with top management vision often being colored or constrained by characteristics and past experiences. This limited perspective may cause top managers to focus too much on some items while ignoring or not perceiving others. This may cause problems given that the spin-off firm often confronts situations that are different from those addressed in the past. For example, the spin-off must for the first time address issues and constituencies external to the firm, yet the new top management may have limited experience with external issues, causing them to not focus on this important area.

Second, in addition to their perspectives, the combination of human capital talent held by top management is important in determining future returns. As a separate, independent entity, the spin-off will face a new set of challenges in addition to (or sometimes in the place of) those it faced as a division of a corporation. Failure to array the necessary human capital resources in top management is actually marked by a slight

negative stock market reaction in some spin-offs (Wruck & Wruck, 2002). However, there has been no in-depth examination of the human capital composition of spin-off top management.

Finally, the spin-off event creates a significant change in organizational discretion. The new top management has much greater latitude of action in governing the affairs of the spin-off firm than the divisional management had as a subsidiary of the parent corporation. This increase in organizational discretion, coupled with other liberating aspects of spin-off (e.g., access to external capital, contracting independence, etc.) sets the stage for managerial action to occur. In sum, upper echelons theory argues that the composition of top management will have an effect on managerial performance.

CROSS-THEORETICAL PERSPECTIVES

Several cross-theoretical perspectives exist in addition to those described previously. For example, Woo and colleagues (1992) apply both agency theory and transaction cost perspectives in their evaluation of post spin-off performance. They find that although spin-offs announcements are generally met with a significant positive reaction, to both the parent firm and the spin-off (Seward & Walsh, 1996), the expected performance gains for the spin-off are not always realized. They propose that any gains from better monitoring or incentive contracts (as would be predicted by agency theory) may be lost through the synergy losses from leaving the related diversified structure (as transaction cost economics would assert). Additionally, they suggest that the spin-off firm may have a difficult time changing due to the holdover effects of the parent's

routines and processes, and that a significant re-education may need to take place to realize performance gains (as would be predicted by institutional theory).

Another cross-theoretical perspective is that of Seward and Walsh (1996), who examine spin-offs by considering upper echelon and agency issues. They studied the design of efficient internal corporate control mechanisms for spin-off firms and found that the selection of the new CEOs, the design of the CEOs compensation contract, and the staffing of boards of directors and their governance and control practices are not strongly related to the observed positive market reactions to the spin-off announcements. Their results indicate that spin-offs facilitate the implementation of efficient internal governance and control practices, but that other factors must influence the value created by the spin-off announcement. They state, "we need to understand the relationship between the governance and control of a voluntary corporate spin-off, its performance and, indeed, its subsequent status as an independent company" and "we need to be alert to how restructurings may facilitate the day-to-day strategic management of a firm" (Seward & Walsh, 1996: 37 and 38, respectively).

Conclusions

These cross-theoretical perspectives provide interesting insights not available through the application of a single theoretical approach, but also reveal the need for further cross-theoretical work. Both sets of researchers note their inability to go beyond their initial findings, calling for a deeper examination of many of the issues that they broach. Notable among these are the effect of organizational inertia, the severance

effects experienced upon exit from the parent's corporate structure, and the actions taken by top managers after the firm debuts in the market.

SUMMARY

The purpose of this chapter has been to summarize the relevant literature in the area of spin-offs. The agency theory, transaction cost economics, and upper echelons theory literatures have been discussed with particular focus on how they relate to the spin-off event or to the spin-off firm. From this review, several conclusions may be reached. First, although there has been much examination of the spin-off event, and some examination of the spin-offs themselves, there has been no holistic examination from debut through the subsequent years of performance from any of the theoretical perspectives. For example, there has been no examination of how top management composition affects actions taken by the spin-off firm. Although upper echelons theory suggest that top managers will be more likely to take certain actions according to their backgrounds, no work exists as yet that examines these actions. It is clear that a more holistic, multi-theoretical approach will be needed to reach a better understanding of the effect of the spin-off event on spun-off firms (Singh, 1993).

Second, there has been no examination of what influences management action post spin-off. Researchers have treated the spin-off firm as a black box, examining market and performance data without consideration of how the spin-off event may have affected the spin-off firm and its top management. Agency theory and transaction costs economics make predictions about what will occur, but only limited empirical work has emerged to examine if these predictions hold for spin-offs. For example, there has been

only limited examination of how the loss of economies that occur when the spin-off leaves the corporate structure affects subsequent performance or how the establishment of managerial monitoring and incentives for top managers affects subsequent performance.

Finally, examination of what leads to spin-off performance beyond the spin-off event is lacking, with only limited study of how the spin-off event affects firm performance post spin-off (Silberman, 1995; Woo et al., 1992). It is also important to note that researchers have generally used either market (principally event studies) or accounting performance measures to assess the impact of spin-off event on the parent or spin-off firm. This has led to a limited understanding of the performance implications of the spin-off event on the spun-off firm and should be addressed to provide a more holistic view of the spin-off performance outcome.

CHAPTER III

A DISCUSSION OF SPIN-OFFS

The purpose of this chapter is to examine the various motivations for the parent to spin-off a subsidiary as well as the opportunities the spin-off event provides to the parent firm, to the spin-off, and to the shareholders of the parent and spin-off. This chapter will provide the context within which the corporate spin-off occurs and some of the implications of the spin-off for the various parties involved.

Tax implication is the overarching criterion governing the distribution of shares to shareholders through corporate spin-offs (Miles & Woolridge, 1999).[1] The distribution will be deemed tax free to both the parent organization and its shareholders if the spin-off meets certain conditions. For example, for the distribution to be considered tax free, the parent must divest 80 percent or more of the subsidiary, the parent and subsidiary must be engaged in active business for at least five years before the distribution date, and the transaction must have a legitimate business purpose (e.g., addressing anti-trust issues, increased focus on core businesses by the parent, enhanced capital market access, etc.). It is curious to note that "increasing shareholder value" does not constitute a legitimate business purpose per the Internal Revenue Code guidelines (Miles & Woolridge, 1999).

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[1] The tax regulations governing spin-offs are found in Section 355 of the Internal Revenue Code.

MOTIVES FOR SPIN-OFFS

Several motivations for spin-offs exist. First, the spin-off could be required to comply with regulatory rulings. These include regulations surrounding a merger or acquisition or to address anti-trust charges. Such was the case in the break-up of AT&T into seven regional Bell operating companies. Similarly, merger and acquisition activity, particularly in insurance or financial services, often requires the parent to divest other businesses. It is important to note that spin-offs motivated by regulatory concerns do not necessarily improve the operating performance of the parent or the spin-off, and may actually lead to a loss of operating efficiency or competitive advantage due to their compulsory nature.

Second, the spin-off could be motivated by a renewed focus on the parent's core businesses. This was the motive in the spin-off of Earthgrains (bakery goods) from Anheuser-Busch (brewing) in 1995 as well as the 1994 spin-off of Bally Health and Fitness (fitness centers) from Bally Entertainment (casino operations). Researchers have found that spin-offs motivated by a focus increasing strategy by the parent generally improve the parent's performance (Desai & Jain, 1999), although the same cannot be said of the firm that is spun-off. For example, Daley and colleagues (1997) examined 85 focus-enhancing spin-offs that occurred between 1975 and 1994 and found that there were no significant improvements in the spun-off firms' return on assets (ROA) during the first or second year after spin-off.

Third, spin-offs could be motivated by a CEO succession event, where the organizational attachment to a particular division is low (Duhaime & Grant, 1984). This

is likely to occur when the division is a remnant of a prior acquisition made under the tenure of a former CEO (Ravenscraft & Scherer, 1987). Under these conditions it is often best for the parent and spin-off to part given that low organizational attachment is generally accompanied by diminished resource allocation (Duhaime & Grant, 1984) and managerial focus (Ocasio, 1997), causing the division to languish under corporate control. Additionally, a CEO succession event is often seen as an opportunity to "clean house" (see Staw, Barsade, & Koput, 1997), where the new CEO is given greater latitude in restructuring and refocusing the organization. This increases the likelihood of the spin-off of subsidiaries seen by the new leadership as diverging from the parent's corporate direction.

Fourth, spin-offs may occur to remove excessive volatility from the corporation's performance. Such was the case in the 1994 spin-off of Cooper Cameron (oil and natural gas equipment) from the conglomerate Cooper Industries, which removed its exposure to cyclical movements in energy demand. Similarly, in 1995 Kimberly Clark spun off its $500 million cigarette paper operations in a move to distance the company from the stigma of being a tobacco industry supplier. It is important to note that although a spin-off of this nature separates the parent from the volatility (economic or otherwise), it does not change the exposure of the spin-off to that volatility.

Fifth, conflict may arise between the corporation and the subsidiary or between the subsidiary and a key customer of the corporation. For example, AT&T announced in 1995 the spin-off of Lucent and NCR, the primary reason being to avoid possible conflicts between the regional Bell operating companies and Lucent or NCR, whose

main customers were the regional Bell operating companies (DePamphilis, 2001). Spin-offs motivated by conflicts of this type are generally beneficial to both the parent and the spin-off. Through deregulation, AT&T was poised to enter the local telephone market and would be competing directly with the regional Bell operating companies. By spinning off Lucent and NCR, AT&T was able to penetrate a new market while protecting the markets (telecommunications equipment and information services) of its former divisions.

Finally, a spin-off may be pursued if the parent believes that the combined value of the parent and child (under the corporate structure) is less than that which could be obtained if the two operated as independent entities. In other words, the spin-off is not undertaken to achieve greater focus or address an organizational issue, but rather to gain a better market valuation. For example, in 1996 Dial Corporation (skin care, laundry, household and food) spun off Viad Corp. (airline catering, convention services, leisure and payment services) "to achieve a higher valuation by removing a perceived discount applied to the companies' divergent businesses" (Miles & Woolridge, 1999: 10). This is in line with the research of Krishnaswami and Subramaniam (1999), which found that spin-off decreases the information asymmetry between the market and the firms. A spin-off under such conditions is generally beneficial to both parent and spin-off.

Conclusions

Although the motivations for undertaking a spin-off are varied and diverse, it is important to note that the motivations do not always favor the spin-off, but rather are generally done in line with the parent firms' best interests. This is not surprising given

that corporate managers control the fate of the subsidiary and will make decisions based on what is best for the corporation rather than the subsidiary. This point is noteworthy because the conditions under which the spin-off event occurs may not be optimal for the business that is spun-off, possibly placing it in a precarious position from the outset of its existence as an independent, publicly traded firm.

OPPORTUNITIES CREATED BY SPIN-OFFS

In addition to examining the motivations behind spin-offs, it is important to assess the opportunities presented by the spin-off event from three perspectives: the parent's, the spin-off's, and the shareholder's. By examining the opportunities that a spin-off presents to each of the parties, it becomes clear that what constitutes an opportunity for one party may adversely affect another.

Opportunities for the Parent

For the parent, the spin-off event presents the opportunity to obtain greater focus (Daley et al., 1997; Desai & Jain, 1999) through restructuring the organization, thus creating value (Donaldson, 1994; Gilson, 2001; Hoskisson & Hitt, 1994). In addition to this, several researchers argue that parent firms may use spin-offs to obtain contractual changes, more favorable tax status, or a better regulatory climate (Hite & Owners, 1983; Schipper & Smith, 1983).

It is important to note that the parent organization, in large measure, dictates the terms of the spin-off and generally orchestrates the spin-off to its best advantage. For example, if a parent organization is a significant buyer of the spun-off firm's products or

services, the spin-off firm may exact better terms as *a condition for exit* from the parent organization. An illustration of this was Electronic Data Systems' (EDS) requirement to give favorable future contract terms on products and services to General Motors (GM) *prior to* its exit from under the GM corporate umbrella. Additionally, the parent at times requires a one-time payment from the spin-off to assuage the costs of separation. For example, in the 1996 spin-off of EDS from GM, EDS paid a one-time fee of $500 million to GM (DePamphilis, 2001). Similarly, National Medical Care (NMC), an operator of 500 kidney dialysis centers, paid its former parent, W.R. Grace, a special dividend of $1.4 billion, which W.R. Grace used to de-leverage its balance sheet (Miles & Woolridge, 1999).

The parent may also use the spin-off event to rid itself of liabilities. This was the case in the spin-off of Cytec from American Cyanamid (Wruck & Roper, 1997) where Cytec assumed an inordinate amount of American Cyanamid's liabilities in the spin-off. The parent also shapes the top management of the spin-off, with some suggesting that the spin-off may be a muted form of managerial dismissal, with corporate executives from the parent assuming top management of the spin-off as a "consolation prize" (Wruck & Wruck, 2002). Hence, the spin-off of a subsidiary provides the parent with an opportunity to focus on its core business while potentially relieving itself of organizational headaches or even profiting from the separation.

Opportunities for the Spin-Off

For the spin-off, the obvious opportunity presented is greater discretion outside the corporate structure (Hambrick & Stucker, 1999). Applying the framework proposed

by Hambrick and Finkelstein (1987), the spin-off event positively affects organizational discretion, but does not necessarily affect discretion arising from managers or the task environment. In other words, managers have more latitude in their organizational actions (being unleashed from corporate oversight), but will have no change in their external environment (e.g., regulations, competitive dynamics, technology changes) or to their personal preferences and biases.

In addition to greater discretion, the spin-off will now have independent access to capital markets, allowing it to issue debt or equity as it is needed. Additionally, as an independent entity, most spin-offs will receive better monitoring of their performance by analysts (Krishnaswami & Subramaniam, 1999).[2] Moreover, because the capital markets (rather than the corporate management) will now hold the spun-off firm accountable, incentive contracts for top managers may be written based upon firm stock performance rather than accounting performance. This is noteworthy because subsidiary managers often have incentives to manipulate accounting performance to their best advantage (see Aron, 1991). Finally, the spin-off has the opportunity to negotiate its own contracts, which has been identified by researchers as beneficial in some instances (Hite & Owners, 1983; Schipper & Smith, 1983). Contract negotiation autonomy presents an opportunity to the spin-off if it was required to use sub-optimal contract negotiated at the corporate level by its former parent. For example, Salter (2000) found this to be a positive argument for the spin-off of Delphi from GM: the spin-off would

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[2] It is important to note that size does become a factor in determining whether or not analysts would follow a given spin-off, with larger spin-offs more likely to receive coverage than smaller spin-offs.

allow Delphi to negotiate its own, independent contract with the United Auto Workers (UAW) rather than have to use the terms set forth by the contract between GM and the UAW. Additionally, the spin-off may be constrained from contracting with a party due to its affiliation with its former corporate parent. For example, the spin-off of EDS from GM allowed EDS to market its expertise in the application of technology to automotive production to other automakers besides GM. It is important to note that in general the spun-off firm's bargaining position is usually weakened post spin-off given its smaller size and independent status separate from its corporate parent.

Opportunities for the Shareholders

Shareholders gain from the spin-off event in two primary ways. First, shareholders generally experience a short-term gain from the announcement of the spin-off (Miles & Woolridge, 1999), which can generate an abnormal return of 3 to 4 percent, but can be as high as 6 percent if the spin-off comprises 10 percent or more of the parent's equity (J.P. Morgan, 1995). Additionally, if the spin-off event is classified as tax-free by the Internal Revenue Service[3], this further increases shareholder gains. Moreover, Cusatis and colleagues (Cusatis, Miles, & Woolridge, 1993) argue that corporate spin-offs present an opportunity for the firm to be economically acquired by another firm given that its assets are objectively valued by the capital markets. If the spun-off firm is indeed acquired, the shareholders will probably gain significantly from the acquisition (see Hitt, Harrison, & Ireland, 2001).

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[3] The overwhelming majority of spin-offs are classified as tax free, following the rationales set forth in Section 355 of the Internal Revenue Code.

Conclusions

Market debut via spin-off provides opportunities to the various parties involved. As with the motivations for spin-off, it is important to note that what may be an opportunity for the parent firm will often translate into a liability for the spun-off firm (e.g., accepting inordinate liabilities from the parent, offering favorable future contractual terms to the parent, etc.). However, the opportunities presented to the spin-off firm do not generally affect the parent firm in a negative fashion. Overall, the shareholder generally benefits from the spin-off, particularly in the near term.

SUMMARY

The purpose of this chapter has been to examine the motivations for spin-offs as well as the opportunities that spin-offs present to three involved parties, namely the parent firm, the spun-off firm, and the shareholders. Motivations behind spin-off were shown to be varied and diverse, with the spin-off often being structured to the advantage of the parent with limited consideration of the effect on the business that is spun-off. In addition, the debut of a firm through spin-off presents opportunities to all parties involved, but some opportunities are taken at the expense of other parties. It is interesting to note that shareholders are generally agnostic to the issues raised through separation insofar as the issues do not effect the market performance of the parent firm or the spin-off. This ambivalence, particularly towards the spun-off business, may be due to the ability to liquidate shares in the spin-off if so desired. The spin-off event essentially grants the shareholders greater freedom, allowing them to sell the shares in the spin-off if they consider the spin-off's future as limited.

Several issues remain unaddressed in the current perspective on spin-offs. First, what (if any) incentives does the parent have to make the spun-off business succeed? Parent firms often retain up to a 20 percent stake in the spin-off, which would suggest that they would have not only an interest in the spin-off's success, but also an oversight role through one or more seats on the spin-off's board of directors. To date, no theory or research has addressed the issues relating to the parent's involvement with the spin-off after the spin-off event (Wruck & Wruck, 2002 broached this subject, but did not develop it).

Second, the current perspective on spin-offs is relatively silent as to the increase in organizational discretion of the spin-off after leaving the parent corporation. Hambrick and Stucker (1999) identified this as a major motivation for top managers of spin-off firms, but no research exists that examines if or how top managers of the spin-off use this newfound discretion. Furthermore, the current perspective does not address factors that may affect top manager discretion. For example, although top managers may have greater autonomy post spin-off, they may be deficient in resources necessary to exploit opportunities that are presented. In addition, it is arguable that the relationship with the former parent will have a significant affect on how top managers use the discretion inherent in separation from the parent organization. Hence, while top managers may be motivated to use their newfound discretion, constraints may exist that hamper their ability to do so.

Finally, the current perspective on spin-offs is without any discussion of what spun-off firms do post spin-off and does not address the performance implications of

spin-off actions. While some studies have examined spin-off performance (e.g., Daley et al., 1997; Silberman, 1995), they treat the spin-off firm as a "black box" without considering what actions lead to positive performance. A more fine-grained approach to what actions occur post spin-off, and their attendant performance implications, is needed to contribute to the existing literature.

CHAPTER IV

THEORY AND HYPOTHESIS DEVELOPMENT

The purpose of this chapter is to develop a theoretical framework to examine top management actions taken post debut and their effect on performance. The literature review in Chapter II and the discussion of spin-off motivations and opportunities in Chapter III provide the foundation for the theory and hypotheses developed in this chapter. The theory development will focus on the integration of the three theories described in Chapter II, namely agency theory, transaction cost economics, and upper echelons theory. The conclusions drawn in Chapter II highlighted the lack of an integrated theoretical approach to the examination of debut via spin-off as well as some theoretical disagreement as to the performance of the spin-off post debut. For example, agency theory proposes that spin-offs will benefit both parents and spin-offs while the transaction cost perspective is more cautious, proposing that there may be gains from contractual efficiencies, but there will also be substantial severance effects from leaving the former parent's corporate structure. The conclusions drawn in Chapter III highlighted that spin-offs are not always undertaken to further the best interests of the spun-off firm, but rather are generally motivated by the desires and exigencies of the parent. This suggests that market debut may not be the optimal decision for the spin-off and that separation from the parent corporation may have traumatic effects on the spin-off. This chapter focuses on the firm that is spun-off, and seeks to weave together the perspectives described in Chapter II into a theory of managerial action post debut. The

intent is to provide an integrated and holistic perspective on what actions are taken by the newly public company post debut and the implications of those actions on performance.

MANAGERIAL ACTION

Managerial behavior is a multifaceted phenomenon (cf. Cyert & March, 1963). To address this phenomenon, managerial actions are grouped in three principal categories: strategic (affecting the operations or infrastructure), financial (affecting the capital structure), and institutional (establishing the spin-off as an independent entity). The rationale for categorization is that each category of action will have different motivations as well as different consequences for the spin-off. Precedent exists for the examination of managerial actions, with categorizations of this type being used in the past. For example, Gabarro (1987) examined personnel and structural change in his study of the actions of new general managers. More recently, Powers (1999) examined structural and financial actions taken by firms undergoing restructuring. Woo and colleagues (1992) stressed that a more fine-grained examination of what occurs post spin-off is essential to understanding spin-off performance. This research proposes that the study of top management actions, post debut, will provide the detail necessary to better understand the performance implications of market debut for the spin-off.

Strategic Actions

The structure of the spin-off has a significant effect on the organization, both in the formulation of strategy (Amburgey & Dacin, 1994; Chandler, 1962) as well as

execution of operations (Mintzberg, 1979). Therefore, any action to change that structure will affect both the strategy and operations of the spin-off, making examination of these strategic actions important. Strategic actions are defined as actions affecting the operations or infrastructure of the organization. Actions of this type would include changes in plant and equipment, related or vertical integration acquisitions, divestitures, product changes, or labor changes. These actions are generally taken to improve operational or organizational efficiency and usually require knowledge of the operations of the organization in order to be effectively executed (Gabarro, 1987).

Financial Actions

The finances of the spin-off will have a significant effect on its ability to execute its strategy, particularly affecting the firm's strategic flexibility (Harrigan, 1985; Hitt, Keats, & DeMarie, 1998). Financial resources provide the firm some freedom to pursue opportunities (Garud & Van de Ven, 1992) while the absence of financial resources may lead to constrained or precarious organizational conditions often necessitating dramatic actions (Bibeault, 1981; Hofer, 1980). Thus, financial actions will have dramatic and important effects on the ability of the spin-off to execute its strategy. Financial actions are defined as actions affecting the capital structure of the organization. Actions of this type would include changes in the spin-off's debt, equity, the firm's dividend policy, or *unrelated* diversification. These actions are taken to improve the financial position of the firm, to provide the capital resources to embark upon new strategies, or to assuage financial burdens. Additionally, these actions require less firm-specific knowledge to

execute, requiring instead knowledge of capital markets as well as the workings of financial institutions.

Institutional Actions

The institutional environment of the spin-off has an important effect on the organization in terms of focusing organizational attention and facilitating or constraining certain actions. The spin-off must conform to industry norms to maintain organizational legitimacy (DiMaggio & Powell, 1983a). As a result, institutional actions taken by the spin-off will have a significant impact on the spin-off's legitimacy with external constituencies. Institutional actions are defined as actions that seek to establish the spin-off as an independent entity apart from the parent firm. Actions of this type would include changing the external auditor, the external counsel, the stock transfer firm or the financial institution from that used by the parent firm to a new firm, changes in the board of directors, or changes in the spin-off's name. These actions are largely symbolic in nature (Pfeffer, 1981; Smircich & Morgan, 1982), and often seek to perceptually differentiate the spin-off from its parent organization. As such, these actions are outwardly focused and are used to signal external constituencies that the spin-off firm is distancing itself from its former corporate parent.

Conclusions

Three categories of action (strategic, financial, and institutional) have been proposed as important in classifying top management actions taken post debut. It is important to note that these categories of actions are not completely independent of each

other. For example, financial actions will have substantial impact on the spin-off's ability to take strategic actions and vice versa. Although institutional actions may be somewhat more independent of both strategic and financial actions, they too have interdependencies. For example, a firm wishing to take substantial financial actions may be reluctant to switch to a new financial institution prior to taking those actions. Likewise, firms undertaking strategic actions, such as layoffs, may not wish to change external legal counsel prior to the layoffs. But, despite these interdependencies, it is argued that these categories describe separate actions with different motivations as well as different consequences, and as such merit separate examination.

MOTIVES FOR ACTION

Having discussed actions, the focus now turns to motivations that impel top managers to take action. Agency theory, upper echelons theory, and transaction cost economics all suggest that the spin-off event provides substantial motivation for spin-off top management to take action. In addition, it is argued that the debut event itself is a signal to the market that organizational actions will be forthcoming.

Motivations from Agency Theory

From an agency theory perspective, spin-off management has better market performance incentives post spin-off than were present under the corporate structure. For example, Seward and Walsh (1996) found that almost two thirds of the top managers in newly spun-off firms had some form of performance contingent contract. Moreover, the top managers of spin-offs often have a greater ownership stake in the organization,

thereby reducing agency conflicts and increasing performance (Jensen & Meckling, 1976; McConnell & Servaes, 1990).

In addition to incentives, agency theory suggests that monitoring by internal and external constituencies will motivate action. Top managers of spin-offs are under scrutiny, both from the board of directors as well as analysts and investor groups. This scrutiny is different from that received as a division of a diversified corporation. Under corporate management, the performance of a subsidiary is primarily gauged by accounting numbers, which may be subject to manipulation by subsidiary managers (Aron, 1991; Jones & Hill, 1988). Additionally, subsidiary managers are monitored internally, with little or no examination from external groups, and as such may engage in organizational politics that are not in the best interests of the shareholders (see Scharfstein & Stein, 1997). In contrast, external constituencies (analysts and investor groups) as well as the board of directors monitor the top managers of the spin-off. Moreover, the spin-off event is generally used to establish sound monitoring of the spun-off firm. For example, Seward and Walsh (1996) found that the majority of the spin-off board members were outsiders. It is important to note that this monitoring may be tempered somewhat by the affiliation of the outside directors. For example, if officers from the parent firm have seats on the spin-off's board, the monitoring of the spin-off will probably be more parochial and similar to the divisional oversight given by the corporation than the governance of a separate, independent entity. In other words, if the monitoring relationships remain similar to those prior to the spin-off, actions of the past may temper the pursuit of opportunity by the spin-off.

In sum, the agency theory perspective of spin-offs suggest that there will be better alignment of managerial and shareholder interests than was achieved when the spin-off was a subsidiary of the parent corporation. Moreover, although top managers of the spin-off have more to gain if they are able to achieve positive performance results, they also have more to lose if they do not. With boards of directors dominated by outsiders, top managers of the spin-off will be under pressure to perform, risking dismissal if they do not achieve positive performance outcomes.

Motivations from Upper Echelons Theory

From an upper echelons theory perspective, top managers of spin-offs generally have greater organizational discretion (Hambrick & Finkelstein, 1987). Top managers of spin-offs are no longer beholden to the corporate management for permission to act, neither are they constrained by corporate policies, budget cycles, or resource allocations. This increased discretion often infuses these spin-offs with an entrepreneurial exhilaration (Hambrick & Stucker, 1999; Wruck & Roper, 1997) in addition to greater self-determination and organizational latitude. Additionally, assuming a top management position at an independent firm bestows a degree of status and prestige. This may be particularly important to subsidiary or corporate managers anxious to prove their mettle in the top roles of an independent organization.

In addition to increased discretion, spin-offs do not suffer from liabilities of newness or liabilities of smallness that generally plague new firms (Stinchcombe, 1965). The spin-off does not need to legitimize itself in the product marketplace given that it has an established track record as a division of a larger firm. Additionally, the spin-off

has established technology (Galbraith, 1973), an existing employee base, standard operating procedures and routines in place (Nelson & Winter, 1982), established organizational infrastructure (Scott, 1998), and existing customers for its products or services. These conditions situate the top management of the spin-off firm in a position to take advantage of the opportunity the spin-off presents. Given this established base of operations, the top managers of the spin-off may focus on taking new actions rather than having to overcome operational or institutional issues (Stinchcombe, 1965).

Finally, it is argued that concomitant with the spin-off event comes a mandate to act from the marketplace. In other words, the shareholders, analysts and investor groups do not expect top managers of the spin-off to stand still, but rather to take charge (Gabarro, 1987) to realize the opportunities and mitigate the threats of the situation. This view is in keeping with Hambrick and Fukutomi (1991) who labeled the initial season of a CEO's tenure as the "response to mandate" season. For spin-offs, this mandate to take charge is initially signaled by the abnormal returns in stock price (Hite & Owners, 1983; Miles & Woolridge, 1999; Schipper & Smith, 1983), and followed up by close observation of managerial action by analysts post spin-off (Krishnaswami & Subramaniam, 1999).

Motivations from Transaction Cost Economics

From a transaction cost economics perspective, top management will be motivated to compensate for the losses of economies from leaving the diversified structure of the parent organization. In their discussion of corporate strategy, Jones and Hill (1988) argue that firms must trade off the economic gains from the different

corporate strategies against the bureaucratic costs associated with the realization of those gains. For example, vertical integration yields economies of integration, related diversification yields economies of scope, and unrelated diversification yields economies of internal capital markets. Jones and Hill (1988) propose, following Thompson (1967), that another aspect to consider is the interdependence effects of pursuing each strategy. They describe how the interdependence effects will vary according to the strategy chosen, stating, "each level of interdependence can be viewed as being of a higher order, encompassing lower orders within it" (1988: 163). In this framework, unrelated diversified firms have pooled interdependence of internal capital where each division contributes to the overall performance of the corporation. Vertically integrated firms have sequentially pooled interdependence where the outputs of one division become the inputs of another, sequentially linking the divisions as well as their pooling of internal capital. Related diversified firms have reciprocal sequential pooled interdependence, meaning that the divisions are able to share resources in addition to their sequential linkages and pooled internal capital.

Combining these two perspectives of economies and interdependence suggests that unrelated strategies will yield benefits from internal capital markets, vertical integration strategies will yield benefits from economies of integration and internal capital markets, and related strategies will yield benefits from economies of scope, economies of integration, and from internal capital markets. Hence, there is a nesting effect of the economies by the degree of interdependence among the divisions of the diversified firm.

By reversing this logic, it is argued that in exiting the corporate structure of the parent, the spin-off will suffer losses of economies according to the spin-off's relationship with the former parent corporation. In other words, a spin-off that was unrelated to the parent corporation will suffer the loss of economies of internal capital markets. A spin-off that was vertically integrated with the former parent corporation will suffer losses of economies of internal capital markets and economies of integration. A spin-off that was related to the former parent will suffer losses of economies of internal capital markets, economies of integration, and economies of scope. It is argued that the loss of these economies will spur top management of the spin-off to take action, particularly when they affect core aspects of the spin-off (e.g., production capability, ability to finance production, use of a name brand).

In a related vein, the debut event will change relationships with buyers, suppliers, the government, etc., requiring the firm to negotiate contracts that were previously negotiated at the corporate level or renegotiate contracts that were severed due to the exit from the parent's governance structure. Although some of these contract negotiations may favor the spin-off, (e.g., long-term agreements to purchase raw materials at a price higher than the current market price), others may be less favorable (e.g., renegotiating with a supplier as a smaller entity). Hence, contracts between the spin-off and its buyers and suppliers will be affected by severance from the parent firm, suggesting that action must be taken post spin-off to address contractual changes.

Conclusions

The proceeding discussion has outlined motivations for action from agency theory, upper echelons theory, and transaction cost economics perspectives. It is clear from these theoretical perspectives that motivation for top management action exists following spin-off. Additionally, the motivations for actions are cumulative rather than conflicting. In other words, agency theory motivations (incentives and increased monitoring) are in addition to transaction costs economics motives (loss of economies and contractual changes) and upper echelons motives (increased organizational discretion and mandate for action). Thus, top managers have abundant motivation to take action post debut.

WILL ACTION OCCUR?

Despite substantial motivations for action, the question remains whether or not action will occur. Although top management is motivated by both the incentives embedded in the opportunities and the hazards of spin-off, it is argued that other important forces exist that will influence action. The focus of this section is to examine those forces and their possible effect on top management action.

Inertia

It is argued that a spin-off will have holdover effects from being under the corporate structure that will propel it along an inertial path. Hannan and Freeman (1984) discuss the properties of this structural inertia and its effects on organizational change. They assert that structural inertia is a byproduct of organizational reliability and

accountability, which they argue are essential for organizational persistence over time. This structural inertia is often embedded in the organizational hierarchies, routines, and procedures. Additionally, following Thompson (1967), they argue that organizations have technological cores that are buffered from external effects by the periphery of the organization, with the core exhibiting much higher structural inertia than the periphery. Furthermore, they argue that organizational legitimacy is garnered over time (DiMaggio & Powell, 1983a), and may be lost through organizational change, further increasing the likelihood of structural inertia and resistance to change.

In a similar vein, Nelson and Winter (1982) propose that important explicit and tacit knowledge is embedded in organizational routines that provide the ability to control the organization and to replicate results. Routines also provide a form of organizational memory that projects the shadow of past actions and results into the future. This organizational memory has strong inertial tendencies (Walsh & Ungson, 1991). Hence, although the spin-off does not suffer from a lack of crucial organizational routines or procedures (i.e., liability of newness), it may suffer from core rigidities (Leonard-Barton, 1992) that lock it into past courses of action. These core rigidities are reinforced by dominant organizational logics (Prahalad & Bettis, 1986) as well as psychological contracts with organizational members (Rousseau, 1995).

Institutional Forces

It is argued that the institutional environment in which the spin-off is embedded will have a significant impact on whether or not action will be taken. Meyer and Rowan (1977) propose that organizations conform to rules and that organizational myths

become rule-like over time, often ossifying in a way that precludes organizational action. Although this institutionalism conflicts with efficiency, it creates and fosters organizational legitimacy, both within and outside the organization. In addition, DiMaggio and Powell (1983b) discuss the constraining effects of the institutional environment, particularly through three forms of isomorphism: coercive (under conditions of external authority), mimetic (under conditions of high uncertainty), and normative (in the presence of strong norms or values). In the case of spin-off firms, these forms of isomorphism will play a substantial role in defining what actions the organization will take. For example, coercive isomorphism may exist when there are substantial links to the former parent firm (e.g., buyer/supplier relationships, board interlocks, etc.). Additionally, mimetic isomorphism may arise as spin-offs face the uncertainties of being an independent firm, meeting the demands of shareholders and other external constituencies, choosing to copy the others rather than to establish their own form. Finally, normative isomorphism may emerge if the spin-off firm operates in a staid industry or in an industry marked by a high degree of tradition, which will limit the amount of growth and pursuit of opportunities.

Constrained Vision

A final factor influencing whether action will be taken is the perception by management that an opportunity actually exists. Hambrick and Mason (1984) describe how top managers often must act on filtered information that is biased by their own past experiences. Top managers with operational backgrounds will, for example, be more attuned to operational problems and opportunities, as is the case with those who have

marketing and sales, finance, or other backgrounds. In this vein, Ocasio (1997) argues that managerial attention is focused by organizational rules, resources and relationships, often leading to organizational blindspots (Zajac & Bazerman, 1991). Moreover, managerial experiences frequently lead to a logical incrementalism (Quinn, 1980) in strategy formulation, where "new" strategies are only simple extrapolations of past strategies. In this sense, managers may be locked into exploitation strategies while overlooking exploration (March, 1991). Hence, top management may fail to perceive the market debut as an opportunity or a threat, increasing the likelihood that no significant action will be taken post debut.

Conclusions

From the proceeding discussion it is clear that spin-off firms have obstacles such as inertia, institutional forces, and constrained vision that decrease the likelihood that action will take place post debut. Although the spin-off is new to the marketplace as an independent firm, it is not new in the sense that it has existing structures and routines and is enmeshed in an institutional environment. Furthermore, spin-off top management may lack the insight necessary to perceive the opportunity presented by taking action or the threats posed by not taking action. Therefore, it is not entirely clear that action will occur post debut.

SUMMARY

In summary, several points are noteworthy. First, there are many managerial actions that may be taken by management after spin-off. These actions have been

categorized as strategic, financial, and institutional actions, with each having its own influence on the firm and subsequent performance. Second, agency theory, upper echelons theory, and transaction cost economics all highlight motivations for the top management of the firm to take action after spin-off. The theoretical perspectives reveal opportunities arising from the spin-off as well as threats, both of which necessitate action. However, it is not clear that action will be taken given the inertial and institutional forces affecting the spin-off. Moreover, top management may fail to perceive a need to take substantive action to address opportunities and threats posed by market debut.

A MODEL OF SPIN-OFF ACTION

The prior discussion highlights that although top managers of spin-off firms may have ample incentive to act, there are strong forces that may preclude or limit the actions taken. Additionally, the extant literature on spin-offs is without any discussion of managerial action to take advantage of opportunities or to mitigate threats. Accordingly, a model is presented that outlines top management action based upon the principal theories that have been used to examine spin-off events (see Figure 1). The model focuses on top managers because they are the organizational decision makers with the ability to take action as well as having the responsibility for the performance of the firm (Barnard, 1942; Hambrick, 1989; Selznick, 1957).

The proposed model is based on the three key changes accompanying the debut of a spin-off firm, namely the formation of a top management group for the spin-off, establishment of incentive contracts for top management as well as monitoring by a

board of directors, and severance effects experienced due to exit from the parent's corporate structure. In the model the effects of each of these changes on managerial action are assessed, with the actions taken then linked to firm performance.

Top Management

Corporate spin-off requires the formation of a top management group in the place of the divisional management structure. In examining the new top management, it is argued that the human capital of the CEO and top managers will be important in determining what actions will and will not be taken. Becker (1964) categorized human capital as firm-specific or general in nature. Firm specific knowledge is regarded as operational or functional knowledge that has limited or no value outside of the firm, while general knowledge is applicable to various settings across firms. In terms of corporations, firm specific knowledge is analogous to knowledge of operations or specialized resource allocation procedures unique to the firm while general knowledge is analogous to corporate knowledge (e.g., the general management of tools and techniques, interfacing with external constituencies, etc.).

The formation of top management in spin-offs has drawn the attention of Wruck and Wruck (2002) as well as commentary by Hambrick and Stucker (1999). Wruck and Wruck (2002) categorize the potential candidates for top management posts as to their origin, with three categories offered: insider divisional, insider corporate, and outsider. Insider divisional top managers represent those who managed the subsidiary prior to spin-off. These individuals have very specific knowledge of their divisions (Kotter, 1982) that has been honed over their tenure in the divisional manager position (Gabarro,

1987). Additionally, these individuals are knowledgeable as to the corporate policies for budgeting and resource allocation, as well as the political aspects of navigating a corporate structure. Aron (1991) regards these individuals as having the best operational knowledge of the subsidiaries' abilities and opportunities. It is important to note that in their role as divisional managers, these individuals generally have little or no contact with external corporate constituencies (e.g., shareholders, analysts, investor groups), but rather focus on directing their respective divisions. Moreover, insider divisional managers generally have limited experience with financial market issues given that their divisional operations are funded through internal capital markets.

Second, insider corporate top managers are individuals within the corporate structure of the parent organization (e.g., CEO, CFO, COO, Comptroller, etc.). Following Becker (1964) and Wruck and Wruck (2002), it is argued that these individuals generally have both firm-specific and general knowledge. Their firm-specific knowledge is generated through interaction with the particular business units, through which corporate managers gain a deeper understanding of the products or services of each of the business units of the firm. This is essential to the formulation of a coherent corporate strategy with fit among the business units (Porter, 1987, 1996). These individuals also possess general knowledge of such things as capital management, investor relations, and governance that is transferable to other corporate settings.

Finally, outsider top managers are individuals with no or short tenure with the firm. The knowledge of these individuals is general in nature. This does not imply that

they could not have industry-specific knowledge, as many outsiders come from other firms within a given industry, but rather that the knowledge possessed by the individual is not firm-specific in nature (see Kotter, 1982). Although these outsiders may formerly have been divisional managers in their prior firms, it is much more likely that if an outsider manager is selected, the outsider will have general knowledge of corporate management (i.e., governance, capital management, shareholder relations), and even more likely that the outsider will have prior experience as a CEO (Westphal & Zajac, 1997). In addition to their general knowledge, outsiders have no commitment to existing hierarchies, routines, relationships, etc., and thus will feel little obligation to preserve them (Rousseau, 1995). Hence, top management may come from the division, from the corporate level, or from outside the firm (Wruck & Wruck, 2002).

In assessing what actions top management will take, an upper echelons (Hambrick & Mason, 1984) perspective is applied that assesses the human capital of the CEO and the top management group. In other words, the past experiences and knowledge of the spin-off's CEO and top management are critical in determining what actions will be taken. The CEO and top management group are considered separately for several reasons. First, the CEO is generally dominant in determining what action the firm takes (Barnard, 1942; Selznick, 1957). While top managers and others may provide opinions and insights into the pursuit of an opportunity or the mitigation of a threat, the CEO is generally the one who makes the final decision as to whether action occurs. Second, the CEO is the most visible leader of the firm, to both internal and external

audiences, and is generally held accountable for both positive and negative organizational outcomes (Meindl & Ehrlich, 1987; Sutton & Callahan, 1987).

In contrast to the CEO, top management is generally viewed as a group or team rather than as individuals (Hambrick, 1994). Despite this view, top managers provide an important advisory function to the CEO and direct their specific domains (e.g., finance, operations, etc.). Additionally, top managers often form dominant coalitions (Cyert & March, 1963) that may become quite powerful. It is argued that in their advisory role, top managers will provide insights and warnings to the CEO framed by their own experiences (Hambrick & Mason, 1984; Ocasio, 1997), thus making the composition of top management an important factor in determining what actions are taken (Hambrick, Cho, & Chen, 1996; Wiersema & Bantel, 1992). This is especially the case where top managers provide human capital that complements or extends the human capital of the CEO. In other words, the combination of the human capital of the CEO and top management will play an important role in determining what post spin-off actions are taken.

In building a model of top management action, it is argued that the prior position of the CEO and other top managers will be important in determining what actions are taken. Three categories have been previously defined, namely strategic, financial, and institutional. In considering the human capital of each of the possible prior positions proposed by Wruck and Wruck (2002) of insider divisional, insider corporate, and outsider, it is argued that CEOs or top managers that were insider divisional managers will emphasize strategic actions, CEOs or top managers that were insider corporate

managers will emphasize strategic and financial actions, and CEOs or top managers that were outsiders will emphasize financial, institutional, or strategic actions. It is important to note that ostensibly all managers are in the same "season" of their tenure with the spin-off (Hambrick & Fukutomi, 1991), which would place spin-off CEOs and top managers in a similar temporal mindset, focused on their "response to mandate". A caveat to this assertion may arise when those who were involved with the management of the subsidiary are selected to manage the spin-off. When this occurs, the individuals selected may view themselves as being in a season other than "response to mandate" (e.g., experimentation, selection of an enduring theme, convergence). If this is the case, there may be a difference in the actions taken, including the possibility that no significant action will be taken by these managers (e.g., the "convergence" season).

Insider Divisional. Former insider divisional managers will be most acquainted with the operational functioning of the spin-off, and therefore will focus on strategic actions. Actions of this type would include such things as changes in assets, related or vertical integration acquisitions and divestitures, related or vertical integration joint ventures or strategic alliances, or labor changes – the actions about which insider divisional managers will be most knowledgeable. Former insider divisional managers will have had limited experience with capital markets, with managing external constituencies, or with symbolic issues such as the selection of professional advisors, and thus are unlikely to engage in financial or institutional actions.

Insider Corporate. Former insider corporate managers will be most acquainted with governance and capital issues, but will have some knowledge of the operational

aspects of the divisions of the corporation. It is argued that this will cause them to focus primarily on financial (i.e., changes in such things as firm debt, equity, unrelated diversification or dividend policy) as well as strategic actions. Additionally, it is argued that former insider corporate managers will be less likely to engage in institutional changes if they have had a role in shaping the institutional environment of the parent firm. This is particularly the case if the insider corporate manager selected to manage the spin-off was the CEO of the parent firm. It is argued that these individuals would see institutional actions as largely unnecessary. On the other hand, less senior insider corporate managers may view institutional change as necessary to distinguish the spin-off from its former parent and would thus be more likely to engage in institutional actions.

Outsiders. Outsiders will be most acquainted with governance and capital issues, will have no ties to the past institutional environment, and will have no firm-specific operational knowledge. As such, it is proposed that they will focus primarily on institutional and financial actions. Institutional actions would include changes in such things as the external auditor, the external counsel, the stock transfer firm, the financial institution from that used by the parent firm to a new firm, or the spin-off's name. The rationale for this is that outsiders have no ties to the institutional environment of the parent firm and therefore would have no emotional or cognitive commitment to maintaining it, increasing the likelihood of its change. Additionally, outsiders likely have incentives to establish the spin-off as an independent firm with an identity separate from the parent given that they were not present when the firm was a subsidiary of the

parent. They may also consider the former institutional environment as a threat to the independence and even viability of the spin-off, and thus will be motivated to change it. In addition to institutional actions, outsiders generally come to the firm with a general knowledge of management and governance issues and will thus focus their attention at the corporate level on financial actions. It is argued that in addition to institutional and financial actions, outsiders will engage in strategic actions, but will focus primarily on actions at the corporate rather than the operational level. Finally, the strategic actions taken by outsiders will be more financially than operationally motivated. For example, with little or no attachment to and limited psychological contracts with the workforce of the spin-off (Rousseau, 1995), it is plausible that outsiders are more likely to engage in firings and layoffs than either insider divisional or insider corporate managers, but these actions will be less operationally than financially motivated.

In summary, it is argued that the background of the CEO and top managers of the spin-off firm will have a significant impact on the actions taken post spin-off. It should not be inferred from the prior discussion that the CEO or top managers will not ever take actions not specified (e.g., insider divisional manager undertaking institutional actions), but rather that given the backgrounds of the various managers human capital theory (Becker, 1964) provides insight into what actions are most likely to be taken. Consequently, the following hypotheses are offered.

H1. The selection of the spin-off CEO will affect managerial action, with

(a) The selection of an insider divisional manager as CEO increasing the likelihood of strategic management actions;

(b) The selection of an insider corporate manager CEO increasing the likelihood of financial and strategic management actions; and

(c) The selection of an outsider as CEO increasing the likelihood of institutional, financial, and strategic management actions.

H2. The composition of spin-off top management will affect managerial action, with

(a) Insider divisional dominated top management increasing the likelihood of strategic management actions;

(b) Insider corporate dominated top management increasing the likelihood of financial and strategic management actions; and

(c) Outsider dominated top management increasing the likelihood of institutional, financial, and strategic management actions.

Agency Theory

Incentives. In addition to the formation of new executives in the spin-off's upper echelon, agency theory proposes that a spin-off presents the opportunity for implementing incentive contracts tied to market performance. The implementation of such contracts increases the alignment of interests between principals and agents (Fama, 1980). This is not to say that incentive contracts are not possible under the corporate structure (e.g., incentive contracts based upon return on assets), but rather that division-level stock performance contracts are difficult given that a corporation's stock is a noisy signal of a division's actual performance (Aron, 1991). Seward and Walsh (1996) found that firms often take the spin-off opportunity to issue incentive-based contracts to their top managers, with almost two thirds utilizing performance-contingent contracts as a part of top manager compensation. In addition to their compensation contracts, top managers are often offered significant ownership stakes in the newly formed entity. Ownership of this nature is efficient from an agency perspective (Jensen & Meckling, 1976; McConnell & Servaes, 1990). As Hambrick and Stucker state, "whereas an executive at the parent firm might have owned twenty thousand shares and felt no

impact on the organization, that same manager in a spin-off would own more than 1 percent and know that he was making a big difference" (1999: 112).

Having established the importance of incentive-based contracts and management ownership, the focus now turns to their influence on managerial action. With a greater stake in the success of the spun-off firm, it is proposed that both incentive-based contracts and higher levels of management ownership will increase the likelihood of strategic and financial managerial actions since they can directly influence the performance measures of the firm, providing management with the ability to benefit from the actions they take. This contrasts with institutional actions, which are more symbolic and are harder to translate into performance. Thus, in the presence of incentive-based contracts and higher managerial ownership, managers are more likely to take actions that may result in positive performance for the firm and improved fortunes for them. In other words, by increasing the ability of management to profit from action, it becomes more likely that top managers will take actions that will provide financial benefit to them. This supports the following hypotheses:

H3. *Incentive-based management employment contracts will increase the likelihood of strategic and financial management actions.*

H4. *Higher levels of management ownership will increase the likelihood of strategic and financial management actions.*

Monitoring. Concomitant with becoming a separate, publicly traded entity is the formation of a board of directors for the spin-off who will provide for the monitoring of agents (Jensen & Meckling, 1976). While much has been written on the role of corporate boards (e.g., Demb & Neubauer, 1992; Westphal, 1998, 1999), examination of

the board structure of spin-off firms warrants particular attention. For example, Seward and Walsh (1996) found that outsiders outnumbered insiders on the boards of spun-off firms, indicating that at spin-off improved monitoring is often established. Additionally, Wruck and Wruck (2002) found that the chairman from the former parent chaired 33 percent of the boards where the chairman and CEO positions were separate. Furthermore, the parent firm may retain ownership of up to 20 percent of the stock of the spin-off (Miles & Woolridge, 1999), providing it a seat on the board of directors, as was the case with Cytec Industries which was spun-off by American Cyanamid.

It is proposed that ownership or monitoring control of the spin-off by the former corporate parent will dampen the newfound discretion of the spin-off's top management and that this will be evident in limited managerial action taken by the spin-off's top management when executives from the parent firm occupy seats on the spin-off's board or the parent corporation retains a large ownership stake. Under the monitoring of the former parent, it is argued that spin-offs will be much more likely to follow the path they pursued as a subsidiary of the parent. In other words, although the spin-off has its independence, its top management will be constrained by the tie to its former corporate parent and this will decrease the likelihood that action will occur. Hence, when the former parent holds a monitoring role over the spun-off firm, top management discretion will be reduced, weakening the relationship between the spin-off's top management background and the types of actions that could be taken post spin-off.

In examining the monitoring relationship, it is proposed that higher levels of parent-corporation ownership as well as having a chairman or board members from the former

parent will decrease the likelihood of managerial action. In the presence of parent ownership and monitoring, spin-off managers are less likely to take actions due to the association with the former parent. In other words, the closer the ties between the corporate parent and the spin-off firm, the less likely it is that top managers will take action.

H5. Higher levels of corporate parent ownership will decrease the likelihood of strategic, financial, and institutional management actions.

H6. Having a chairman from the parent firm will decrease the likelihood of strategic, financial, and institutional management actions.

H7. Higher representation of board members from the parent firm on the spin-off's board will decrease the likelihood of strategic, financial, and institutional management actions.

Transaction Cost Economics

Severance Effects. In addition to the formation of top management and monitoring and incentive changes, the spin-off will experience severance effects by leaving the diversified structure of the parent corporation. Much theory and research exists surrounding the benefits and liabilities of the diversified firm structure, much of it from the transaction cost perspective (Rumelt, 1974; Teece, 1980; Williamson, 1975). Additionally, theory and research exists surrounding the downscoping of the firm from the parent's perspective (e.g., Gilson, 2001; Hoskisson & Hitt, 1994). However, relatively little theory or research exists surrounding the effects of a subsidiary leaving the diversified structure of the parent firm to become a stand-alone entity as is the case in spin-offs. The event, while potentially providing increased managerial discretion, has

serious implications for the losses of economies enjoyed under the diversified structure of the parent firm.

Applying the transaction cost arguments of Jones and Hill (1988) described earlier in this chapter, the largest losses of economies (e.g., scope, integration, and internal capital markets) will be suffered by spin-offs that were related to their former parents, that the next heaviest losses will be incurred by spin-off firms that were vertically integrated firms within their parents' corporate structures, and that the least losses of economies will be suffered by spin-offs that were unrelated to their former parents. It must be noted that although the spin-off firms may suffer losses of economies, they will also enjoy gains from decreased bureaucratic costs (Jones & Hill, 1988) and increased managerial discretion (Hambrick & Finkelstein, 1987). Indeed, several have suggested that a dominant logic for spin-offs is the removal of negative synergies between the parent and the subsidiary (Hite & Owners, 1983; Schipper & Smith, 1983). But, regardless of the removal of negative synergies or bureaucratic efficiency gains, a spin-off must replace much of what is lost from leaving the corporate structure. For example, the spin-off will no longer be able to use the factories, fleet, office space, etc. of the parent organization, requiring strategic actions to replace these losses. Similarly, the spin-off must compensate for the loss of corporate human capital resources, particularly human resources at the parent's the corporate level (e.g., human resources, MIS, etc.). Moreover, a spin-off must establish itself in the capital markets, using debt and equity means to finance its operations rather than the internal capital markets of the parent, necessitating financial actions. Loss of internal capital markets

may also seriously affect the strategic flexibility of the spin-off in taking other strategic actions (Harrigan, 1985). Moreover, a spin-off that was relatedly diversified to its former parent must often establish itself in the external environment as a separate entity independent of the former parent corporation, requiring institutional actions. This is often done through the establishment of the spin-offs' own branding and corporate identity.

In addition to the loss of economies from leaving the diversified structure, the spun-off firm must now negotiate its own contracts with buyers and suppliers. Contract renegotiation under these conditions could be either a benefit or a burden (Schipper & Smith, 1983). Although gains can be made by having increased contractual freedom or by renegotiating contracts with unfavorable terms, spin-offs may find it more difficult to obtain favorable terms with suppliers given their smaller size relative to when they were part of the parent corporation. In other words, suppliers may be less inclined to provide favorable terms when dealing with a smaller entity such as a spin-off. Similarly, buyers may be able to extract better terms from the spin-off given that they are now an independent, stand-alone entity. Additionally, without the cross-subsidies often provided by internal capital markets (Scharfstein & Stein, 1997), spin-off firms will be more susceptible to fluctuations in buyer demand, making them vulnerable to the loss of a major supplier or customer. Thus, although some benefits may accrue from contract renegotiations, there may be drawbacks as well depending on the circumstances surrounding the renegotiation.

The proceeding discussion highlights that all spin-offs are likely to experience severance effects from their exit from the diversified structure of the parent firm, some negative (e.g., loss of economies) and some positive (e.g., decreased bureaucratic costs and increased discretion). In examining the severance effects sustained by the spin-off, it is likely that the diversification relationship between the spin-off and its former parent will affect the likelihood of managerial action. This is because as managers consider taking actions, they will take into account the severance effects accompanying their exit from the parent corporation. More specifically, each of the three relationship types (unrelated, vertically integrated and related) highlight specific categories of action that will be most salient to top managers as they consider what actions to take. For example, when the spin-off is unrelated to its parent, managers are likely to take financial actions to address the loss of economies of internal capital markets, whereas when the spin-off was related to its parent, managers are likely to take financial, strategic, and institutional actions to address the loss of economies of scope, integration, and internal capital markets, as well as to establish the spin-off as an entity independent of the parent organization. In sum, the relationship between the parent and the spin-off will influence the relationship between top management and action, supporting the following hypothesis.

H8. The diversification relationship between the spin-off and its former parent will affect top management actions, with

(a) Unrelatedly diversified relationships increasing the likelihood of financial management actions;

(b) Vertically integrated relationships increasing the likelihood of financial and strategic management actions; and,

(c) Relatedly diversified relationships increasing the likelihood of financial, strategic, and institutional management actions.

Spin-Off Performance

The focus now turns from actions to the performance implications of those actions. Barney describes the construct of performance as multifaceted, with measurement issues often being problematic (2002: Chapter II). He outlines three broad categories of performance measurement: firm survival, stakeholder approaches, and accounting approaches, each with strengths and weaknesses. While firm survival is an important performance measure in many settings, particularly population ecology (see Hannan & Freeman, 1989), it lacks the detail necessary for a deeper understanding of spin-off performance. In other words, a firm may survive but survival alone does not suggest positive performance, only that the firm has performed sufficiently to persist in the market, making survival a low performance threshold. In contrast, stakeholder and accounting approaches offer more detailed information on firm performance, albeit from different perspectives. Stakeholder approaches generally deal with financial markets while accounting approaches deal with financial or operational aspects of managing the firm. In the subsequent theory section, hypotheses are developed according to financial market and accounting perspectives, as well as joining the two perspectives in hybrid measures such as market-to-book ratios.

Market Mandate. As was discussed previously, corporate spin-off provides an implicit mandate for top managers to take action. Indeed, the opportunity presented by the debut has been characterized by some as "entrepreneurial" in nature (Hambrick & Stucker, 1999), with top managers essentially unbridled or unleashed from their former

corporate moorings and anxious to take advantage of their newfound discretion (see Wruck & Roper, 1997). In addition, top management may have monetary incentives to act (Aron, 1991), as well as monitoring in place to ensure that managers are performing their duties effectively (Demb & Neubauer, 1992). Furthermore, there are substantial risks to maintaining an inertial course due to the losses of economies and relationship changes that inevitably occur post debut. Finally, as Hambrick and Fukutomi (1991) suggest, spin-off CEOs (and by extension top management) are ostensibly in the "response to mandate" season of their tenure, making top management action more likely.[4]

It is therefore argued that managers have ample motive to act and that a *lack of action* by top management in a spin-off situation will be marked by negative performance results. Making this assertion does not imply that *any* action taken will yield positive results, but rather it suggests that there is an overall bias for action by top management. Gabarro (1987) found that new general managers were generally action-oriented, and that actions were positively related with performance. Thus, it is argued that the spin-off of a firm is a call to action for the top management of the spin-off, and that failing to answer this call with action will be met with negative performance results.

H9. For spin-off firms, top management inaction will lead to lower performance.

Severance Effects. Although it has been proposed that spin-offs create an overall bias for action by top management, it is recognized that some actions will be

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[4] If insider division managers are selected to head the spin-off it is conceivable that they may view themselves in a season other than "response to mandate" (e.g., experimentation, selection of an enduring theme, convergence).

more efficacious in generating positive performance than others. In this vein, it is argued that the losses of economies due to exit from the diversified corporate structure will have a substantial impact on performance. Foundation for this assertion comes from transaction cost logic that has been used to examine multi-product (Teece, 1980, 1982) or vertically integrated firms (Williamson, 1975). Jones and Hill (1988) discuss these economies as being of internal capital markets (unrelated strategy), of integration (vertical integration), and of scope (related strategy), with a nesting effect according to the level of interdependence that has been described earlier in this chapter. Accordingly, spin-offs that are related to their former parent will suffer the largest losses in economies, followed by formerly vertically integrated spin-offs and spin-offs that are unrelated to their former parent.

From a performance standpoint, it is argued that managerial actions to address losses of economies will yield positive performance results. In other words, actions taken to replace what was lost in the severance from the corporate parent will have favorable market implications. For example, financial actions taken by a spin-off that was unrelated to its former parent will yield positive performance results. This is because the replacement of the loss of internal capital market economies it enjoyed under its former corporate structure is essential. Likewise, strategic and financial actions taken by a spin-off that was vertically integrated with its former parent will yield positive performance results. Vertically integrated firms will need to replace not only the loss of internal capital markets but also structural elements (e.g., plant and equipment) that were lost with the exit from the corporate structure. Finally, for a spin-

off that was related to its former parent, all three types of actions (strategic, financial, and institutional) will yield positive performance results. The spin-offs must not only replace what was lost structurally and financially (as with unrelated and vertically integrated spin-offs), but also must establish themselves as independent entities through institutional actions that differentiate the spin-off from its former parent. Spin-offs that were related to their former parent were the most tightly integrated and aligned to them, and thus must take the most action to establish themselves as successful independent firms. It is important to note that managerial actions are not costless and initial accounting performance may suffer due to replacement costs, as was noted by Woo and colleagues (1992). However, over the longer term, these actions will yield greater operational efficiency as well as greater discretion, both of which will yield positive performance results.

A moderating relationship is thus proposed where the type of relationship between the spin-off and its corporate parent positively affects the relationship between actions taken by top management and spin-off performance. In other words, when the actions taken address severance losses, the effect on performance will be more positive than it is otherwise. This yields the following hypothesis.

H10. Spin-off performance will be affected by managerial actions according to the corporate relationship with the former parent, with

(a) Financial actions by top management positively affecting spin-off performance when the spin-off was unrelated to its former parent;

(b) Financial and strategic actions by top management positively affecting spin-off performance when the spin-off was vertically linked with its former parent; and

(c) Financial, strategic, and institutional actions by top management positively affecting spin-off performance when the spin-off was related to its former parent.

SUMMARY

The purpose of this chapter has been to provide theoretical development for the hypotheses that have been presented. The chapter began with an examination of three categories of managerial actions, namely strategic actions, financial actions, and institutional actions. This was followed by a discussion of motivations for managerial actions, which in turn was followed by a discussion of several factors that might hinder the taking of managerial actions. The focus of the chapter then turned to the theoretical development of a model of top management action by spin-off firms. The theoretical development centered on the integration of upper echelons theory, agency theory, and transaction cost economics. The relationship between managerial actions and performance was also developed.

CHAPTER V

METHODOLOGY

The purpose of this section is to provide a description of how the hypothesized relationships found in Chapter IV are empirically tested. The chapter will begin with a discussion of the sample, followed by a description of the measures and measurement issues. The chapter will close with a discussion of the statistical methods that will be used to test the hypotheses.

SAMPLE

The base sample for this research includes all spin-offs announced by companies listed on the New York Stock Exchange (NYSE), American Stock Exchange (AMEX) or the NASDAQ between 1986 and 1997. There are several reasons for selecting a sample of this type. First, the dynamics described in the proposed theoretical model (e.g., monitoring and incentives, severance effects, etc.) best correspond to large, publicly traded firms, such as those listed on the NYSE, AMEX, or NASDAQ. Second, research to date on spin-offs has used similar samples, increasing the comparability of this research with previous studies. Third, the sample period (1986 – 1997) covers periods of economic decline as well as economic growth, thereby increasing the generalizablity of the research. Finally, the data for a sample of this type is publicly available from archival sources, enabling the collection of the data necessary to empirically test the hypothesized relationships.

The initial sample was identified through two primary sources. First, spin-offs are considered a special form of dividend, and dividend payments to shareholders are tracked in the *Center for Research on Security Prices* (CRSP) tapes. Second, the *Securities Data Corporation* (SDC) *Mergers and Acquisitions* database provides information on corporate spin-offs. The information from these two data sources was combined to form the base sample. From this base sample, spin-off announcement and completion dates were identified from data sources such as the *Wall Street Journal*, *Lexis/Nexis*, and *Commerce Clearing House* (CCH) *Capital Changes Reporter*.

To be included in the sample, the spin-off must comply with several conditions. First, announcement and completion dates must be certain. This condition ensures that only actual spin-offs are included in the sample (Seward & Walsh, 1996) and is necessary to correctly set the observation windows. Second, the parent firm must spin-off at least 80 percent of the spin-off firm. This condition increases the independence of the spin-off from the parent firm (Gilson, 2001) and improves the homogeneity of the context for the sample population. Third, the spin-off must be voluntary rather than compelled by government regulation or judicial ruling. Compelled spin-offs often have different contexts, motivations, and performance implications (Boudreaux, 1975; Kudla & McInish, 1981), so excluding these firms increases the internal validity of the empirical results. Finally, the spin-off and parent firm must both be listed on the New York Stock Exchange, the American Stock Exchange, or the NASDAQ and proxy statement information must exist for both firms. Up to a five-year panel of data is collected for each spin-off meeting these four criteria, with the firm-year being the unit

of analysis for the study. During the study window it is possible that firms may exit because of bankruptcy or acquisition, and this will reduce the number of firm-year observations.

MEASURES

The empirical analysis is divided into two sets of models. The first set of models deals with top management actions while the second set deals with performance outcomes. The two sets of models are described separately below.

Managerial Actions

The proposed theoretical model states that top management background, severance effects, and monitoring and incentives will all affect what actions are taken post spin-off. From the discussion in Chapter IV, top management actions are conceptualized as being strategic, financial, or institutional in nature. Each of these categories of actions will be treated in turn. Because of the heterogeneous nature of the actions that are categorized as strategic, financial, or institutional, this research follows a methodology similar to that of Gabarro (1987) and Virany and colleagues (Virany, Tushman, & Romanelli, 1992). In dealing with personnel actions, Gabarro counted the number of actions taken by a given manager for the given time period. For strategic actions, he categorized actions as to the type of subunit that they affected, using three categories of minor subunit (e.g., personnel, MIS), major functional subunit (e.g., manufacturing, sales, engineering), and major product subunit (e.g., product divisions or product groups). He gave an action in a minor subunit a value of one unit, an action in a

major functional subunit a value of two units, and an action in a major product subunit a value of three units. The number of strategic action units were then summed for the given time period.

Virany and colleagues (1992) applied a slightly different approach in their assessment of reorientations of firms in turbulent environments. They examined change over a number of dimensions (e.g., strategy, structure, control practices). Thresholds were set in each of the areas for what degree of change constituted a strategy, structural, or control practice change. After assessing the degree of change in each of these areas, Virany and colleagues determined that if change had been initiated in each of the areas during a two-year window, this constituted a reorientation and accordingly coded the reorientation to one; otherwise, the variable was coded to zero.

This research will more closely follow the work of Gabarro (1987) than Virany and colleagues (1992) by summing the strategic actions in a given year rather than dichotomously coding if significant action has occurred. This will provide a more fine-grained approach to modeling spin-off actions by assessing the *level* of action through a discrete count dependent variable rather than simply the occurrence of action in a dichotomous dependent variable.

Dependent Variable – Strategic Actions. Strategic actions are actions that affect the operations or infrastructure of the organization. These actions are generally taken to improve operational or organizational efficiency and usually require knowledge of the operations of the organization in order to be effectively executed. Actions of this category will be operationalized as follows. First, changes in resources are identified by

examining changes in assets for the spin-off in the given period. Second, labor actions are identified by changes in the number of employees reported in a given period. For both asset and labor changes, significant changes are determined by generating the studentized residuals for the predicted values (Hamilton, 1992) after regressing the current year value on the prior year value (see Bergh & Fairbank, 2002). The studentized residual is a *t* score and all residuals over 1.96 will be considered significantly different than the predicted value and will be coded as a strategic action.[5] Third, related and vertical integration acquisitions are identified from the SDC mergers and acquisitions database as well as the *Wall Street Journal*. While it might be argued that a high correlation should exist between changes in assets and acquisitions, in actuality the correlation between them is quite small (less than .05) and not significant. Fourth, divestitures are identified from the SDC mergers and acquisitions database as well as the *Wall Street Journal*. Fifth, diversification changes are assessed as additions or deletions of four-digit SIC codes. Finally, major organizational restructurings are identified by examining the annual letter to shareholders filed with the proxy statement. The correlations between these measures are reported in Table 1a. Not surprisingly asset changes are significantly correlated with employee changes (0.326) as well as diversification additions (0.087) and diversification deletions (-0.09), and diversification additions and deletions are negatively correlated (-0.188), but none of the correlations are high enough to indicate significant overlap. If significant change occurs in each area

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[5] A more detailed discussion of this method is found in Appendix C.

then the variable for that area is coded as a one; otherwise it is coded zero. All of these actions are then summed together to produce a final strategic action count for each firm year.

Dependent Variable – Financial Actions. Financial actions are defined as actions affecting the capital structure of the organization. These actions are taken to improve the financial position of the firm, to provide the capital resources to embark upon new strategies, or to assuage financial burdens. Actions of this category are operationalized as follows. First, changes in the spin-off's debt structure are assessed. Second, changes in the spin-off's equity structure are assessed. The method of determining significant change for debt and equity changes is the same as that described for asset and employee changes for strategic actions, namely through the use of studentized residuals.[6] Third, if the firm changed the amount it paid to shareholders in dividends, a change in dividend policy was recorded. Fifth, unrelatedly diversified acquisitions are identified from the SDC mergers and acquisitions database as well as the *Wall Street Journal*. The correlations between these measures are reported in Table 1b, with no significant correlations. If significant change occurs in each area then the variable for that area is coded as a one; otherwise it is coded zero. All of these actions are then summed together to produce a final financial action count for each firm year.

Dependent Variable – Institutional Actions. Institutional actions are defined as actions that seek to establish the spin-off as an independent entity apart from the

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[6] A detailed discussion of this method is found in Appendix C.

parent firm. Actions of this category will be operationalized as follows. First, changing the external auditor (controlling for merger and acquisition activity among the major accounting firms) will be counted as an institutional action. Second, changing the external counsel will be counted as an institutional action. Third, changing the stock transfer firm will be counted as an institutional action. Fourth, changes to the spin-off's name will be counted as an institutional action.

Finally, the shareholder letters and management discussion for each firm for each year are assessed for changes in tone. The tone that a company sets sends a signal to various interested parties (i.e., shareholders, customers, suppliers, competitors) regarding the firm's intentions. Researchers have noted that much of management is symbolic (see Pfeffer, 1981; Smircich & Morgan, 1982) and changes in the tone of statements issued by the firm generally portend changes in the focus or intent of the firm and as such constitute a significant institutional signal.

Changes in tone are measured along five key dimensions (certainty, activity, optimism, commonality, or realism). This measurement is done using the text analysis software Diction 5.0 (Hart, 2000).[7] The Diction software has established tolerances for the scores of these key dimensions by examining the language used in a random sample of corporate financial reports. These tolerances are upper and lower bounds for the given variable, with any score outside these bounds considered "out of range". Both the shareholder letter and the management discussion were assessed using the software, with

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[7] A detailed discussion of how Diction 5.0 calculates its variables is found in Appendix D.

shareholder letters or management discussions registering scores outside the tolerances for the five key dimensions recorded. Changes are assessed by comparing the scores for the shareholder letters and the management discussion of a given year to the year that preceded it. For example, if a shareholder letter had out of range scores on certainty and optimism in year$_t$ and the shareholder letter had out of range scores for certainty and realism in year$_{t+1}$, an institutional action would be recorded; however, if the out of range scores are similar from one year to the next, or of there are no out of range scores from one year to the next, no institutional action is recorded.

The correlations between these measures are reported in Table 1c. Not surprisingly, changes in rhetoric in the shareholder letters is significantly correlated with changes in rhetoric in the management discussion (0.401); more surprising is the significant correlation between change in counsel and change in stock transfer firm (0.727). While this correlation is high, these decisions are independent and therefore do not significantly overlap other than that perhaps firms make financial and legal changes simultaneously. If significant change occurs in each area then the variable for that area is coded as a one; otherwise it is coded zero. All of these actions are then summed together to produce a final institutional action count for each firm year.

Top Management Background. For this research, top management background focuses on the prior position of the top managers before joining the spin-off firm. Top managers are characterized as being insider divisional, insider corporate, or outsider, following the categorization used by Wruck and Wruck (2002). Prior position of the top managers is assessed by examining the corporate histories of the parent firms and the

spin-off firms, the listing of senior officers for the parent firm in Compact Disclosure, the Dun & Bradstreet corporate officer listing, and the annual report of the spin-off firms.

To model management composition, three dummy variables will be established: insider divisional, insider corporate, and outsider. The divisional insider variable will be set to 1 if the CEO was previously in a position at the division level of the parent firm and zero otherwise. The insider corporate variable will be set to 1 if the CEO was previously in a position at the corporate level of the parent firm and zero otherwise. The outsider variable will be set to 1 if the CEO was previously in a position outside of the parent firm and zero otherwise. For the regression models, outsider CEO is the omitted category. The top management dominant variables are handled in a like fashion, with three variables established: insider divisional, insider corporate top management, and outsider top management. Domination of top management is a simple majority in the top management group (i.e., 50 percent or more) which is made up of the Chairman of the Board, the President, the CFO, and the COO, and excluding the CEO. The insider divisional top management variable is set to 1 if the top management is dominated by officers that were previously in a position at the divisional level of the parent firm and zero otherwise. The insider corporate top management variable is set to 1 if the top management is dominated by officers that were previously in a position at the corporate level of the parent firm and zero otherwise. The outsider top management variable is set to 1 if the top management is dominated by officers that were previously in a position outside the parent firm and zero otherwise. The omitted category for the regression

models is no TMT domination (i.e., the simple majority is not held by any of the three groups).

Severance Effects. For this research the severance effects are characterized by the relationship between the parent company and the spin-off. This relationship was established by expert raters who classified the relationships between the parent and spin-off firm according to business descriptions, SIC codes, and buyer/supplier relationships. Three variables for severance effects are established: unrelated (in a different industry than the parent and not a buyer or supplier to the parent), vertically integrated (e.g., buyer or supplier to the parent), and related (in the same industry as the parent). The unrelated variable is set to one if the relationship is determined to be unrelated and zero otherwise. The vertically integrated variable is set to one if the relationship is determined to be vertically integrated and zero otherwise. The related variable is set to one if the relationship is determined to be related and zero otherwise. Initial inter-rater reliability for generating this variable is .75, with the discrepancies resolved by mutual agreement. The omitted category for the regression models is firms that are unrelated to their former corporate parent.

Monitoring. Two monitoring variables are important for this research. First, proxy statements were examined to determine if the chairman of the board is affiliated with the parent firm (i.e., CEO of the parent, top manager, etc.). The chairman of the board variable is coded one if this is the case and zero if it is not. Second, the board of directors listed in the proxy statement for the spin-off was examined to determine if the parent organization has retained any seats on the board. If the parent organization has

retained seats on the board other than the chairman of the board, the value of board of directors is coded as one and zero otherwise. Thus, if the chairman of the board is the only member of the board from the parent firm, the chairman of the board variable is set to one and the board of directors variable is set to zero. If, however, there are members of the board of directors from the parent firm in addition to the chairman of the board from the parent firm, the chairman of the board variable and the board of directors variables will both be set to one. If the chairman of the board is not from the parent firm but there are one or more board members from the parent firm, chairman of the board variable is set to zero and board of directors is set to one. Finally, if the parent firm occupies no seats on the board, the values of both chairman of the board variable and board of directors are set to zero.

Ownership and Incentives. A managerial ownership variable was developed from information in the proxy statement that indicates the percent of ownership of top managers in the spin-off firm. In addition, the ownership of the CEO is captured as well to provide a more fine-grained view of the effects of ownership on action. The CEO's ownership is subtracted from the TMT ownership to prevent confounded results. Next, the ownership of the parent firm in the spin-off, after the spin-off event, is an important variable given that higher levels of ownership denote less autonomy for the spin-off. This variable was generated by evaluating the five percent ownership listing in the 10K filings and coding a dummy variable to one if the parent is a five percent (or more) owner in the spin-off and zero if they are not. From the sample selection criteria it is important to note that the upper bound for this number is 20 percent. Finally, incentives

for the CEO were initially assessed using the method applied by Seward and Walsh (1996); however, much of the data were unavailable from either the firm's 10-K filing or other public sources, so CEO incentives were coded as a dichotomous variable indicating the presence of stock options (coded one) or their absence (coded zero).

Performance

The proposed theoretical model states that top management actions will influence spin-off, with severance effects having a moderating role. Performance is a broad construct and has been operationalized in numerous ways (see Chapter II of Barney (2002) for a discussion of this topic). For this research, performance is operationalized as being either market, operating, or managerial.

Market Performance. Market performance refers to the shareholder return. It is calculated by compounding the daily returns to shareholders from the CRSP tapes over each fiscal year. The CRSP tapes adjust for stock splits and dividends, so that this variable represents shareholder returns at the end of the fiscal year from a $1.00 investment made on the first day of the fiscal year.

Operating Performance. Operating performance refers to the return on total investment in the firm. The most widely accepted measure of operational performance is return on assets (ROA), which is calculated by dividing annual income by net assets. This measure provides a sense of what earnings were generated from invested capital. Other operational measures will also be assessed such as return on sales (ROS), calculated by dividing net income by the sales and return on equity (ROE), calculated as net income divided by shareholder's equity.

Managerial Performance. Managerial performance refers to the value generated by the management through the use of firm resources. Tobin's q (Tobin, 1969) is a straightforward measure for management performance. It is calculated as follows:

$$\text{Tobin's q} = \frac{\text{Firm Market Value}}{\text{Replacement Cost of Total Assets}}$$

Developing the numerator and denominator for this measure has been the subject of much debate (Perfect & Wiles, 1994), but researchers have found that simple calculations of this measure closely approximate much more complex measures, with the R^2 between simple approximations of Tobin's q and more sophisticated methods were never below .966 (Chung & Pruitt, 1994). These simple approximations are, however, only a proxy for the true calculation for Tobin's q. The proxy for Tobin's q used in this research is often referred to as the market-to-book ratio and is calculated as follows:

$$\text{Market - to - Book} = \frac{\text{Firm Market Value}}{\text{Book Value of Total Assets}}$$

with

$$\begin{aligned}\text{firm market value} = {} & \text{market value of common stock} + \\ & \text{market value of preferred stock} + \\ & \text{book value of a firm's short term debt} + \\ & \text{book value of a firm's long term debt}\end{aligned}$$

Hence, market performance, operating performance, and managerial performance will be used as dependent variables to assess the efficacy of actions taken by spin-offs post debut.

Control Variables

Several control variables are necessary for correct model specification (Greene, 2000). For the two sets of models there are several control variables. First, following Woo and colleagues (1992), the two-digit SIC is used to control for industry effects (Schmalensee, 1985). Second, the resource flexibility of the spin-off is assessed. Resource flexibility affects the ability of the spin-off to take actions. Miles and Woolridge state, "spin-offs are often viewed as initially undercapitalized and overleveraged" (1999: 13). Such an imbalance will impinge the spin-off's ability to take action or to achieve performance. To address this, the current ratio (a measure of the firm's ability to cover its liabilities with assets that can readily be converted into cash) and the firm's debt to asset ratio (measure of the firm's debt structure in relation to its asset structure) are included. Third, the size of the spin-off relative to the parent is used. Researchers have found that the size of the spin-off relative to the parent has an important effect on market performance (J.P. Morgan, 1995, 1999) as well as operating performance (Wruck & Wruck, 2002).

Fourth, there will be a dummy variable entered for the type of spin-off. The various types of spin-off are discussed in Chapter III, with the dominant reasons being increased focus for the parent (Daley et al., 1997; Desai & Jain, 1999; Hoskisson & Hitt, 1994), to address problems with either the parent of the division (Gilson, 2001; Weston, Siu, & Johnson, 2001) or for financial reasons (DePamphilis, 2001; Miles & Woolridge, 1999), with a base category of other for all other reasons. The dominant reason for the spin-off was culled from press releases or news articles that discuss the spin-off.

Fifth, dummy variables are entered to control for the time periods (in years) after the spin-off, with the first year omitted as the base category. It is very likely that strategic, financial, and institutional actions will vary over the period after the spin-off event, and these dummy variables will control for that variation. Sixth, the strategic, financial, or institutional actions taken by the spin-off firm may be affected by CEO succession or changes in the top management team. To control this a dummy variable is entered into the equations that is set to one if there was a CEO succession and zero if not. For the top management team, a dummy variable is entered into the equations that is set to one if the domination of the top management team changes from one type (i.e., divisional, corporate, outsider) to another and zero if it does not.

STATISTICAL METHOD

In addition to descriptive statistics such as means, standard deviations, and correlations, two main statistical methods were used to test the hypotheses discussed in Chapter IV. Both statistical methods are multivariate regressions with special adjustments due to the nature of the measures described earlier in this chapter. The first statistical method is a time series cross sectional (TSCS) negative binomial regression (Long, 1997) while the second is a hierarchical generalized least squares (GLS) TSCS model (Greene, 2000; Maddala, 1992). Both models take into account the TSCS nature of the data, controlling serial correlation and unobserved heterogeneity.

TSCS Negative Binomial Regression Modeling

First, a random effects TSCS negative binomial model is estimated with the strategic action, financial action, or institutional action counts as the dependent variable (Long, 1997). This modeling technique was selected because of the non-negative count nature of the dependent variables. A negative binomial model is selected over a Poisson model to control for possible overdispersion that may occur if the conditional variance exceeds the conditional mean (which are assumed to be equal under the Poisson model) and which would yield estimates that are consistent, but not efficient (Gourieroux, Monfort, & Trognon, 1984). This overdispersion is likely when there is "zero inflation", which is a high number of zero observations in the count dependent variable. It is important to note that the negative binomial model reverts to the Poisson model if the conditional variance does not exceed the mean. The model uses a random-effects approach that accounts for unobserved heterogeneity and assumes a normal distribution of the effects (Sayrs, 1989). The format of the model (TSCS) provides controls for autocorrelation and heteroskedasticity in much the same way that the GLS model does with a continuous dependent variable (Conway, 1990). Hence, a random effects, negative binomial model is used in the statistical analysis of the various categories of actions.

Hierarchical Regression GLS TSCS Modeling

This type of model is commonly found in econometric analyses (Greene, 2000). Because the same firm was observed for up to five consecutive years, the observations are not statistically independent. There are several potential sources of bias in analyses

of this type such as serial and contemporaneous correlation of the residuals as well as heteroskedasticity. The possibility of these biases suggests the need for a TSCS GLS approach (Maddala, 1992). The approach best suited to the data is a modified GLS estimation technique discussed by Parks (1967). The Parks model also corrects for heteroskedasticity and contemporaneous correlation of the residuals. Thus, a TSCS GLS model is used in the statistical analysis of the effect of action on performance.

SUMMARY

The purpose of this chapter has been to discuss the sample selection procedure, the operationalization of constructs into measures for empirical analysis, and the statistical methods that are used to empirically test the hypothesized relationships.

CHAPTER VI

RESULTS

This chapter is divided into two major sections. The first section presents the results of the hypotheses regarding the upper echelons, agency, and severance effects on strategic, financial, and institutional actions. The second section presents the results of the hypotheses dealing with the performance consequences of those actions.

SAMPLE SUMMARY

This section provides empirical evidence regarding the effects of top management composition, incentive structure, and ownership, as well as the effects of parent ownership, monitoring by the parent, and the relationship between the parent and the spin-off prior to the spin-off event on strategic, financial, and institutional actions. This section consists of three subsections. The first will address upper echelon issues, the second will address agency issues, and the final subsection will address severance effects. These subsections will be preceded by a discussion of the sample itself and the distributions for the three categories of actions.

For the period from 1986 to 1997, 182 spin-off events that fit the criteria specified in Chapter V were identified. These spin-offs are across 44 industry classifications, with no one group holding more than nine percent of the total sample (see Table 2). Additionally, the spin-offs are distributed over the period from 1986 to 1997, with the fewest spin-offs occurring in 1986 (6) and the most in 1996 (26), with an average of 15 per year for the period (see Figure 2). In terms of size, the spin-offs range

from no sales to $12.4 billion in sales, with an average of $612 million, indicating substantial breadth in the size of the firms in the sample. For each firm, a five-year panel of data was assembled, with a total possible number of firm-year observations being 910. Firms exit the sample through merger, acquisition, or bankruptcy; and 81 firm year observations were dropped due to these reasons, including six firms dropped because no data for them are available, bringing the total possible sample size to 829 firm years.

A central tenet of the proposed model of spin-off action and performance developed in Chapter IV is that the spin-off event generates conditions that will necessitate actions to address new top management, agency issues, and severance effects. Implicit to this view is the rationale that actions will vary over the years subsequent to the spin-off (see Gabarro, 1987). Figures 3 to 6 break out by year the levels of all action, strategic actions, financial actions, and institutional actions, respectively. These charts visually show the sometimes dramatic fluctuations in actions taken from year to year. Furthermore, as Tables 3a and 3c show, mean comparisons between years for all actions indicate that the number of strategic actions taken in Year 1 (the first year after spin-off) are significantly higher from those taken in Year 2 ($p < .10$), the second year after spin-off, that the strategic and financial actions taken in Year 4 are significantly higher than those taken in Year 3 ($p < .01$), and actions in all categories taken in Year 4 are significantly higher than those taken in Year 5 ($p < .001$). Gabarro (1987) reported similar waves of action as he recorded managerial actions at the general manager level of the organization, albeit the timing of the actions is more prolonged in

this analysis since Gabarro's window was 36 months and this research examines 60 months. Finally, the ANOVA analysis of actions by the various years (see Table 3b) indicates that significant variance exists over time for the summation of all the actions. Hence, the level of actions taken by spin-offs after their separation from their corporate parent varies post spin-off. Because of this, dummy variables are entered into the estimated models to control for this variation in the years after spin-off.

Means, standard deviations, and correlation coefficients are reported in Table 4. Examining the number of observations column of the table it is apparent that several variables have up to 25 percent missing values. This is a problem inherent to archival data sources, where the values were not reported to publicly available sources such as COMPUSTAT or Compact Disclosure. All correlations in Table 4 greater than .05 are significant at $p < .05$. The majority of high positive or negative correlations are easily understood. For example, a negative correlation exists among the rationales for the spin-off, among the CEO backgrounds, among the TMT backgrounds, and among the variables describing the relationship with the former corporate parent. Since these categorizations are mutually exclusive, it is not surprising that they would be highly and negatively correlated. A moderate correlation exists among the action variables, with the correlation between strategic and financial actions reaching .32; this is also intuitive given that these variables are not completely independent (see Chapter IV for a discussion of this). In a similar vein, there is a high correlation between the CEO ownership percentage and the TMT ownership percentage (.67) as well as having a chairman of the board from the former parent and board members from the former

parent (.38). Both of these findings are also quite intuitive. Having summarized the sample, the focus now turns to the testing of the hypotheses proposed in Chapter IV, focusing first on management actions

MANAGEMENT ACTIONS

Following the proposed theoretical model, a total of eight hypotheses focus on the effect of spin-off on strategic, financial, and institutional actions. It was argued in Chapter IV that the spin-off event provided motivation for action to occur, but it was unclear if indeed it would occur due to structural inertia, institutional forces and constrained vision. Applying perspectives from the upper echelons theory, agency theory, and transaction cost economics, it was proposed that CEO and top management background, ownership, incentive contracts, monitoring, and the relationship between the spin-off and its former parent would affect the actions taken by the spin-off.

Upper Echelon Issues. The first hypothesis deals with the background of the CEO to head the newly independent firm. It proposes that actions taken will be influenced by the experience of the CEO, with former divisional managers, corporate officers from the parent firm, and outsiders influencing strategic, financial, and institutional actions in different ways. It is proposed that a CEO from the division will be focused on strategic actions, that a CEO from the former corporate parent will be focused on financial and strategic actions, and that a CEO from outside the firm will focus on institutional, financial, and strategic actions. The second hypothesis proposed a similar rationale for the dominance of the top management team (conceptualized as the CEO, Chairman of the Board, President, CFO, and COO).

Because of the interdependent nature of these two hypotheses, they are tested jointly. To test this hypothesis, dummy variables were entered into models 2, 4, and 6 of Table 5a for divisional CEO and corporate CEO, with outside CEO as the omitted category. A post estimation test of the equality of the divisional CEO and corporate CEO coefficients, found in Table 5b, provides the necessary contrast between those two categories. For the TMT, all three dummy variables were entered and compared to the base category of no TMT domination. Post estimation tests of the equality of the coefficients were also conducted on the TMT domination categories. The first hypothesis states:

H1. The selection of the spin-off CEO will affect managerial action, with

(a) The selection of an insider divisional manager as CEO increasing the likelihood of strategic management actions;

(b) The selection of an insider corporate manager CEO increasing the likelihood of financial and strategic management actions; and

(c) The selection of an outsider as CEO increasing the likelihood of institutional, financial, and strategic management actions.

Results for this hypothesis are found in models 2, 4, and 6 of Table 5a, along with the post estimation test results found in Table 5b. No support is found for H1a, with the coefficient being opposite to the posited sign, but not significant.[8] This is determined by evaluating the coefficient for divisional CEO in model 2 (β = -.089), with a negative sign suggesting that divisional CEOs reduce the likelihood of strategic actions when compared with outside CEOs. The coefficient is also less than the coefficient for

[8] It is important to note that if the coefficient is not significant, then no statistically the result is not different from zero and thus no statistical inference can be made; however, for this research the signs of the coefficients are given to provide the reader a sense of direction regarding the results of the empirical models.

corporate CEOs (i.e., -.089 < -.16), suggesting that a divisional CEO is less likely to take action than a corporate CEO. For H1b, the coefficient for the financial actions model (model 4) is of the right sign (β = .102), but is not significant. The coefficient for the strategic actions model is also not significant and is of the opposite sign (β = -.16), indicating that a corporate CEO is less likely to take action than an outside CEO, as well as a divisional CEO as was stated previously. Thus, no support is found for H1b. Finally, the coefficients for divisional CEO and corporate CEO in the strategic action (model 2) and institutional action (model 6) are of the right sign (β = -.03 and β = -.147), indicating that outsider CEOs take more action than divisional or corporate CEOs, but none of the coefficients are significant. The coefficients for divisional CEO and corporate CEO in the financial action model (model 4) are also not significant and are of the opposite sign. Hence, H1c is also not supported. The second hypothesis states,

H2. The composition of spin-off top management will affect managerial action, with

(a) Insider divisional dominated top management increasing the likelihood of strategic management actions;

(b) Insider corporate dominated top management increasing the likelihood of financial and strategic management actions; and

(c) Outsider dominated top management increasing the likelihood of institutional, financial, and strategic management actions.

Results for this hypothesis are also found in models 2, 4, and 6 of Table 5a, along with the post estimation test results found in Table 5b. No support is found for H2a, with the coefficient being opposite to the posited sign when compared with corporate CEOs but of the right sign when compared with outside CEOs, but with none of the coefficients statistically significant. This is determined by evaluating the coefficient for divisional TMT in model 2 (β = -.156), with a negative sign indicating that divisionally dominated

TMTs reduce the likelihood of strategic actions when compared with non-dominated TMTs. The coefficient is less than the coefficient for corporate TMTs (i.e., -.156 < -.074), suggesting that a divisionally dominated TMT is less likely to take action than a corporate dominated TMT. However, the coefficient for divisionally dominated TMTs is greater than the coefficient for outsider dominated TMTs (-.156 > -.315), indicating that a divisionally dominated TMT is more likely to take action than a corporate dominated TMT. Nevertheless, none of the coefficients were statistically significant and so H2a is not supported.

For H1b, the coefficient for the financial actions model (model 4) is of the right sign when compared with non-dominated TMTs and with outsider dominated TMTs (β = -.138 > -.289), but is not of the right sign with divisionally dominated TMTs (-.138 < -.089), and is not significant for any of the coefficients. The coefficient for the strategic actions model is also not significant, but is of the right sign compared with divisionally and outsider dominated TMTs (-.074 > -.156 and -.074 < -.315, respectively). However, the negative sign of the coefficient (β = -.138) in model 2 indicates that although corporate dominated TMTs are more likely to take strategic actions than either divisionally or outsider dominated TMTs, they are less likely to take action than non-dominated TMTs. Thus, no support is found for H2b.

Finally, the coefficients for outsider TMTs in model 2 is statistically significant (β = -.315, $p < .10$), indicating that outsider dominated TMTs are less likely to take actions than non outsider dominated TMTs, refuting the strategic action portion of H2c. In addition, as was discussed previously, the coefficient for outsider dominated TMTs is

more negative than either divisionally or corporate dominated TMTs (although none were statistically significant), suggesting that outsider dominated TMTs are the least likely to take strategic actions. The same holds true for financial actions (model 4), with the coefficient for outsider dominated TMTs less than either non-dominated, divisionally dominated, or corporate dominated TMTs (β = -.289 < -.138 < -.089). With regard to institutional actions, the negative coefficient (β = -.14) suggests that outsider dominated TMTs are less likely than non-dominated TMTs to take institutional actions, although the coefficient is not significant. In addition, the coefficient is greater than corporate dominated TMTs (-.14 > -.18) and is almost equal to divisional dominated TMTs (-.139), but again, none of the coefficients are significant. Hence, H2c is also not supported.

In summary, neither of the proposed upper echelons hypotheses were supported by the empirical evidence. Chapter VII will examine potential reasons for this and Chapter VIII will explore the implications of these findings on future studies.

Agency Issues. The next set of hypotheses deals with the effects of incentives, ownership, and monitoring on the actions taken by the spin-off subsequent to its exit from the corporate parent's organization. First, the extant agency literature suggests that incentive-based contracts align the interests of owners and managers. If managers can share in the reward rather than simply bearing the risk of taking actions, it is proposed that actions are more likely to occur. In the proposed model, it was argued that incentive-based contracts will motivate CEOs to take certain categories of actions, as is stated in the third hypothesis,

H3. Incentive-based management employment contracts will increase the likelihood of strategic and financial management actions.

This hypothesis is tested by entering the dummy variable indicating the existence of stock options for the CEO into models with strategic actions and financial actions as the dependent variables (shown in Models 2 and 4 of Table 5a). While the coefficient is of the right sign for both strategic actions (β = .104) and financial actions (β = .257), neither is statistically significant. Thus, H3 receives no support.

Next, the extant agency literature also suggests that higher levels of managerial ownership lead to better alignment of managerial and owner interests. As Hambrick and Stucker (1999) suggest, whereas a divisional executive or corporate manager may only own a very small percent of the parent firm's stock, those executives as spin-off top managers often have the opportunity to possess a much larger stake in the spun-off firm. In the proposed theoretical model, it is theorized that higher ownership stakes for both the CEO and the top management would motivate them to take specific actions, as is stated in the fourth hypothesis,

H4. Higher levels of management ownership will increase the likelihood of strategic and financial management actions.

This hypothesis is tested by entering the percent of stock owned for both the CEO and the TMT (not including the CEO) into the models with strategic actions and financial actions as the dependent variables (shown in models 2 and 4 of Table 5a). Results indicate that the percent of stock owned by CEOs has a statistically significant, but negative effect on financial action (β = -5.693, $p < .05$), but no significant effect on strategic action (with the sign in the opposite direction (β = -.935)). Curiously, the effect

of CEO stock ownership on institutional actions is positive and statistically significant (β = 3.21, p < .05). For TMT ownership, a positive and statistically significant effect was found for both strategic actions (β = 3.00, p < .10) and financial actions (β = 4.497, p < .10), as was hypothesized. Thus, mixed support is found for H4.

The fifth, sixth, and seventh hypotheses deal with the issue of ownership by the former corporate parent and monitoring through the board of directors by that parent. Although a criterion for inclusion in the study was that the parent must spin-off at least 80 percent or more of the former division, it is possible for the parent to retain up to a 20 percent stake in the spin-off, and the theoretical model proposes that this tie to the former corporate parent will dampen actions across the board, as is stated in the fifth hypothesis,

H5. Higher levels of corporate parent ownership will decrease the likelihood of strategic, financial, and institutional management actions.

Information regarding the parent's ownership in its former division was culled from the 10K filings with the SEC. Owners holding five percent or more must disclose their ownership stake, and a dummy variable was set to indicate if the corporate parent held five percent or more in their former division. This dummy variable was entered into Models 2, 4, and 6 of Table 5a. Although none of the coefficients were statistically significant, the coefficients for the financial action and institutional action models (models 4 and 6) were of the posited sign (β = -.268 and β = -.024, respectively), but the coefficient for the strategic action model (model 2) was positive (β = .223). Thus, H5 finds no empirical support.

Next, H6 and H7 deal with monitoring of the spin-off, through the board of directors, by corporate officers from the former corporate parent. Monitoring by corporate officers from the parent firm is proposed to have a dampening effect on all actions for the spin-off firm given that the parent firm still maintains oversight of its former division. This is summarized in the sixth and seventh hypotheses,

H6. Spin-off boards with a chairman from the parent firm will decrease the likelihood of strategic, financial, and institutional management actions.

H7. Higher representation of board members from the parent firm on the spin-off's board will decrease the likelihood of strategic, financial, and institutional management actions.

H6 is tested by entering a dummy variable into Models 2, 4, and 6 of Table 5a, indicating that the chairman of the board is an officer of the parent firm. Likewise, H7 is tested in the same models by entering a dummy indicating board members of the spin-off are corporate officers of the parent firm. For H6, having a chairman of the board from the corporate parent decreased the likelihood of financial actions (β = -.454, $p < .05$), but had no significant effect on strategic or institutional actions, although the coefficient is of the posited sign for the strategic action model (β = -.262), providing limited support for this hypothesis. For H7, board members from the corporate parent had no significant effect on any category of action, although the coefficient for the institutional action model is of the proposed sign (β = -.054); thus, H7 is refuted.

Severance Effects. The final hypothesis of this subsection deals with the severance effects arising from separation from the corporate parent's organizational structure. Applying a transaction cost logic, it was argued that actions post spin-off would be affected by the relationship between the parent and the division prior to spin-

off. Following Jones and Hill (1988) three relationships were proposed, namely related (i.e., tightly coupled to the parent organization), vertically integrated (i.e., a buyer or supplier of the parent organization), or unrelated (i.e., the division has little linkage to the parent organization's business). Using these categorizations, the eighth hypothesis states,

H8. The diversification relationship between the spin-off and its former parent will affect top management actions, with

(a) Unrelatedly diversified relationships increasing the likelihood of financial management actions;

(b) Vertically integrated relationships increasing the likelihood of financial and strategic management actions; and,

(c) Relatedly diversified relationships increasing the likelihood of financial, strategic, and institutional management actions.

This hypothesis was tested by entering dummy variables for related and vertically integrated former relationships into the models for strategic, financial, or institutional action (models 2, 4 & 6 of Table 5a). Firms that were unrelated to their corporate parent were in the omitted category. For H8a, the negative and statistically significant coefficient in model 4 for firms that were related to their corporate parent (β = -.475, $p < .05$) indicates that firms unrelated to their corporate parent take more financial actions than firms that were related. The coefficient for vertically integrated in model 4 is negative (β = -.101), suggesting that unrelated firms take more financial actions than vertically integrated firms, but the coefficient is not significant. Thus, some support was found for H8a.

For H8b, comparing the coefficients of vertically integrated and related firms in model 4 suggests that firms that where vertically integrated take more financial actions

than firms that were related, but the χ^2 tests on Table 5b finds no statistically significant difference. As was discussed previously, the negative coefficient for firms that were vertically integrated (β = -.101 found in model 4) suggests that they take fewer financial actions than firms which were unrelated, although the coefficient is not significant. Turning to strategic actions, again the negative coefficient for firms that were vertically integrated (β = -.075 found in model 2) suggests that they take fewer strategic actions than firms which were unrelated, although again the coefficient is not significant. However, the coefficient for firms that were vertically integrated is less that that of firms which were related (-.075 < .096), but the χ^2 test on Table 5b finds no statistically significant difference. Thus, H8b receives no support.

Finally, the prior discussion has described how firms that were related to their parent are more likely to take strategic actions than vertically integrated firms (although the results were not significant) and that related firms are less likely to take financial actions than either firms that were unrelated ($p < .05$) or vertically integrated (not significant). The positive coefficient for firms that were related in model 2 (β = .096) suggests that related firms are more likely to take strategic actions than unrelated firms (although the coefficient is not significant). Additionally, the coefficient for firms that were related in model 6 (β = .266) suggests that related firms take more strategic actions than firms that were either unrelated or vertically integrated (.266 > .176), although this was not statistically significant in either case. Consequently, H8c receives no support.

Summary

The empirical results presented above are summarized in Table 8. Results may be summarized as follows. First, the CEO and TMT dominance had no statistically significant effect on strategic, financial, or institutional action, although many of the signs were in the proposed direction. Next, incentive-based contracts in the form of stock options were shown to have no significant effect on strategic actions or financial actions although the signs were in the posited direction. Third, the percentage of stock owned by the CEO decreased the likelihood of financial actions and increased the likelihood of institutional actions while the percentage owned by the TMT was found to increase the likelihood of both strategic and financial actions.

Third, it is also surprising that ties to the former corporate parent through five percent or greater ownership had no significant effect on strategic, financial, or institutional actions, although the signs for the effect on financial and institutional actions were in the proposed direction. Fifth, monitoring by a chairman of the board who is an officer of the former corporate parent was found to significantly decrease the likelihood of financial actions, but had no significant effect on strategic or institutional actions although the sign for strategic actions was in the proposed direction. Sixth, monitoring from corporate officers of the former parent had a limited effect on action, with chairman of the board from the corporate parent decreasing financial actions (with the effect for strategic actions in the proposed direction but not significant) and board members from the corporate parent having no significant effect on actions, although the effect for institutional actions was in the right direction). Finally, severance effects from

leaving the corporate parent's organizational structure had a limited effect on actions, with spin-offs that were unrelated to their former parent having a higher likelihood of financial actions than those that were related. No other statistically significant relationships emerged, although several of the signs were in the proposed direction.

Discussion of the above results regarding the effects of spin-off on strategic, financial, and institutional action and their implication for the proposed theoretical model is presented in Chapter VII.

PERFORMANCE CONSEQUENCES

Following the proposed theoretical model, two hypotheses focus on the effect of spin-off strategic, financial, and institutional actions on a variety of performance metrics. It was argued in Chapter IV that although there is no "rule for riches" (Barney, 2001) that dictated *a priori* what actions would lead to superior performance, actions taken post spin-off do have performance consequences and as such warrant empirical examination. Accordingly, hypotheses were proposed that examine the effect of inaction on operating, market, and hybrid measures of performance as well as the effect of the various categories of action on performance according to the relationship of the spin-off to its former corporate parent.

Effect Of Actions On Performance For All Spin-Offs

The ninth hypothesis deals with the effects of inaction on performance. Rather than proposing that a particular type of action will be positively related to spin-off performance, the proposed theory suggests that the spin-off event contains an implicit

impetus for action embedded in its separation from its former parent. Accordingly, hypothesis nine states,

H9. For spin-off firms, top management inaction will lead to lower performance.

The hypothesis was tested by entering a dummy variable for inaction, which was set to one if there were no actions during the period and zero if there were actions, into the model with accounting (ROA, ROS, ROE), market performance, and Tobin's q measures of performance (as dependent variables) for the subsequent year. The one-year lag is necessary given that the effect of the actions taken will not be apparent in the year they are taken, but rather in subsequent years. Empirical results indicate that Tobin's q is negatively related to inaction (β = -.123, $p < .05$ in model 8 of Table 6), with no other significant coefficients; however, the sign of the other coefficients is in the right direction (β_{ROA} = -.003 β_{ROS} = -.057, β_{ROE} = -.028, $\beta_{Market\ Perf}$ = -.026). This provides some support to the hypothesized relationship of H9.

Effect of Actions on Performance by Relationship Category

The final hypothesis provides a more fine-grained analysis of the effect of action on spin-off performance by examining how strategic, financial, and institutional actions affect the performance of firms that were related to the former corporate parent's business, were vertically integrated into the parent's business, or were unrelated to their former parent's business. Applying the logic that severance from the organizational structure will leave financial, operational, or institutional gaps in the spin-off's structure, it is proposed that spin-off firms that seek to address those gaps will exhibit superior performance. This is summarized in the tenth hypothesis, which states,

H10. Spin-off performance will be affected by managerial actions according to the corporate relationship with the former parent, with

(a) Financial actions by top management positively affecting spin-off performance when the spin-off was unrelated to its former parent;

(b) Financial and strategic actions by top management positively affecting spin-off performance when the spin-off was vertically linked with its former parent; and

(c) Financial, strategic, and institutional actions by top management positively affecting spin-off performance when the spin-off was related to its former parent.

This hypothesis is tested by introducing the three categories of action (strategic, financial, and institutional) into the performance models and then introducing interactions between the various categories of action and the relationship between the spin-off firm and its former corporate parent. The performance models for ROS and ROE are not reported because none of the interactions were statistically significant, nor were the models.

First, it is interesting to note the effect of adding the categories of action to the performance models. Although no *a priori* predictions were made concerning the influence of actions on performance, model 1 in Table 7a indicates that strategic actions have a negative effect on ROA (β = -.013, $p < .01$), but financial and institutional actions have positive effects (β = .013 and β = .012, respectively, both $p < .05$). For model 1 in Table 7c, market performance was positively influenced by institutional actions (β = .038, $p < .05$). In terms of the relationship of the spin-off to its former parent, the performance model for Tobin's q indicates that firms that were related have higher Tobin's q than firms that were unrelated (β = .18, $p < .01$ in model 1 of Table 7b), and firms that were vertically integrated have lower Tobin's q than firms that were unrelated

(β = -.164, p < .10 in model 1 of Table 7b), and that firms that were related have a significantly higher Tobin's q than firms that were vertically integrated (χ^2 = 12.68, p < .001).

Turning to the hypothesized relationships, H10a finds no statistically significant support, although the coefficient for the interaction for market performance was positive (β = .023 in model 8 of Table 7c). This suggests no support for H10a. For H10b, the interaction of vertical integration and financial actions is positive and significant for the ROA performance model (β = .061, p < .01 in model 6 of Table 7b), but there were no other significant relationships although the coefficients for the interactions for strategic and financial actions and vertical integration for the Tobin's q performance model are of the right sign (β = .095 and β = .091 of models 5 and 6 of Table 7b, respectively) and the interaction for financial actions and vertical integration for the market performance model is of the right sign (β = .031). Thus, limited support is found for H10b. Finally, no support is found for H10c, with the only significant coefficients of the opposite sign. The interaction of firms that were related and institutional actions yielded a negative and significant coefficient for the market performance model (β = -.147, p < .001 in model 3 of Table 7c) as well as for the Tobin's q performance model (β = -.118, p < .05 model 3 of Table 7b). The interaction for financial actions and related firm for the ROA performance model are of the right sign (β = .005, model 2 of Table 7a) but not significant, as are the interactions for strategic and financial actions and related firm for the Tobin's q performance model (β = .081 and β = .071 of model 3 and model 2 of Table 7b, respectively) and strategic actions and related firm for the market performance

model are of the right sign (β = .029 of model 4 of Table 7c). Thus, H10c is refuted by the empirical evidence.

Control Variables

Several control variables were proposed in Chapter V as necessary to ensure the validity of the empirical results. The control variables fall into several classes. First, the current ratio and the debt to asset ratios were introduced to control for the ability of the firm to take action post spin-off. In other words, although a spin-off could perceive an opportunity and desire to take action, it may be restrained due to a lack of liquidity or an inordinate amount of debt. The current ratio controls for liquidity issues and the debt to assets ratio controls for inordinate debt. For the action-based models, the current ratio was mostly negative and not significant, while the debt to assets ratio was never significant. For the performance models the current ratio was negative and significant for ROS and market performance, while the debt to assets ratio was negative for ROA.

Next, the size of the spin-off relative to the parent firm was suggested to be an important control for action as well as performance. For the action-based models it was found to increase the likelihood of financial actions, but decrease the likelihood of institutional actions. Finally, for the performance-based models size relative to parent was found to be negatively related to Tobin's q.

The third control variable is the rationale stated for the spin-off, with three major categories: focus increasing, problem solving, or financial issues. In the action-based models, all categories increase the likelihood of the financial actions compared to the base category of all other rationales, while financial issues decreases the likelihood of

institutional actions compared to all other actions. In the performance-based models, all categories were found to have a positive relationship with ROA and ROS, but a negative relationship with Tobin's q.

The fourth set of control variables are "time since the spin-off event" dummies that control for the variation in the level of action across the years since spin-off. In the action-based models, the dummy for the fifth year post spin-off was negative and significant when compared to the first year and the dummy for the fourth year was found to be positive and significant when compared to the first year for the financial actions. For the performance models, the fourth year post spin-off was found to be negative and significant for ROA, but no other time dummies were significant.

The fifth set of variables control for changes in the CEO or the domination of the TMT. The CEO succession dummy is not significant in any of the action-based models, although TMT domination change is positive and significant for the baseline strategic action model (model 1 of Table 5a). For the performance models, the CEO succession dummy is not significant for any of the models while the change in TMT domination is negative and significant for the Tobin's q performance model.

In addition to these control variables, two-digit industry dummy variables and year dummy variables were entered into all of the model to control for economic and industry effects. For the sake of parsimony, these coefficients are not listed in the tables presented in this research, but the reported results include them as a control variable.

Summary

The empirical results presented above are summarized in Table 8. Results may be summed as follows. First, the empirical evidence suggests that inaction is negatively associated with performance as was hypothesized in Chapter IV. Second, the specific analysis of the effect of strategic, financial, and institutional actions according to the relationship of the spun-off firm to its former corporate parent was mixed, with a positive and significant interaction for financial actions and firms that were vertically integrated for ROA, but a negative and significant interaction for institutional actions and firms that were related for market performance and Tobin's q. Thus, the empirical evidence shows little relationship between the specific actions taken and the relationship of the spin-off firm with its former parent on the various performance measures.

SUMMARY

This chapter presents the empirical evidence regarding the effect of top management designation, incentives, managerial and parent ownership, monitoring by officers from the corporate parent, and severance effects on the strategic, financial, and institutional actions taken by a spin-off after its separation from its corporate parent. Additionally, the chapter presents empirical evidence regarding the effect of strategic, financial, and institutional actions on subsequent operating, market, and hybrid measures of performance. The findings from the studies are consistent and stable, and provide insight into what actions occur subsequent to spin-off as well as the performance implications of those actions. The next chapter will address the contribution of these findings to the extant literature.

CHAPTER VII

DISCUSSION

This chapter discusses the results from the preceding chapter, and is divided into two major sections. The first section discusses the results regarding management actions, and the second discusses the performance consequences of those actions.

MANAGEMENT ACTIONS

The empirical evidence presented in Chapter VI presents some interesting results about the effect of various spin-off conditions on strategic, financial, and institutional actions. The model proposed in Chapter IV identified several conditions present in all spin-offs, namely the background of the CEO and TMT, the establishment of incentive contracts, the extent of management ownership, links to the prior corporate parent through ownership or monitoring relationships, and severance effects incurred upon leaving the corporate parent's organizational structure. Although the discussion in Chapter IV acknowledged that it was possible that actions might not be taken (due to structural inertia, institutional constraints, or managerial myopia), it was theorized that the conditions at spin-off would encourage actions to occur. The empirical results lend very limited support for the hypothesized relationships regarding when actions would occur. The purpose of this subsection is to examine more carefully the conditions under which actions were found to occur and to explore why the theorized relationships were not found.

CEO and Top Management

It was argued in the theoretical model that the position of the CEO and the top managers of the spin-off would affect the actions taken. This argument is based in the human capital (Becker, 1964), both specific and general, that they bring to the opportunity of managing the spin-off. In other words, the CEO or TMT would be focused on particular actions because their prior position either focused on those actions or at least gave them exposure to that set of actions. Following this logic, it was proposed that divisional managers that become CEOs or TMT members of the spin-off would be most focused on strategic actions (operations based), while corporate officers of the parent firm that become CEOs or TMT members of the spin-off would be most focused on financial actions, as well as strategic actions, and that CEOs or TMT members of the spin-off that were selected from outside the firm would be most focused on institutional actions and financial actions, but would have no reluctance in taking strategic actions (e.g., laying off employees or shutting down plants).

In evaluating the effect of the top managers on action, it is critical to control for the TMT type when evaluating the effect of the CEO and to control for the effect of the CEO when evaluating the effect of the TMT. Consequently, models were estimated that included both CEO and TMT types. For these analyses, outsider CEO was the base category for CEO background while non-dominated TMTs were the base category for the TMT domination. On the whole, although the signs of many of the coefficients were in the correct direction, no support was found for these hypotheses. This finding is interesting when compared with the findings of Wruck and Wruck (2002), who found

that the selection of the CEO and TMT influenced the market reaction to the spin-off event (for both the parent and the spin-off). This research suggests that the prior position of the CEO and the domination of the TMT by a particular prior background does not have bearing on what strategic, financial, or institutional actions occur post spin-off. Thus, while the background of the CEO and TMT may be an important market signal at the debut of the spin-off firm, it does not have any significant relationship to what occurs subsequent to that debut. This research did not, however, assess the effect of the background of the CEO and TMT directly on performance, nor did it assess the appropriateness of the background of a CEO or TMT to a given situation (e.g., separation due to financial distress, to increase focus, etc.). It is possible that the background of the CEO and TMT moderate the relationship between the actions and performance of the spin-off firm. Nonetheless, no support was found for the hypothesized relationships that CEO and TMT backgrounds affect the actions taken by the spin-off firm.

Incentives, Ownership and Monitoring

It was argued in the theoretical model that incentive-based contracts, managerial ownership, parent ownership, and monitoring by the parent firm would affect the actions taken. These arguments are based largely upon an agency theory perspective that the better the alignment of ownership and control, the better the performance of the firm. In terms of incentive-based contracts, the presence of stock options had no significant effect on strategic, financial, or institutional actions, although all the signs were in the right direction. The pervasiveness of stock options, along with the dichotomous nature

of the operationalization of the variable, may have contributed to the lack of findings. From Table 4 it can be seen that more than three-quarters of the CEOs were granted options, so the predictive power of this variable may be somewhat diluted by its lack of variance.

Next, in terms of managerial ownership, an interesting bifurcation occurs between CEOs and TMTs. Following Hambrick and Stucker (1999), it was suggested that the significantly higher levels of managerial ownership in the spin-off firm would be an incentive for action by top managers. This rationale is similar to the agency theory perspective that suggests increasing managerial ownership assuages, to some extent, agency issues in the firm (McConnell & Servaes, 1990). The results indicate that the higher the percentage owned by CEOs, the *less likely* they are to undertake financial actions and the sign for strategic actions is negative as well, but not significant, while higher percentages owned by CEOs increases the likelihood of institutional actions. In contrast to this, higher percentages of ownership by TMTs were shown to increase the likelihood of financial and strategic actions, but the coefficient for institutional actions was negative, and not significant. These findings may show an underlying risk preference difference on the part of the CEO and the TMT. As the most visible individual in the organization, the CEO may be more risk adverse in the spin-off setting, realizing that managing a spin-off can be a precarious endeavor. Thus, the CEO may prefer the more symbolic institutional actions as external signals rather than strategic (operational) or financial actions that may carry a higher penalty if they fail. Conversely, the less visible TMT members may desire to undertake more radical change

to improve their fortunes, eschewing the symbolic institutional actions in favor of more substantive change in terms of strategic or financial actions. Clearly this finding warrants further investigation.

Third, in addition to managerial ownership, ownership by the parent organization was assessed to determine if it had a dampening effect on managerial action. No statistically significant effect was found such that five percent or greater ownership decreased (or increased) the likelihood of strategic, financial, or institutional actions, although the signs for financial and institutional actions were in the proposed direction. It may be that the five percent or greater ownership post spin-off is an artifact of the spin-off deal, given that only seven percent of firms keep five percent or more of their former division (see Table 4), and by the fourth and fifth year post spin-off, that percent is cut in half. Hence, it does not appear that parent firms seek to control their former divisions through an ownership relationship.

The focus next turns to the situation when the former parent maintains a monitoring relationship with the spin-off through the chairmanship of the board or membership on the board of directors. As hypothesized, having a chairman from the parent decreased the likelihood of financial actions and had no significant effect on strategic or institutional actions (although the coefficient for strategic actions was in the hypothesized direction). Board members from the parent firm, however, did not significantly decrease (or increase) the likelihood of action (although the coefficient for institutional actions was in the hypothesized direction). Thus, having a chairman from the parent has a restrictive effect on financial actions only, and other monitoring did not

significantly influence the actions taken. Similar to five percent ownership by the parent, monitoring by the chairman of the board is greater than 20 percent in the first two years post spin-off, but drops off to around 15 percent after that, with a comparable result found for monitoring by board members from the parent. It is possible that the connection to the spun-off firm, after the spin-off event, is largely symbolic or an artifact of the long relationship between the two organizations rather than one that would substantively influence strategic, financial, or institutional actions.

Severance Effects

Finally, a transaction cost logic was applied to predict how the relationship with the parent firm prior to spin-off would affect action post spin-off. Results show that, as hypothesized, spin-offs unrelated to their corporate parents' operations had an increased likelihood of financial actions when compared to firms that were related, but no other significant effects were found. The theory used to form these predictions suggested that the tighter the linkages to the corporate parent, the greater the need for strategic action post spin-off. In the case of unrelated firms (the most loosely linked), it is clear that they must take financial actions to address the loss of internal capital markets of the parent, but this was not the case for either related or vertically integrated firms (although the coefficient for vertically integrated firms was in the right direction when compared to firms that were related to their parent). Quite the opposite, firms related to their corporate parents were found to be *less likely* to engage in financial actions than firms that were unrelated and vertically integrated (coefficient of the right sign but not significant), although they suffer the same losses of internal capital markets that the

other two relationship types experience. It is also interesting to note that no significant results were found for strategic actions for related firms, although the sign of the coefficient was in the right direction when compared to both vertically integrated and unrelated firms. Moreover, the coefficient for institutional actions for related firms was in the right direction, but not significant when compared with firms that were unrelated, but was of the wrong sign and also not significant when compared with firms that were vertically integrated. These results suggest that the relation of the spin-off to its corporate parent has relatively little effect on the likelihood of actions occurring, possibly indicating that the disintegration effects of spin-off may not be as substantial as was suggested by Woo and colleagues (1992). One possible explanation for the lack of severance effect results is parent firms may assuage these effects *prior to* the exit of the division from the parent firm's structure (and before the study window of this research). While this is probable, it is unlikely that this is the case with all spin-offs. In a similar vein, it is possible that the division is sequestered prior to the spin-off such that the spin-off effects again occur outside the study window (although the parent firm may not take any explicit actions to assuage these effects). Thus, this area remains open to further exploration.

Conclusions

Several conclusions may be drawn from the empirical results described in this section. First, the actions taken by the top management team were not found to vary according to the CEO/TMT composition. This contrasts with Wruck and Wruck's (2002) assertion that suggests diverse human capital is a necessary and valuable resource

to the spin-off firm. Second, examination of agency issues resulted in a mixed bag, with options having no significant relationship to actions, but CEO and TMT ownership having divergent effects on strategic, financial, and institutional actions. Moreover, monitoring by a chairman of the board from the parent firm decreased the likelihood of financial actions, but board members from the parent firm and five percent or greater ownership had no effect on the likelihood of the three categories of actions. This combination of findings suggests that traditional agency issues may differ for newly spun-off firms. Finally, the empirical evidence suggests that the relationship with the former corporate parent prior to spin-off is not as central an issue to what occurs post spin-off as would be suspected (Woo et al., 1992). In other words, addressing issues arising from corporate disintegration appears to not be as significant an issue as was proposed in the theoretical model.

PERFORMANCE CONSEQUENCES

The empirical evidence presented in Chapter VI also presents some interesting results about the effect of spin-off strategic, financial, and institutional actions on performance. The intention in applying a broad array of performance metrics to assess the implications of actions on spin-off is to provide a more holistic picture of how actions, or inaction, affects spin-off performance. Operating measures were used to assess performance such as a firm's ability to generate income from its asset base (ROA), the firm's ability to increase its earnings per share (ROE), and a measure of the firm's gross profit margin (ROS). The market measure examines how much $1 invested in the firm at the beginning of the year is worth at the end of the year and as such

provides a measure of the market's perception of the future earnings of the spin-off. Finally, pseudo Tobin's q (i.e., market to book ratio) is calculated as a hybrid measure that examines the combined stock market valuation divided by the combined replacement costs of the spin-off's assets. This measure helps to give a sense of the value of intangibles, such as human capital or brand, which may not be correctly valued from an accounting perspective. Thus, using a multi-measure approach, this research seeks to better understand the influence of action on performance.

The discussion will be divided into two parts. The first will deal with the relationship between inaction and performance outcomes and the second will deal with the relationship between actions and performance outcomes according to the relationship the spin-off had with its corporate parent.

Effects of Inaction on Performance

The overarching theoretical rationale applied to this set of hypotheses is that the spin-off event is an implied, if not overt, opportunity to take action. The untethering of the division from the parent corporation so that it may pursue its own course is an example of this, as is the general stock market reaction to the spin-off announcement and the subsequent spin-off event (Miles & Woolridge, 1999), both of which were argued to send a signal to the top management of the spin-off that the firm is expected to act upon the opportunity presented. However, it is not known *a priori* what actions would result in positive performance, but that there would be a bias towards action in response to the opportunity presented by the spin-off. The empirical results for this prediction are that inaction is negatively associated with Tobin's q, with none of the other coefficients

significant. It is noteworthy that all the non-significant coefficients are in the right direction (negative). This provides some support for the contention that inaction negatively affects spin-off performance and that failing to respond to the opportunity presented by the spin-off will result in lower performance. Moreover, it is interesting that significance for this hypothesized relationship was found with the hybrid performance measure, Tobin's q. Researchers often favor Tobin's q over pure accounting and market measures because both are taken into account in its formulation, which may underlie its significance.

Effects of Action on Performance by Relationship with Parent

In addition to examining the effects of inaction on spin-off performance, the theoretical model proposed that spin-offs would take certain actions to address disintegration of their links with their corporate parent, and that these actions would lead to positive performance results. Building upon the logic of Jones and Hill (1988), it was proposed in Chapter IV that all spin-offs would experience losses of internal capital markets, suggesting that financial actions would increase performance. For spin-offs that were vertically integrated with their former corporate parents, it was proposed that they would need to address structural issues as well as financial issues, suggesting that these actions would increase performance. Finally, it was proposed that firms related to their corporate parents would need to take institutional actions in addition to financial and strategic actions, and that action taken in those categories would increase performance.

The empirical evidence was somewhat mixed for the predicted relationships. The interaction of vertically integrated with financial actions was positive and significant for ROA, as predicted. However, the interaction of related with institutional actions was negative and significant for market performance and Tobin's q, contrary to prediction. These findings suggest that, in contrast to the conjecture of Woo and colleagues (1992), the relationship between the corporate parent and the spin-off has less to do with spin-off performance than would be thought. It is possible that in the time leading up to the spin-off, the division is sequestered such that it resolves the issues surrounding its impending separation from the parent firm and as such is able to emerge as an independent firm without the separation issues that were proposed building on the work of Jones and Hill (1988). It is particularly interesting that the interaction of institutional actions with firms that were related yielded a negative coefficient. Unlike financial or operational issues, which could be resolved prior to spin-off, institutional issues are almost entirely post spin-off in nature. In other words, the firm cannot establish itself as an independent entity until it is an independent entity. It is possible that these institutional actions take time to yield positive performance results, with the short-term effect being a drop in performance.

Although no hypotheses were proffered *a priori* regarding the effect of action on performance, the empirical evidence is noteworthy. This evidence shows that strategic actions were negatively and significantly related to ROA, while financial and institutional actions were positively and significantly related to ROA, and institutional actions were positively and significantly related to market performance. The negative

effect of strategic actions on ROA is understandable, particularly in light of Woo and colleagues' (1992) assertion that the performance effects of spin-off were felt for many years after the separation from the former parent. It is probable that the effects of strategic actions take time to yield performance results, with a short-term dip in performance, which was found by Woo and colleagues (1992). It is also noteworthy that institutional actions had a positive effect on market performance. These actions are largely symbolic in nature, and the result suggests that the market is sensitive to the signals sent by the spin-off firms.

Conclusions

Several conclusions may be drawn from the discussion of this subsection. Overall, the empirical evidence linking inaction to performance suggests that the spin-off event is an opportunity for the spin-off to take action, and failure to do so carries a performance consequence. As prior research has implied (e.g., Seward & Walsh, 1996; Woo et al., 1992), the action – performance link is important to understanding what happens post spin-off and as such warrants further empirical examination. Second, the empirical evidence suggests that the interaction of specific actions with the relationship of the spin-off to its former parent had little effect on spin-off performance, although several non-hypothesized relationships between various categories of actions and performance were noteworthy.

ADDITIONAL ANALYSIS

In addition to testing the proposed model on the full five-year post spin-off window, an additional analysis was conducted that used only years two through four post spin-off. The rationale for this analysis was that year five differed fundamentally from the prior four years and as such may be obscuring the proposed relationships. Likewise, the first reporting year for the spin-off firm may be anywhere from 1 to 12 months in length from the spin-off date, with the average being 4.7 months with a standard deviation of 3.5. Thus, the period from year two to year four may offer a more clear view of the proposed relationships. In addition to the significant relationships reported in Chapter VI, the action-based models for the subsample found that having a chairman of the board from the parent firm decreased the likelihood of strategic actions (β = -.415, p < .10) and that firms related to their former corporate parents were more likely to take institutional actions than firms that were unrelated (β = .372, p < .10). Thus, in the subsample analysis, H6 and H8c find increased support. Turning to the performance based models, the effects of inaction on performance (H9) were unchanged; however, there were several changes in the interactions of the relationship with the former parent and the action categories (H10a –H10c). The significant and positive interaction between firms that were vertically integrated and financial actions is no longer significant in the model with ROA as the dependent variable, but none of the other findings of the original analyses were changed. There were several additional interactions that became significant in the subsample. First, the interaction of firms that were related and financial actions for market performance, which was negative in

contrast to H10c (β = -.093, p < .05); next, the interaction between firms that were vertically integrated and strategic actions for market performance was positive (β = .094, p < .05); and finally, the interaction between firms that were unrelated and financial actions for market performance was positive (β = .106, p < .05). Thus, the subsample analysis find slightly stronger support for the proposed relationships than the full sample.

SUMMARY

This chapter discusses the empirical evidence regarding the actions motivated by the spin-off event and the performance consequences of those actions. The discussion concludes that the CEO/TMT composition is not an important determinant of likelihood of action, that CEO options have no effect on the likelihood of strategic and financial actions, that CEO and TMT ownership have mixed effect on the likelihood of action, that parent ownership has no effect on the likelihood of strategic actions, and that monitoring by a chairman from the parent decrease the likelihood of financial actions, while board members from the parent firm have no effect on the likelihood of strategic or financial actions. In terms of performance implications, inaction was negatively associated with Tobin's q and little support was found for the interactions of the spin-off's relationship to their parent with the various categories of action.

CHAPTER VIII

CONCLUSIONS, LIMITATIONS AND IMPLICATIONS

Spin-offs represent an interesting, but under examined area of strategy research, with what occurs post spin-off representing a "black box" to management researchers. This research has endeavored to open the "black box" by assessing the effect of the new top managers, incentive contracts, managerial ownership, parent ownership, parent monitoring, and severance effects on the actions taken post spin-off, and then tie action (or inaction) to spin-off performance. This concluding chapter summarizes the theory and empirical evidence of the present study, its limitations, and points out implications for future strategy research related to spin-offs as well as implications for managerial practice.

CONCLUSIONS

Applying agency, transaction cost, and upper echelons perspectives, this study has examined the actions taken by spin-off firms after separation from their corporate parent, as well as the performance implications of those actions, all from the spin-off firm's perspective. While spin-off announcements are generally met with a positive stock market reaction (Miles & Rosenfeld, 1983; Schipper & Smith, 1983), the performance of firms post spin-off is mixed, with the intervening actions remaining largely unexamined (Woo et al., 1992). This raises questions as to what generates positive performance for spin-off firms, with agency, transaction cost, and upper echelons theory offering differing, and sometimes conflicting, predictions. For example,

agency theory suggests that better monitoring and incentives will lead to positive spin-off performance, while transaction cost economics suggests that there will be severance effects tied to leaving the corporate structure, potentially leading to performance losses or gains. Upper echelons theory argues that the characteristics of the top management and increased organizational discretion will have substantial impact on the actions taken by the firm and, consequently, on spin-off performance. Hence, while multiple theoretical perspectives have been applied to examine corporate spin-offs, there has been no holistic examination from the firm's debut through its subsequent years of performance. A more holistic model of post spin-off action and its performance implications emerges through reconciling and integrating these theoretical perspectives as this research has attempted to do. In addition, the spin-off event is examined as an entrepreneurial opportunity for firm management to exercise their newfound organizational discretion free of ties to the former corporate parent. Guided by these theoretical perspectives, this research has provided several insights, which will be addressed in two subsections.

Conclusions Regarding Spin-Off Actions

This subsection will address conclusions regarding spin-off actions. First, while a human capital perspective (i.e., Becker, 1964) of the CEO and TMT suggests that their background would affect what occurs post spin-off, this was not found in the empirical evidence. But while a direct link between CEO and TMT backgrounds and the various categories of actions they take was not found, other questions remain open at this time. For example, is the rationale for spin-off or the relationship between the parent and its

former division predictors of what type of CEO or TMT is established for the spin-off firm? While this research has taken the CEO / TMT backgrounds as "given" initial conditions, the formulation of the CEO and TMT may be more complicated than originally thought, necessitating a more complex model of the effect of CEO and TMT background on the actions taken post spin-off. This formulation may bridge the gap between the findings of this research and those of Wruck and Wruck (2002), as well as the theorized relationships proposed by Hambrick and Stucker (1999). Hence, although this research has clarified the lack of relationship between CEO and TMT background and the three categories of spin-off action, other questions remain to be explored.

Second, although no relationship was found between CEO options and action, this result may not be surprising since CEO options have become so pervasive in the upper echelons of all firms. It is noteworthy that Seward and Walsh (1996) also found no relationship between the establishment of incentive contracts and the market reaction to the spin-off event. As such, options may not be as effective a tool in motivating spin-off firm CEOs as would be expected by agency theory. In contrast to options, and in line with the theory of Hambrick and Stucker (1999), ownership by CEOs and TMTs was found to have a significant effect on financial actions, although the effects were in different directions. CEO ownership was found to lower the likelihood of financial action while TMT ownership increased the likelihood of financial and strategic actions (the coefficient for CEO ownership was negative, but not significant). Also, although not hypothesized, CEO ownership was found to increase the likelihood of institutional actions (while the coefficient for TMT ownership was negative, but not significant).

Thus, the empirical evidence suggest that perhaps there is risk preference asymmetry between the CEO and TMT in terms of the effect of ownership on action. This is understandable since the CEO is the most visible member of the upper echelon and as such would be the target of culpability if significant change failed. This increased risk may lower the desire of the CEO to engage in risky actions, preferring instead more symbolic institutional actions that change is occurring. In contrast, the TMT is often shielded from external stakeholders by the CEO and as such may have a greater penchant for taking the more radical strategic or institutional actions. As was stated in Chapters III and IV, the spin-off event is fraught with risk and this risk may affect the desire to take action, even in the presence of opportunity to profitably do so.

Third, links to the former parent firm were generally found to have no influence on action, with the exception of having a chairman of the board from the parent firm, which was found to lower the likelihood of financial actions. It appears that unless the former parent retains an active part in the management of the spin-off (i.e., the officer-level position of chairman of the board), the parent firm is largely ineffectual in influencing what actions are taken post spin-off. Much more curious is the finding of this study that the relationship with the parent prior to the spin-off has very little effect on the actions taken post spin-off, with the only significant finding being that firms that were unrelated take more financial actions than firms that were related. Several researchers (e.g., Miles & Woolridge, 1999; Seward & Walsh, 1996; Woo et al., 1992) have proposed that examining the relationship with the former parent prior to spin-off may provide deeper insight into what occurs post spin-off, but this was not found to be

the case. However, what occurs prior to the spin-off event between the parent and division that will be spun-off is largely unobserved, with the possibility that severance effects are addressed *before* the firm separates from its parent. Archival data are inadequate to disentangle this issue, with case studies (i.e., Wruck & Roper, 1997) providing the best insights.

Conclusions from Spin-Off Performance

Several conclusions may be drawn regarding the performance implications of spin-off action. Woo and colleagues (Woo et al., 1992) examined spin-off performance in three years post spin-off and found that the positive market reaction to the spin-off may be misguided. This research went beyond the findings of Woo and colleagues by examining the spin-off event as an implicit motivation to take action, and that firms that chose not to heed the signal would have lower performance. Empirical evidence for this supposition was found for inaction on Tobin's q, but none of the other coefficients for inaction were significant (although all of them were of the right sign). This suggests some support for the hypothesis that the spin-off event provides an opportunity for action to be taken, and bypassing this opportunity has performance consequences for the firm. Also, although no hypotheses were offered regarding the effect of the various categories of action on performance, strategic actions were negatively related with ROA, financial actions were positively related with ROA, and institutional actions were positively related to ROA and market performance. Building on these findings, future research may focus more particularly on the link between action and performance rather than inaction and performance.

Finally, the theoretical model proposes that the relationship the spin-off had with its former corporate parent will influence the actions it takes, and those actions will influence spin-off performance. Based upon the transaction cost rationale proposed by Jones and Hill (1988) for the corporate structure, this research proposed that spin-off firms unrelated to their parent must take financial actions after spin-off, spin-off firms vertically integrated with their parent must take financial and strategic actions after spin-off, and spin-off firms related to their parent must take institutional, strategic, and financial actions after spin-off. Little support was found across the operating, market and hybrid performance measures. This suggests that the performance implications of severance effects from leaving the corporate parent's structure may not be as important as theory would suggest and as such warrants further investigation.

LIMITATIONS

The present study has several limitations. First, the study relied on publicly available archival data sources. Although multiple data sources were used to provide as complete a picture as possible, archival data suffer from several limitations. First, missing data can be an issue when archival data are used. Although no variable had more than 25 percent missing data, collectively this left some models with as few as 65 percent of the possible firm year observations and with as few as 70 percent of the possible firms represented. However, mean difference tests of size relative to parent, current ratio and debt to assets indicate that the missing data introduce no systematic bias into the analysis. Moreover, power analysis (Cohen, 1988) indicates that the sample

size is sufficient to generate acceptable results. Nevertheless, missing data is a limitation although it did not pose a substantive issue to these analyses.

Second, archival data are inferior to primary data when measuring change; however, given the broad sample (across 44 major industry groups) and the wide sample window (1986 to 1997), collection of primary data was not an option. Case studies have provided important insights into the spin-off process (see Wruck & Roper, 1997), but this research focused on a broad set of issues common to all spin-offs, making a macro-level approach more appropriate.

Third, the measurement of strategic change is underdeveloped in the management literature (Bergh & Fairbank, 2002) and this research has endeavored to measure a form of strategic change, conceptualized as strategic, financial, and institutional actions. The measures proposed in this research are new and therefore warrant close scrutiny although they are all derived from well-established metrics commonly found in strategic management studies (e.g., assets, merger and acquisition activity, debt or equity changes, etc.). As such, the use of this new approach represents a methodological contribution beyond the theoretical and empirical contributions.

Finally, performance implications of action were measured only one period removed from when they were taken. Woo and colleagues (1992) suggest that the performance implications of spin-off may span several years subsequent to spin-off and the implications of a given strategic action may not be fully realized in the period following when it is taken. Hence, further analysis modifying the performance window may provide greater insight into the implications of actions on performance.

IMPLICATIONS

This research has provided new insights into what occurs post spin-off by examining the relationships between spin-off conditions and actions taken in addition to the performance consequences of those actions. The results have several significant implications for both academic research and managerial practice.

Implications for Theory

To begin, this research generally confirms what Gabarro (1987) found at the general manager level: that actions fluctuate over the period following a major change. It is not surprising to expect that significant change would occur in the first year, but it is interesting to note that there is a significant increase in actions from year three to year four post spin-off and then a drop in actions year four to year five (see Figures 2 to 5). While this research was conducted with much more coarse-grained measures than those used by Gabarro, the cyclicality of change remains.

Next, a significant contribution of this research is the theory and empirical evidence that explores how management composition affects the actions taken. While upper echelons theory states that firms are a reflection of their upper managers (Hambrick & Mason, 1984), no research in strategy has explored how prior experience affects future actions in a situation such as firm spin-off. In this research, the background of the CEO and TMT were found to have no effect on the actions taken by the firm post spin-off, suggesting that the human capital arrayed to address the needs of the spin-off may not be as important as some have suggested (i.e., Wruck & Wruck, 2002).

Third, the application of agency theory to this research resulted in some interesting empirical results. For example, divergent effects were found between CEO or TMT ownership in the spin-off and the actions taken. Hambrick and Stucker (1999) suggested that the significantly higher ownership stake afforded spin-off managers (compared to their ownership in the parent firm prior to the spin-off) represented a motivation for them to act entrepreneurially in their administration of the spin-off, which would suggest that actions would be taken. Yet it appears that risk preferences differ in the upper echelons, with CEO owners preferring symbolic change while the other top manager owners preferring more radical change. Additionally, the finding that parent ownership and monitoring by the directors from the parent firm has little effect on the likelihood of action is noteworthy. While an ownership stake might be used to control the former division, it is curious that these ties to the parent firm were found to have little effect on the spin-off. The only exception to this is having a corporate officer from the parent as the chairman of the spin-off's board, which was found to limit financial actions. Thus ownership and monitoring of spin-offs by their corporate parents was found to be unimportant to the actions taken by the spin-off firm after its separation.

Fourth, this research found a limited relationship between the former corporate parent and the spin-off firm on the actions taken after the spin-off. The transaction cost rationale for corporate strategy (Jones & Hill, 1988) suggests that there will be links between the former division and its parent, and that the severing of those links would motivate managers to take various types of actions to assuage the loss. While the hypothesis held for those firms with relationships most distant from their corporate

parent (i.e., unrelated firms compared to related firms), it did not hold for those that were more closely linked. This suggests that the severance of the links between the parent and the spin-off may occur and be addressed prior to the spin-off such that no significant action is needed post spin-off to address the severance effects.

Finally, the performance implications of action were mixed and warrant further examination. Although inaction was negatively associated only with Tobin's q, the coefficients of inaction on the other performance measures were all in the right direction (negative). This suggests general support for the assertion that the spin-off event is an opportunity to take action and failure to do so will result in lower performance. Additionally, as with the action-based models, the interaction of the relationship between the former parent firm and the spin-off and the type of actions taken was found to have little effect on performance, suggesting again that severance effects are not as consequential to spin-off performance as some had suggested (Woo et al., 1992).

Implications for Managers

This research has several implications for managerial practice. First, the direct effect of what CEO/TMT combination is selected to lead the spun-off firm was not shown to have implications in terms of what action will be taken post spin-off. Although Wruck and Wruck (2002) found that market results were significantly affected by the composition of top management *at the time of the spin-off*, but this research finds that the market reaction at the time of the spin-off may be misguided. Future research should examine more closely the implications of background and human capital on the spin-off firm, perhaps examining more closely the conditions under which a certain CEO

or TMT is selected to manage the spin-off. For example, a particular CEO type or TMT domination may be more appropriate for a spin-off that was related to its parent versus one that was unrelated to its parent. Likewise, CEOs and TMTs selected when the spin-offs are done to increase focus for the parent firm may differ from those who are selected when the spin-offs are financially motivated.

Second, empirical evidence suggests that parental monitoring and ownership has little effect on the likelihood of action post spin-off. This portends that parent firms that maintain ties to their former divisions on the whole do not seek to hamper their actions, also do not encourage action to be pursued. The notable exception to this was when the chairman of the board is a corporate officer of the parent firm, and was found to decrease the likelihood of strategic action, suggesting that such a close linkage to the parent may be detrimental to the pursuit of opportunity by the spin-off firm.

Finally, in terms of performance, the evidence suggests that inaction on the part of spin-off firms is negatively related to performance. While it is impossible *a priori* to know what actions should be taken, the empirical evidence clearly shows that failure to approach the spin-off event as an opportunity to take action is associated with diminished performance.

Future Research

Looking forward, several future research areas exist. First, this research has focused primarily on how the initial conditions of spin-off influence the actions taken by the spin-off firm and the implications of those actions on performance. This research did not examine the direct effect of the "initial conditions" on performance from the three

theoretical approaches. In other words, the prior position of the CEO and the domination of the TMT may have a direct effect on performance; similarly, severance from the corporate parent may have performance implications that are not directly tied to the actions the firm takes post spin-off. As has been noted in the limitations section, action-based research is still nascent and as such needs further refinement. This does not, however, preclude an examination of the direct effects of the initial conditions on performance.

Second, the action-based portion of this research has been rather coarse-grained, rolling up actions into a count variable. Clearly a more fine-grained examination of the three categories of action is warranted and certainly possible from the data collected to undertake this study. In particular, individual action areas could be decomposed into their component parts and weights could be assigned to the various actions (given that all actions were equally weighted in this research). Weighting will again provide a more fine-grained approach to the analysis of actions and their effect on performance.

Finally, as was noted in prior sections, taking on the responsibility for managing a spin-off firm is often fraught with strategic, financial, and institutional problems that must be addressed. Moreover, the parent firm chooses the CEO and TMT when the firm is spun off, inviting the possibility of adverse selection due to politics internal to the parent firm as some authors have suggested (i.e., Wruck & Wruck, 2002). Thus, examining the succession dynamics in the top management of the spin-off firm is another area that merits further investigation.

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APPENDIX A

TABLES

Table 1a: Correlations between Strategic Action Types

		1	2	3	4	5
1	Asset Changes					
2	Labor Changes	0.3260***				
3	Related Acquisition	0.0496	0.0030			
4	SIC Addition	0.0865*	0.0178	-0.0567		
5	SIC Deletion	-0.0901*	-0.0595	0.0013	-0.1876***	
6	Restructuring	0.0140	-0.0349	-0.0249	0.0025	0.0128

† p < .10; *p < .05; **p < .01; ***p < .001

Table 1b: Correlations between Financial Action Types

		1	2	3
1	Debt Change			
2	Equity Change	0.2180***		
3	Dividend Policy Change	-0.0059	-0.0060	
4	Unrelated Acquisition	0.0524	0.0263	0.0618

† p < .10; *p < .05; **p < .01; ***p < .001

Table 1c: Correlations between Institutional Action Types

		1	2	3	4	5
1	Auditor Change					
2	General Cousel Change	0.0272				
3	Stock Transfer Firm Change	0.0478	0.7266***			
4	Name Change	-0.0095	0.0622	0.0338		
5	Change in Shareholder Letter Tone	-0.0343	0.0108	0.0138	-0.0167	
6	Change in Management Discussion Tone	-0.0037	-0.0361	-0.0227	0.0323	0.4007***

† p < .10; *p < .05; **p < .01; ***p < .001

Table 2: Summary of Industries in Sample

2 Digit	Two Digit Industry	Freq.	% of Sample
10	Metal Mining	3	1.65
12	Coal Mining	1	0.55
13	Oil And Gas Extraction	9	4.95
15	Building Construction General Contractors And Operative Builders	3	1.65
20	Food And Kindred Products	4	2.2
21	Tobacco Products	1	0.55
22	Textile Mill Products	2	1.1
25	Furniture And Fixtures	1	0.55
26	Paper And Allied Products	4	2.2
28	Chemicals And Allied Products	16	8.79
30	Rubber And Miscellaneous Plastics Products	6	3.3
31	Leather And Leather Products	1	0.55
32	Stone, Clay, Glass, And Concrete Products	4	2.2
33	Primary Metal Industries	6	3.3
34	Fabricated Metal Products, Except Machinery And Transportation Equipment	2	1.1
35	Industrial And Commercial Machinery And Computer Equipment	16	8.79
36	Electronic And Other Electrical Equipment	15	8.24
37	Transportation Equipment	3	1.65
38	Measuring, Analyzing, And Controlling Instruments	8	4.4
41	Local And Suburban Transit And Interurban Highway Passenger Transportation	1	0.55
42	Motor Freight Transportation And Warehousing	1	0.55
45	Transportation By Air	1	0.55
48	Communications	5	2.75
49	Electric, Gas, And Sanitary Services	5	2.75
50	Wholesale Trade-durable Goods	5	2.75
51	Wholesale Trade-non-durable Goods	3	1.65
53	General Merchandise Stores	3	1.65
56	Apparel And Accessory Stores	2	1.1
57	Home Furniture, Furnishings, And Equipment Stores	1	0.55
58	Eating And Drinking Places	4	2.2
59	Miscellaneous Retail	1	0.55
60	Depository Institutions	2	1.1
61	Non-depository Credit Institutions	7	3.85
62	Security And Commodity Brokers, Dealers, Exchanges, And Services	1	0.55
63	Insurance Carriers	6	3.3
65	Real Estate	3	1.65
67	Holding And Other Investment Offices	1	0.55
70	Hotels, Rooming Houses, Camps, And Other Lodging Places	5	2.75
73	Business Services	8	4.4
76	Miscellaneous Repair Services	1	0.55
79	Amusement And Recreation Services	2	1.1
80	Health Services	7	3.85
82	Educational Services	1	0.55
83	Social Services	1	0.55
	Total	182	100

Table 3a: Comparison of Actions by Year and Type

	Strategic	Financial	Institutional	all
Year 1 to 2	-1.4948†	-0.7766	-0.1504	-1.1997
Year 2 to 3	0.0029	0.2218	-0.2241	-0.0513
Year 3 to 4	2.6909**	2.8504**	-0.0574	2.4934**
Year 4 to 5	-6.1546***	-7.8593***	-4.2304***	-8.2698***

† p < .10; *p < .05; **p < .01; ***p < .001

Table 3b: Analysis of Variance for All Actions by Year

Source	SS	df	MS	F	Prob > F
Between groups	303.76871	4	75.9421775	33.06	0.000
Within groups	1893.00089	824	2.29733118		
Total	2196.7696	828	2.65310338		

Bartlett's test equal variances: chi2(4) = 60.1817 Prob>chi2 = 0.000

Table 3c: Analysis of All Actions by Year (Bonferroni)

	Year			
	1	2	3	4
2	-1.1997			
3	-1.9548*	-0.0513		
4	-0.0751	1.5386	2.4934**	
5	-12.2673***	-9.0237	-7.6161***	-8.2698***

† p < .10; *p < .05; **p < .01; ***p < .001

Table 4: Means, Standard Deviations, and Correlations

#	variable	obs	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Current Ratio	829	2.384	2.529														
2	Debt to Assets	829	0.219	0.145	-0.165													
3	Size Relative to Parent	829	0.080	0.230	-0.171	-0.030												
4	Rationale: Focus	829	0.533	0.499	0.035	0.074	0.068											
5	Rationale: Problem	829	0.088	0.283	-0.099	-0.048	-0.070	-0.332										
6	Rationale: Financial	829	0.313	0.464	-0.066	-0.033	-0.072	-0.721	-0.210									
7	Succession	829	0.062	0.240	0.011	-0.036	-0.041	0.029	0.011	-0.047								
8	TMT Change	829	0.116	0.321	-0.017	0.024	0.000	0.016	-0.044	0.016	0.032							
9	Strategic Actions	829	0.702	0.810	-0.060	0.047	0.009	0.018	-0.015	0.017	-0.012	0.061						
10	Financial Actions	829	0.368	0.617	-0.047	0.062	0.073	-0.002	0.041	0.027	-0.042	0.005	0.323					
11	Institutional Actions	829	0.718	0.901	0.036	0.005	-0.199	-0.012	0.059	-0.030	-0.039	-0.040	0.292	0.116				
12	Overall Inaction	829	0.291	0.455	0.011	-0.011	0.042	-0.001	0.015	-0.042	0.040	0.011	-0.556	-0.383	-0.511			
13	Divisional CEO	736	0.281	0.450	-0.045	-0.100	-0.045	-0.247	0.179	0.161	0.003	0.030	0.025	0.092	0.019	-0.024		
14	Corporate CEO	736	0.533	0.499	0.025	0.064	0.120	0.119	-0.231	-0.015	-0.088	-0.081	-0.047	-0.035	-0.029	0.017	-0.668	
15	Outside CEO	736	0.186	0.389	0.020	0.034	-0.104	0.133	0.090	-0.167	0.108	0.068	0.031	-0.062	0.015	0.007	-0.299	-0.511
16	Divisional TMT	781	0.275	0.447	-0.043	0.063	-0.070	0.016	0.063	-0.007	-0.064	-0.075	0.017	0.097	0.057	-0.094	0.269	-0.160
17	Corporate TMT	781	0.255	0.436	0.011	-0.015	0.080	0.057	-0.049	-0.054	0.023	-0.074	0.025	-0.003	0.035	0.005	-0.057	0.197
18	Outside TMT	781	0.204	0.403	0.064	0.035	-0.068	-0.014	0.055	-0.045	0.117	0.065	-0.059	-0.084	-0.054	0.089	-0.204	-0.108
19	CEO Options	662	0.760	0.428	0.062	-0.019	0.049	0.003	-0.032	0.030	0.041	0.066	0.041	0.048	-0.026	-0.008	0.015	0.020
20	CEO Ownership Pct	655	0.095	0.050	-0.022	-0.065	-0.003	0.084	0.001	-0.038	0.016	-0.023	0.107	0.114	0.097	-0.118	0.068	-0.068
21	TMT Ownership Pct	682	0.085	0.050	-0.06	-0.032	0.011	0.081	-0.021	0.022	0.028	-0.028	0.175	0.091	-0.019	-0.160	0.053	-0.060
22	Chairman - Parent	772	0.192	0.394	0.111	0.033	-0.049	0.058	-0.124	0.005	-0.045	-0.028	-0.037	-0.057	0.078	-0.067	-0.001	0.051
23	Board Member - Parent	772	0.328	0.470	0.115	-0.008	-0.119	0.076	-0.172	0.060	-0.022	-0.009	0.036	0.067	0.118	-0.131	-0.102	0.123
24	Related	829	0.467	0.499	0.148	-0.035	-0.003	-0.073	0.059	-0.039	0.026	-0.057	-0.009	-0.123	0.044	0.059	-0.053	0.101
25	Vertically Integrated	829	0.104	0.306	-0.080	-0.052	-0.061	-0.005	0.021	0.041	0.008	0.029	0.019	-0.012	-0.029	-0.029	0.127	-0.086
26	Unrelated	829	0.429	0.495	-0.100	0.067	0.040	0.076	-0.073	0.014	-0.031	0.039	-0.002	0.131	-0.027	-0.042	-0.022	-0.051
27	ROA	624	-0.043	0.273	-0.158	0.074	0.060	-0.008	0.043	0.029	-0.061	-0.023	-0.002	0.125	0.034	-0.012	0.055	0.025
28	ROE	612	-1.282	11.419	-0.225	0.126	0.029	-0.071	0.036	0.069	-0.067	-0.035	-0.037	0.014	-0.035	-0.016	0.064	-0.088
29	ROS	624	-0.137	3.914	-0.014	0.010	0.028	-0.082	0.038	0.062	0.050	-0.045	0.036	0.022	-0.009	0.000	0.005	-0.030
30	Tobin's q	624	1.282	2.088	0.210	-0.043	-0.079	-0.026	-0.042	-0.052	-0.004	-0.036	-0.003	-0.090	-0.099	0.034	-0.054	-0.034
31	Market Performance	679	0.126	0.536	-0.028	0.023	-0.014	0.013	-0.033	0.002	0.009	-0.060	0.031	-0.004	0.062	-0.057	-0.023	-0.024

All correlations greater than .05 significant at $p < .05$

Table 4: Continued

#	variable	obs	mean	s.d.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
15	Outside CEO	736	0.186	0.389																
16	Divisional TMT	781	0.275	0.447	-0.109															
17	Corporate TMT	781	0.255	0.436	-0.188	-0.360														
18	Outside TMT	781	0.204	0.403	0.378	-0.312	-0.296													
19	CEO Options	662	0.760	0.428	-0.043	0.079	-0.016	-0.008												
20	CEO Ownership Pct	655	0.095	0.050	0.008	-0.006	-0.036	0.081	0.118											
21	TMT Ownership Pct	682	0.085	0.050	0.015	0.056	-0.031	0.015	0.097	0.669										
22	Chairman - Parent	772	0.192	0.394	-0.063	0.034	0.076	-0.080	-0.001	-0.009	0.007									
23	Board Member - Parent	772	0.328	0.470	-0.040	-0.026	0.152	-0.144	0.047	0.068	-0.090	0.382								
24	Related	829	0.467	0.499	-0.068	-0.135	0.153	0.094	0.065	0.041	-0.053	-0.035	-0.065							
25	Vertically Integrated	829	0.104	0.306	-0.036	0.143	-0.125	-0.090	0.001	0.000	0.103	0.025	-0.057	-0.320						
26	Unrelated	829	0.429	0.495	0.090	0.044	-0.073	-0.037	-0.066	-0.041	-0.008	0.020	0.100	-0.811	-0.296					
27	ROA	624	-0.043	0.273	-0.094	0.023	0.050	-0.133	0.061	0.007	0.056	0.085	0.060	-0.100	-0.069	0.145				
28	ROE	612	-1.282	11.419	0.037	0.069	0.001	-0.075	-0.037	-0.038	-0.074	0.038	0.045	-0.072	-0.022	0.087	0.283			
29	ROS	624	-0.137	3.914	0.031	0.028	-0.013	0.008	-0.037	-0.001	0.051	0.004	-0.019	-0.014	-0.073	0.060	-0.003	0.023		
30	Tobin's q	624	1.282	2.088	0.105	-0.038	-0.087	0.134	0.056	0.368	0.206	0.016	-0.065	0.130	-0.058	-0.094	-0.157	-0.063	-0.057	
31	Market Performance	679	0.126	0.536	0.059	0.020	0.022	0.074	0.034	0.156	0.115	-0.032	0.008	0.054	-0.072	-0.008	0.159	0.039	0.081	0.242

All correlations greater than .05 significant at $p < .05$

Table 5a
Results of TSCS Negative Binomial Regression Analysis of Spin-off Firm Strategic Actions (SA), Financial Actions (FA), and Institutional Actions (IA)

	Model 1 SA	Model 2 SA	Model 3 FA	Model 4 FA	Model 5 IA	Model 6 IA
Constant	-10.262	-12.019	10.294	8.814	8.241	7.570
Current Ratio	-0.038†	-0.033	-0.009	0.012	0.003	-0.002
Debt to Assets	0.106	0.197	0.174	0.085	-0.106	-0.174
Size Relative to Parent	-0.034	0.099	0.460	0.729*	-0.762†	-0.473
Rationale: Focus	0.019	-0.299	0.680†	0.242	-0.199	-0.165
Rationale: Problem	-0.011	-0.019	0.901*	0.362	-0.248	-0.232
Rationale: Financial	-0.055	-0.305	0.703†	0.199	-0.415*	-0.462
Time 2	-0.192	-0.110	-0.205	-0.258	0.033	-0.008
Time 3	-0.195	-0.154	-0.060	-0.106	0.006	0.015
Time 4	-0.069	0.085	0.382†	0.390†	-0.087	-0.057
Time 5	-0.899***	-0.642**	-2.032***	-1.911***	-0.796***	-0.798**
Succession	-0.053	-0.097	-0.180	-0.216	-0.089	-0.168
TMT Change	0.274*	0.137	0.214	0.14	0.063	0.000
Divisional CEO		-0.089		0.127		-0.030
Corporate CEO		-0.160		0.102		-0.147
Divisional TMT		-0.156		-0.089		-0.139
Corporate TMT		-0.074		-0.138		-0.180
Outsider TMT		-0.315†		-0.289		-0.140
CEO Options		0.104		0.257		0.129
CEO % Owned		-0.935		-5.693*		3.210*
TMT % Owned		3.001†		4.497†		-1.480
5% Parent Ownership		0.223		-0.268		-0.024
Chairman from Parent		-0.262		-0.454*		0.098
Board Member from Parent		0.161		0.214		-0.054
Related		0.096		-0.475*		0.266
Vertically Integrated		-0.075		-0.101		0.176
N	785	541	785	541	785	541
# of Spin-off Firms	166	126	166	126	166	126
log likelihood	-793.671	-556.775	-522.175	-374.467	-723.187	-501.590
χ^2	137.369	141.869	131.214	142.342	249.512	193.872
Pseudo R^2	0.100	0.114	0.147	0.188	0.182	0.241

† p < .10; * p < .05; ** p < .01; *** p < .001

NOTE: Two-digit SIC and Year dummy variables are included in these models, but are omitted from this table.

Table 5b: Post-estimation Test of Equality of Coefficients

Model	Dependent Var.	Test	Result		Significance	
2	Strategic Actions	Div. CEO - Corp. CEO = 0	chi2(1) =	0.23	Prob > chi2 =	0.6299
2	Strategic Actions	TMT Div. - TMT Corp. = 0	chi2(1) =	0.27	Prob > chi2 =	0.6015
2	Strategic Actions	TMT Div. - TMT Outside = 0	chi2(1) =	0.67	Prob > chi2 =	0.4113
2	Strategic Actions	TMT Corp. - TMT Outside = 0	chi2(1) =	1.50	Prob > chi2 =	0.2204
2	Strategic Actions	Related - Vertically Integ. = 0	chi2(1) =	0.46	Prob > chi2 =	0.4974
4	Financial Actions	Div. CEO - Corp. CEO = 0	chi2(1) =	0.01	Prob > chi2 =	0.9064
4	Financial Actions	TMT Div. - TMT Corp. = 0	chi2(1) =	0.05	Prob > chi2 =	0.8284
4	Financial Actions	TMT Div. - TMT Outside = 0	chi2(1) =	0.48	Prob > chi2 =	0.4903
4	Financial Actions	TMT Corp. - TMT Outside = 0	chi2(1) =	0.26	Prob > chi2 =	0.6124
4	Financial Actions	Related - Vertically Integ. = 0	chi2(1) =	1.01	Prob > chi2 =	0.3149
6	Institutional Actions	Div. CEO - Corp. CEO = 0	chi2(1) =	0.57	Prob > chi2 =	0.4510
6	Institutional Actions	TMT Div. - TMT Corp. = 0	chi2(1) =	0.07	Prob > chi2 =	0.7974
6	Institutional Actions	TMT Div. - TMT Outside = 0	chi2(1) =	0.00	Prob > chi2 =	0.9960
6	Institutional Actions	TMT Corp. - TMT Outside = 0	chi2(1) =	0.04	Prob > chi2 =	0.8436
6	Institutional Actions	Related - Vertically Integ. = 0	chi2(1) =	0.12	Prob > chi2 =	0.7345

Table 6
Results of TSCS GLS Regression Analysis of Spin-off Firm Performance Testing Post Spin-off Inaction

	1	2	3	4	5	6	7	8	9	10
Variable	ROA	ROA	ROS	ROS	ROE	ROE	Tobin's q	Tobin's q	Mkt Perf	Mkt Perf
Constant	-0.023	-0.022	-1.893	-1.822	-0.206	-0.200	1.351***	1.373***	0.234	0.248
Current Ratio	-0.001	-0.001	-0.200†	-0.203*	-0.005	-0.004	0.016	0.018	-0.015**	-0.015**
Debt to Assets	-0.068*	-0.070*	0.311	0.330	0.034	0.050	-0.109	-0.074	-0.065	-0.069
Size Relative to Parent	0.035	0.034	-0.195	-0.183	0.008	0.011	-0.510***	-0.483***	0.041	0.045
Rationale: Focus	0.045**	0.042*	2.275*	2.227*	0.088	0.086	-0.415**	-0.406**	0.017	0.020
Rationale: Problem	0.092***	0.092***	2.447*	2.398*	0.303	0.302	-0.514**	-0.500**	0.033	0.035
Rationale: Financial	0.048*	0.046*	2.398*	2.344*	0.173	0.169	-0.535***	-0.517***	0.029	0.031
Time 2	-0.001	-0.001	-0.009	0.002	-0.081	-0.081	0.016	0.045	-0.034	-0.030
Time 3	-0.001	0.001	-0.025	-0.024	-0.070	-0.070	-0.008	0.022	-0.044	-0.046
Time 4	-0.010	-0.009	-0.050	-0.045	-0.101	-0.103	0.018	0.020	-0.031	-0.031
Time 5	-0.010	-0.008	-0.098	-0.071	-0.151	-0.144	-0.016	0.039	-0.015	-0.002
Succession	0.000	0.002	0.024	0.030	0.068	0.068	0.005	-0.001	0.088	0.081
TMT Change	-0.011	-0.012	-0.091	-0.101	-0.061	-0.065	-0.135*	-0.150*	-0.027	-0.028
Related	-0.012	-0.012	-0.159	-0.167	-0.069	-0.070	0.176**	0.161**	0.037	0.038
Vertically Integrated	-0.026	-0.027	-0.131	-0.133	-0.256	-0.256	-0.240**	-0.255**	0.025	0.022
Overall Inaction		-0.003		-0.057		-0.028		-0.123*		-0.026
N	597	597	587	587	597	597	597	597	639	639
# of Spin-off Firms	143	143	143	143	143	143	143	143	151	151
log likelihood	612.393	613.381	-1128.537	-1129.675	-606.085	-605.684	-383.574	-384.811	-214.847	-216.151
χ^2	681.206	986.305	84.217	70.454	660.568	685.384	937.384	847.967	265.681	266.136
χ^2 p-value	0.00	0.00	0.17	0.60	0.00	0.00	0.00	0.00	0.00	0.00

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

NOTE: Two-digit SIC and Year dummy variables are included in these models, but are omitted from this table.

Table 7a
Results of TSCS GLS Regression Analysis of Spin-off Firm ROA Performance Testing the Interaction of the Spin-off Firm's Relationship with it Former Parent and the Actions Taken Post Spin-off

	1	2	3	4	5	6	7	8
	ROA	ROA	ROA	ROA	ROA	ROA	ROA	ROA
Constant	-0.008	-0.007	-0.006	-0.019	-0.011	-0.012	-0.015	-0.023
Current Ratio	0.000	0.000	-0.001	-0.001	0.000	0.001	0.000	0.000
Debt to Assets	-0.070*	-0.070*	-0.077**	-0.073*	-0.070*	-0.084**	-0.070*	-0.070*
Size Relative to Parent	0.029	0.029	0.026	0.030	0.029	0.036	0.029	0.030
Rationale: Focus	0.000	-0.001	-0.001	0.009	0.000	0.002	0.000	0.000
Rationale: Problem	0.045*	0.045*	0.045*	0.050*	0.045*	0.043*	0.045*	0.046*
Rationale: Financial	0.003	0.002	0.003	0.011	0.003	0.007	0.003	0.004
Time 2	-0.013	-0.013	-0.013	-0.014	-0.013	-0.017†	-0.013	-0.011
Time 3	-0.012	-0.011	-0.010	-0.012	-0.011	-0.012	-0.012	-0.009
Time 4	-0.023*	-0.022*	-0.021†	-0.023*	-0.023*	-0.022*	-0.023*	-0.020†
Time 5	-0.014	-0.013	-0.014	-0.017	-0.014	-0.016	-0.014	-0.012
Succession	-0.014	-0.014	-0.014	-0.012	-0.014	-0.013	-0.014	-0.011
TMT Change	-0.003	-0.003	-0.002	-0.001	-0.003	-0.001	-0.003	-0.004
Related	-0.006	-0.009	0.002	0.003	-0.006	-0.007		
Vertically Integrated	-0.020	-0.020	-0.020	-0.017	-0.016	-0.049*	-0.014	-0.013
Unrelated							0.006	0.016
Strategic Actions	-0.013**	-0.013**	-0.013**	-0.01	-0.012*	-0.012*	-0.013**	-0.013**
Financial Actions	0.013*	0.011†	0.012*	0.014*	0.013*	0.009	0.013*	0.021*
Institutional Actions	0.012*	0.012*	0.015**	0.012*	0.012*	0.011*	0.012*	0.012*
Related x Financial Actions		0.005						
Related x Institutional Actions			-0.009					
Related x Strategic Actions				-0.008				
Vertical Integration x Strategic Actions					-0.006			
Vertical Integration x Financial Actions						0.061**		
Unrelated x Financial Actions								-0.016
N	597	597	597	597	597	597	597	597
# of Spin-off Firms	143	143	143	143	143	143	143	143
log likelihood	607.519	608.026	608.203	606.987	606.833	605.579	607.58	607.601
χ^2	353.072	367.814	354.898	383.557	357.484	792.972	353.072	444.54
χ^2 p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

† p < .10; * p < .05; ** p < .01; *** p < .001

NOTE: Two-digit SIC and Year dummy variables are included in these models, but are omitted from this table.

Table 7b
Results of TSCS GLS Regression Analysis of Spin-off Firm Tobin's q Performance Testing the Interaction of the Spin-off Firm's Relationship with it Former Parent and the Actions Taken Post Spin-off

	1	2	3	4	5	6	7	8
	Tobin's q	Tobin's q	Tobin's q	Tobin's q	Tobin's q	Tobin's q	Tobin's q	Tobin's q
Constant	1.313***	1.331***	1.202***	1.261***	1.323***	1.297***	1.493***	1.482***
Current Ratio	0.005	0.005	0.003	0.002	0.004	0.004	0.005	0.006
Debt to Assets	-0.175	-0.163	-0.205	-0.169	-0.176	-0.182	-0.175	-0.191
Size Relative to Parent	-0.497***	-0.496***	-0.531***	-0.506***	-0.492***	-0.494***	-0.497***	-0.483***
Rationale: Focus	-0.384**	-0.396**	-0.386*	-0.369*	-0.383**	-0.378**	-0.384**	-0.394**
Rationale: Problem	-0.417**	-0.434**	-0.435*	-0.394*	-0.417**	-0.415**	-0.417**	-0.452**
Rationale: Financial	-0.478**	-0.498**	-0.514**	-0.470**	-0.475**	-0.467**	-0.478**	-0.500***
Time 2	0.062	0.062	0.070	0.017	0.064	0.066	0.062	0.068
Time 3	0.064	0.059	0.059	0.043	0.062	0.067	0.064	0.069
Time 4	0.086	0.071	0.071	0.075	0.084	0.075	0.086	0.090
Time 5	0.033	0.026	0.013	0.027	0.038	0.034	0.033	0.033
Succession	-0.015	-0.011	0.005	0.005	-0.014	-0.003	-0.015	-0.002
TMT Change	-0.189**	-0.186**	-0.167*	-0.176**	-0.188**	-0.191**	-0.189**	-0.188**
Related	0.180**	0.138†	0.232**	0.124	0.181**	0.183**		
Vertically Integrated	-0.164†	-0.160	-0.206*	-0.160	-0.235*	-0.208†	-0.344***	-0.342***
Unrelated							-0.180**	-0.131†
Strategic Actions	0.025	0.024	0.015	-0.008	0.018	0.021	0.025	0.025
Financial Actions	-0.047	-0.071†	-0.039	-0.038	-0.045	-0.051	-0.047	0.000
Institutional Actions	-0.014	-0.017	0.061	-0.004	-0.014	-0.018	-0.014	-0.016
Related x Financial Actions		0.081						
Related x Institutional Actions			-0.118*					
Related x Strategic Actions				0.071				
Vertical Integration x Strategic Actions					0.095			
Vertical Integration x Financial Actions						0.091		
Unrelated x Financial Actions								-0.091
N	597	597	597	597	597	597	597	597
# of Spin-off Firms	143	143	143	143	143	143	143	143
log likelihood	-402.177	-401.975	-408.403	-404.835	-401.905	-401.452	-402.226	-399.171
χ^2	1392.899	1068.32	604.57	694.838	1547.056	2152.005	1392.899	2304.122
χ^2 p-value	0.317	0.321	0.974	0.000	0.000	0.000	0.000	0.000

† p < .10; * p < .05; ** p < .01; *** p < .001

NOTE: Two-digit SIC and Year dummy variables are included in these models, but are omitted from this table.

Table 7c
Results of TSCS GLS Regression Analysis of Spin-off Firm Market Performance Testing the Interaction of the Spin-off Firm's Relationship with it Former Parent and the Actions Taken Post Spin-off

	1	2	3	4	5	6	7	8
	Mkt Perf	Mkt Perf	Mkt Perf	Mkt Perf	Mkt Perf	Mkt Perf	Mkt Perf	Mkt Perf
Constant	0.233	0.225	0.150	0.224	0.232	0.220	0.260	0.262
Current Ratio	-0.016**	-0.016**	-0.015**	-0.016**	-0.016**	-0.016**	-0.016**	-0.016**
Debt to Assets	-0.066	-0.067	-0.047	-0.068	-0.066	-0.069	-0.066	-0.062
Size Relative to Parent	0.068	0.066	0.064	0.071	0.067	0.068	0.068	0.068
Rationale: Focus	0.034	0.035	0.022	0.040	0.034	0.034	0.034	0.035
Rationale: Problem	0.048	0.055	0.053	0.056	0.048	0.041	0.048	0.054
Rationale: Financial	0.051	0.052	0.040	0.055	0.051	0.050	0.051	0.053
Time 2	-0.044	-0.046	-0.037	-0.042	-0.044	-0.047	-0.044	-0.046
Time 3	-0.061	-0.064	-0.045	-0.057	-0.061	-0.065	-0.061	-0.063
Time 4	-0.029	-0.030	-0.025	-0.026	-0.028	-0.039	-0.029	-0.033
Time 5	-0.026	-0.027	-0.022	-0.026	-0.025	-0.035	-0.026	-0.028
Succession	0.087	0.085	0.109†	0.086	0.087	0.089	0.087	0.084
TMT Change	-0.013	-0.014	0.001	-0.015	-0.013	-0.014	-0.013	-0.013
Related	0.027	0.042	0.141***	0.004	0.027	0.028		
Vertically Integrated	0.034	0.034	0.041	0.035	0.038	0.024	0.007	0.008
Unrelated							-0.027	-0.038
Strategic Actions	-0.019	-0.019	-0.014	-0.035†	-0.018	-0.018	-0.019	-0.019
Financial Actions	-0.025	-0.012	-0.029	-0.024	-0.025	-0.026	-0.025	-0.038
Institutional Actions	0.038*	0.038*	0.117***	0.036†	0.038*	0.039*	0.038*	0.039*
Related x Financial Actions		-0.030						
Related x Institutional Actions			-0.147***					
Related x Strategic Actions				0.029				
Vertical Integration x Strategic Actions					-0.005			
Vertical Integration x Financial Actions						0.031		
Unrelated x Financial Actions								0.023
N	639	639	639	639	639	639	639	639
# of Spin-off Firms	151	151	151	151	151	151	151	151
log likelihood	-214.371	-214.017	-202.496	-213.48	-214.387	-214.783	-214.371	-214.281
χ^2	287.52	289.844	341.702	296.278	287.074	289.239	287.52	287.119
X^2 p-value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

† p < .10; * p < .05; ** p < .01; *** p < .001

NOTE: Two-digit SIC and Year dummy variables are included in these models, but are omitted from this table.

Table 8: Summary of Hypotheses			
Hypothesis		Supported	Not Supported
H1	The selection of the spin-off CEO will affect managerial action, with		
(a)	The selection of an insider divisional manager as CEO increasing the likelihood of strategic management actions;		✓
(b)	The selection of an insider corporate manager CEO increasing the likelihood of financial and strategic management actions; and		✓
(c)	The selection of an outsider as CEO increasing the likelihood of institutional, financial, and strategic management actions.		✓
H2	The composition of spin-off top management will affect managerial action, with		
(a)	Insider divisional dominated top management increasing the likelihood of strategic management actions;		✓
(b)	Insider corporate dominated top management increasing the likelihood of financial and strategic management actions; and		✓
(c)	Outsider dominated top management increasing the likelihood of institutional, financial, and strategic management actions.		✓
H3.	Incentive-based management employment contracts will increase the likelihood of strategic and financial management actions.		✓
H4.	Higher levels of management ownership will increase the likelihood of strategic and financial management actions.	Supported for TMT ownership but refuted for Financial Actions for CEO ownership	
H5.	Higher levels of corporate parent ownership will decrease the likelihood of strategic, financial, and institutional management actions.		✓
H6.	Spin-off boards with a chairman from the parent firm will decrease the likelihood of with strategic, financial, and institutional management actions.	Supported for Financial Actions, but not for Strategic or Institutional Actions	
H7.	Higher representation of board members from the parent firm on the spin-off's board will decrease the likelihood of strategic, financial, and institutional management actions.		✓

Table 8: Continued			
H8.	The diversification relationship between the spin-off and its former parent will affect top management actions, with		
(a)	Unrelatedly diversified relationships increasing the likelihood of financial management actions;	Compared to Related Firms but not Vertically Integrated Firms	
(b)	Vertically integrated relationships increasing the likelihood of financial and strategic management actions; and,		✓
(c)	Relatedly diversified relationships increasing the likelihood of financial, strategic, and institutional management actions.		✓
H9.	For spin-off firms, inaction will lead to lower performance.	Supported for Tobin's q	
H10.	Spin-off performance will be affected by managerial actions according to the corporate relationship with the former parent, with		
(a)	Financial actions positively affecting spin-off performance when the spin-off was unrelated to its former parent;		✓
(b)	Financial and strategic actions positively affecting spin-off performance when the spin-off was vertically linked with its former parent; and	Supported for Finacial Actions for ROA	
(c)	Financial, strategic, and institutional actions positively affecting spin-off performance when the spin-off was related to its former parent.		✓

APPENDIX B

CHARTS

Figure 1: A Model of Spin-off Action and Performance

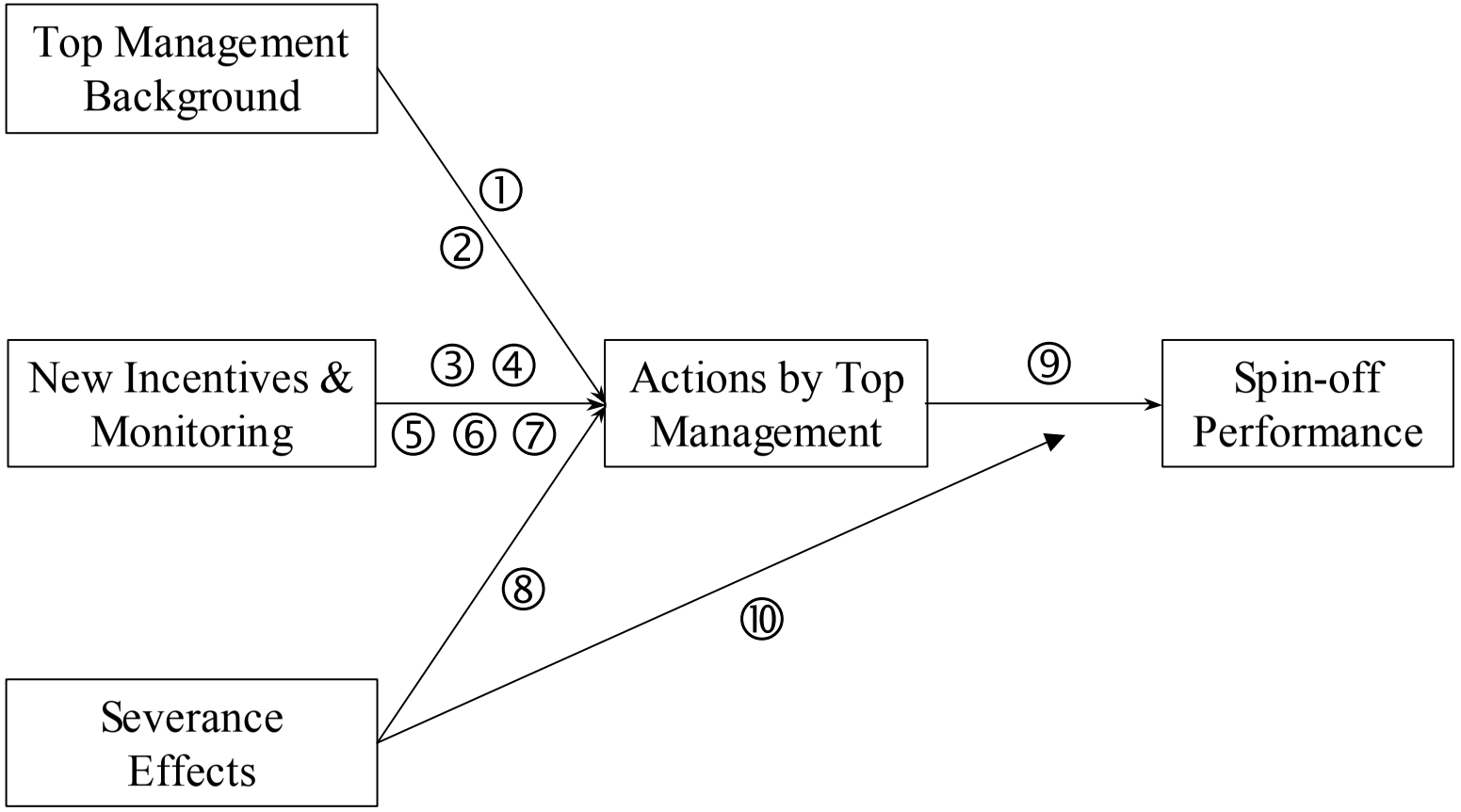


Figure 2
Spin-off Distribution by Year

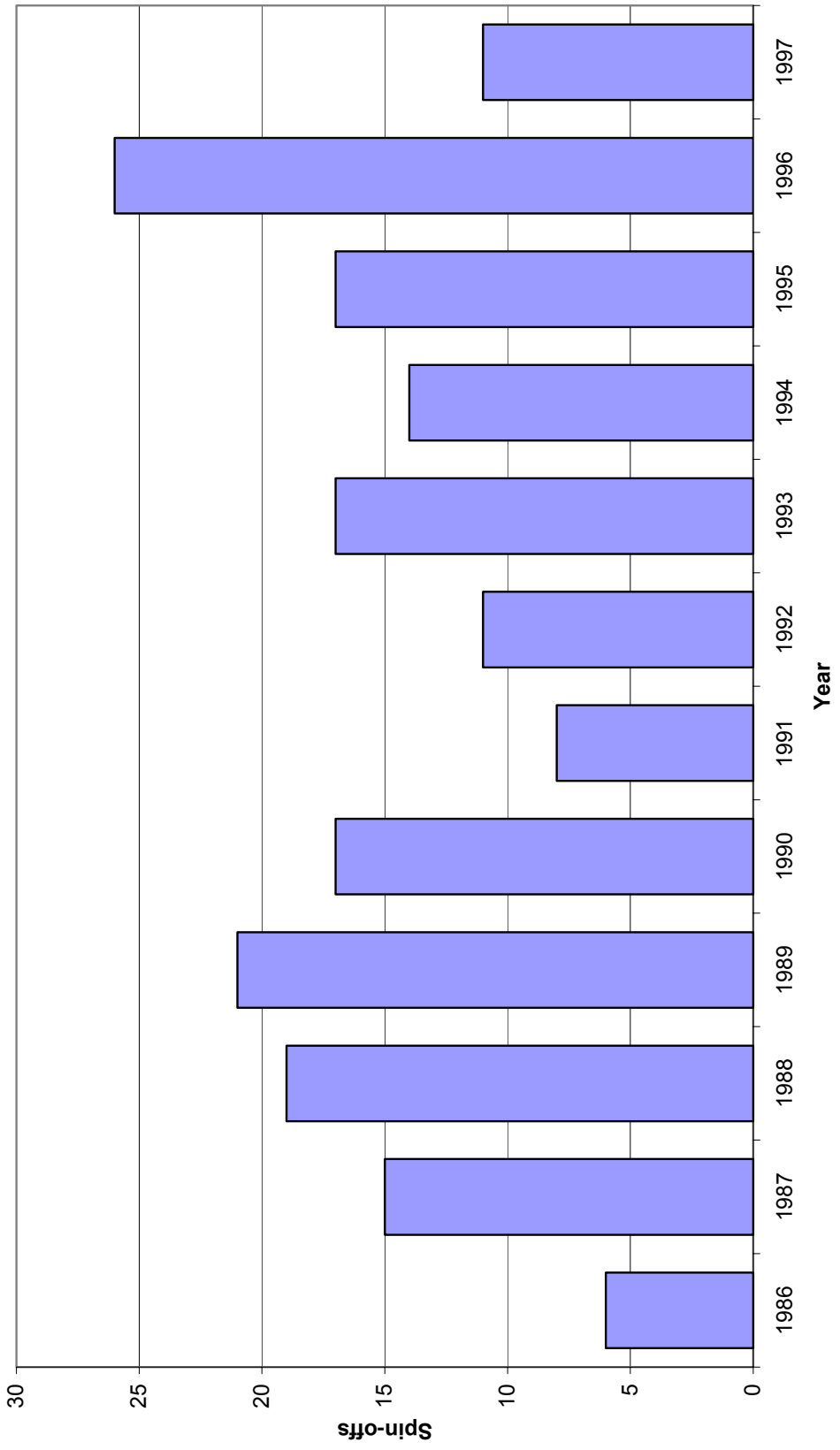


Figure 3
All Actions by Year

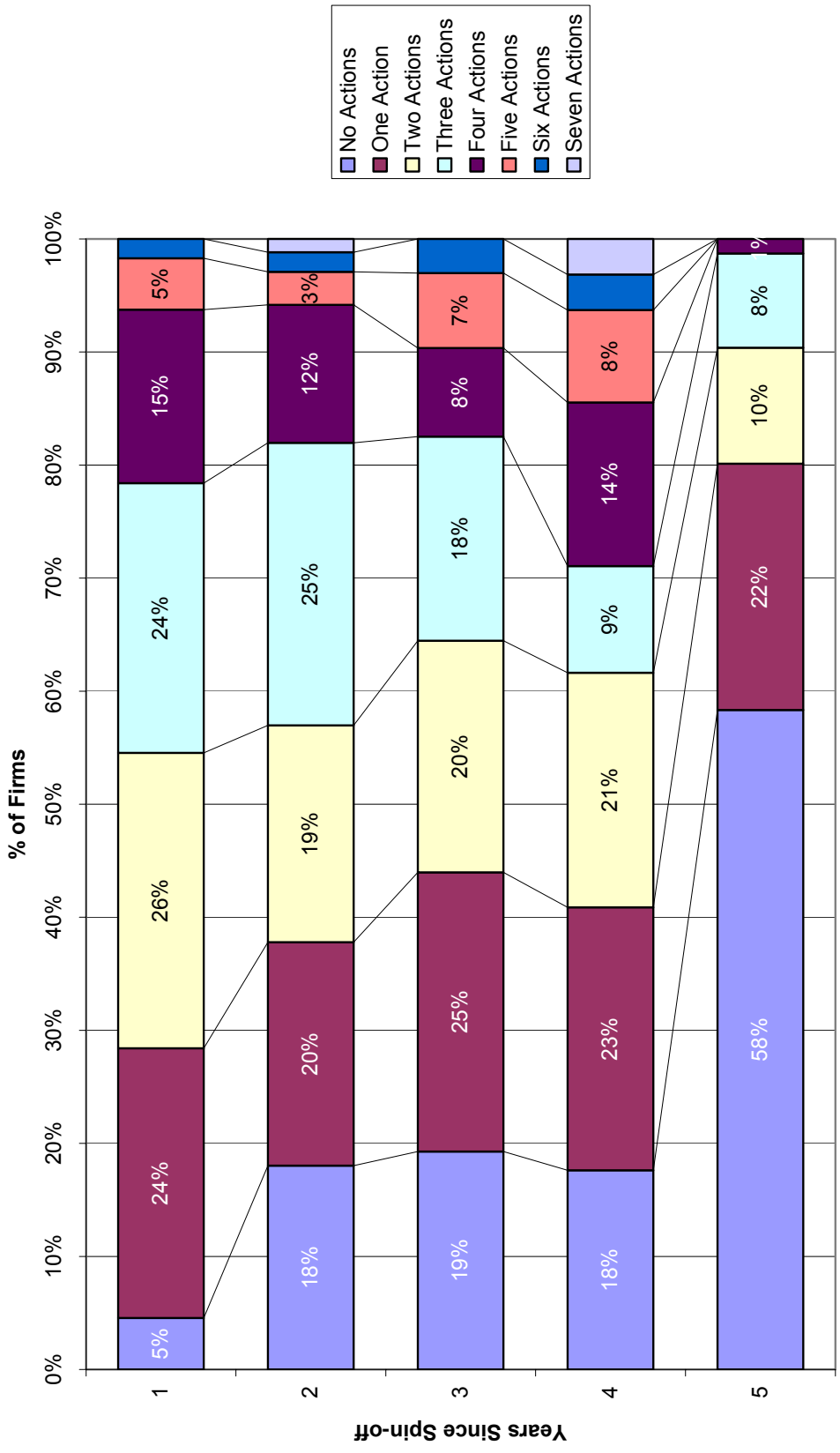


Figure 4
Strategic Actions by Year

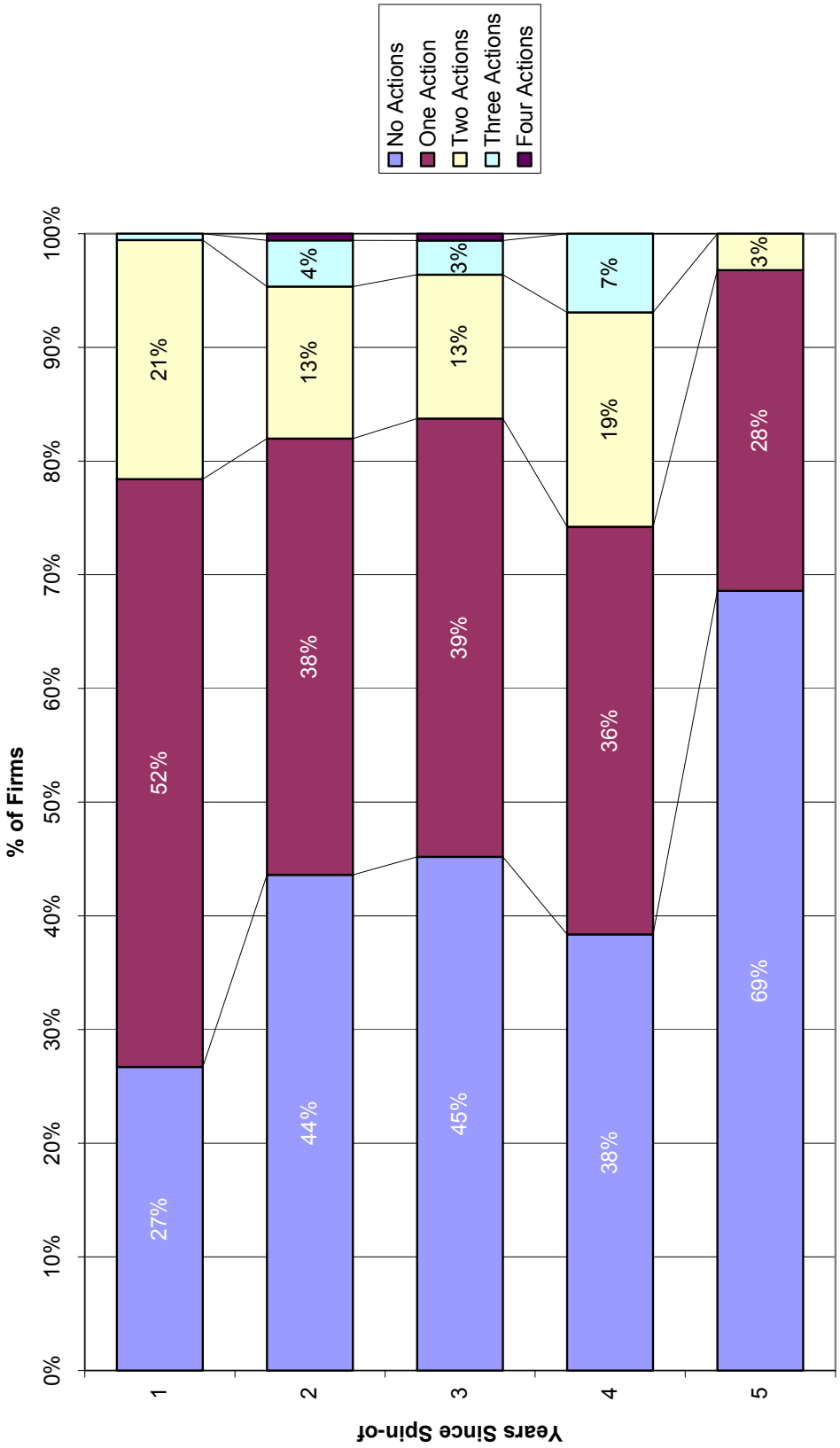


Figure 5
Financial Actions by Year

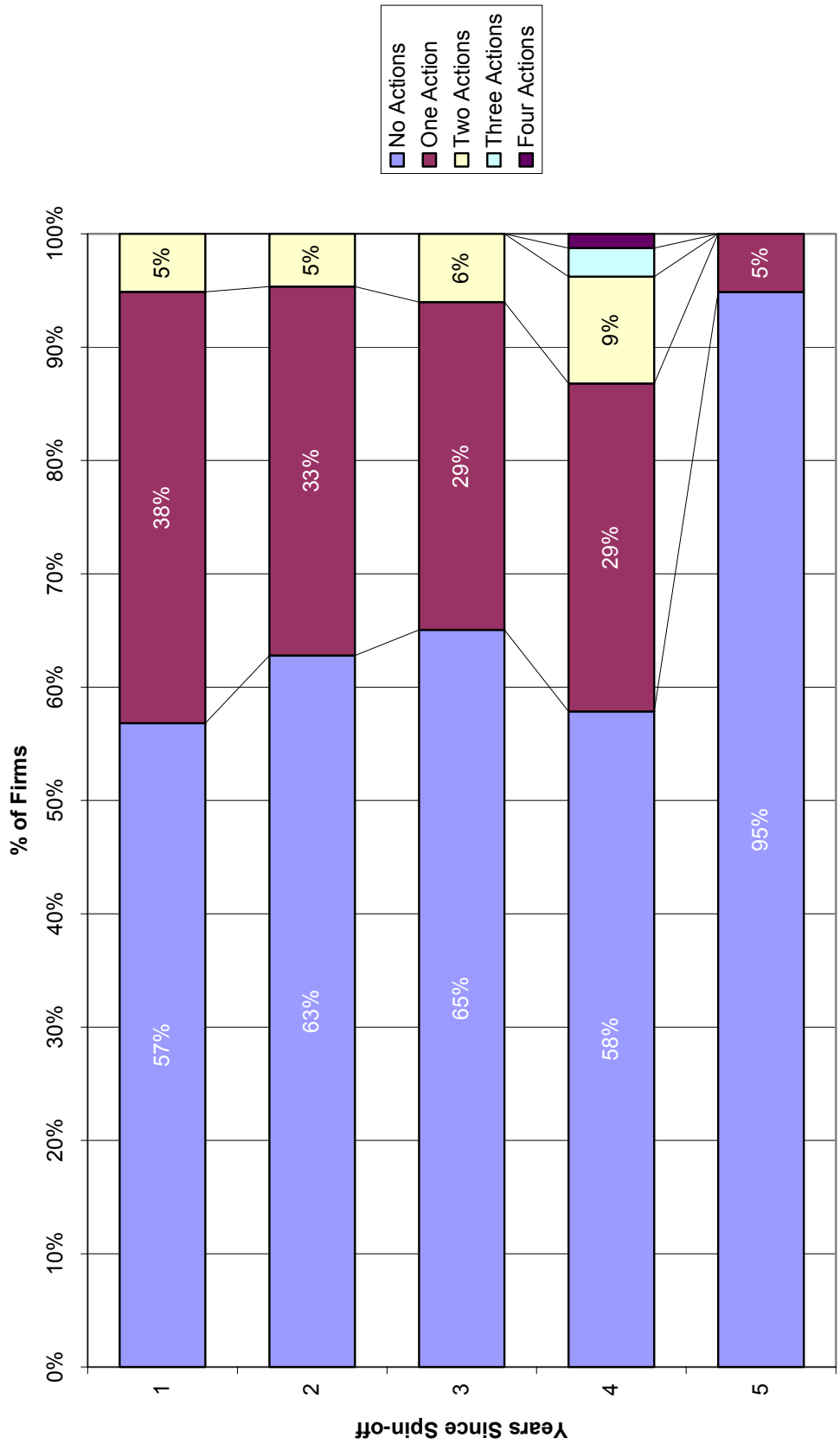
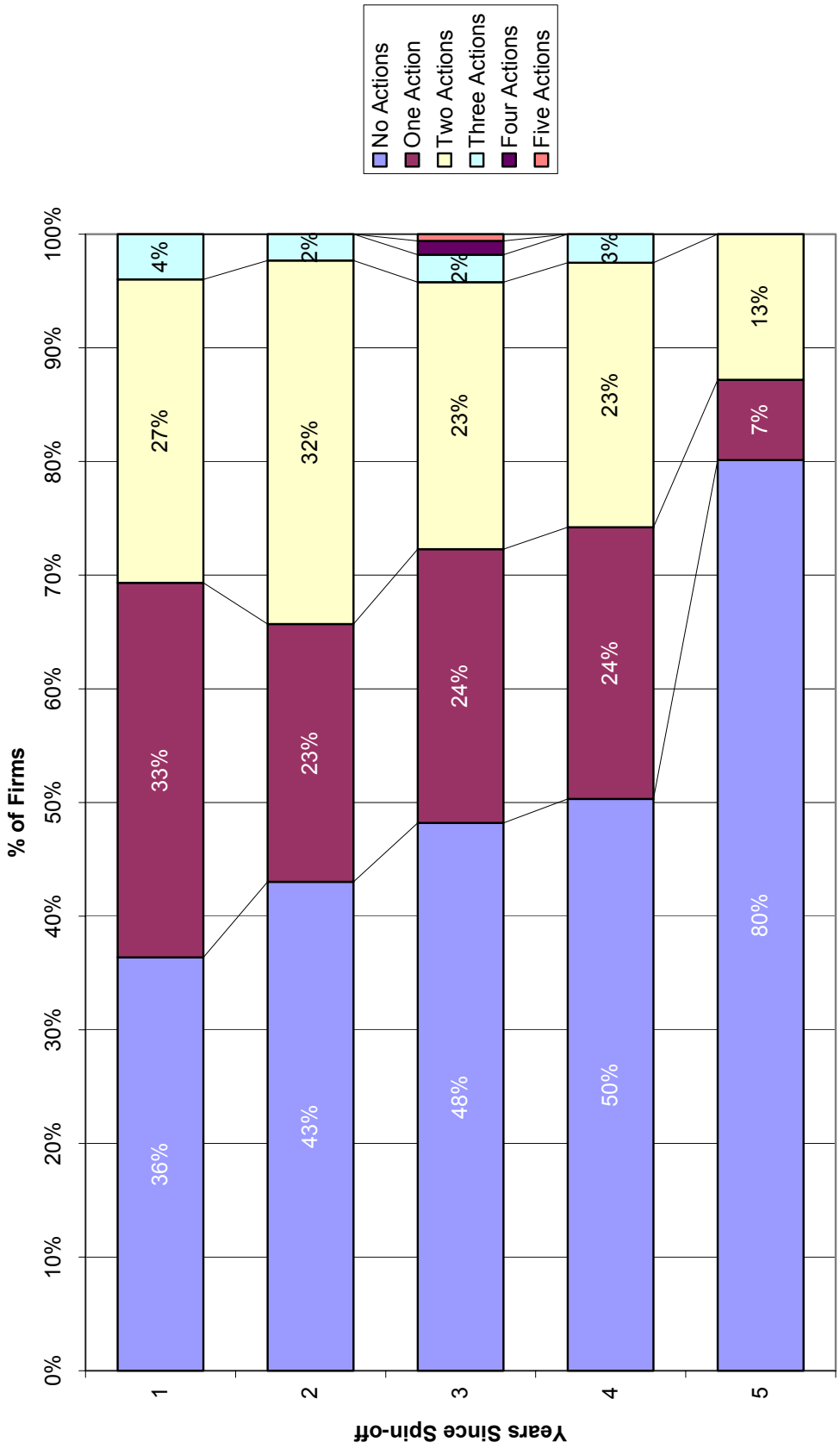


Figure 6
Institutional Actions by Year



APPENDIX C

MEASURING STRATEGIC CHANGE

The process of detecting and measuring change in strategic management research has presented several problems. Most recently Bergh and Fairbank (2002) critiqued several methods for detecting and measuring change, and were highly critical of simple difference scores (subtracting one year's score from the next year's score), stating that they are vulnerable to errors if high correlation exists between observation periods. They suggested that predicting residuals based upon regressing X_{t-1} on X_t is the best method when predicted change (rather than actual change) is measured. Using this approach partials out the correlation between the two values, providing a better sense of when true change has occurred.

For this research the assets, employees, debt, and equity of period *t*-1 were regressed on period *t*. The predicted values were then generated using a procedure that calculated studentized residuals. Studentized residuals can be interpreted as the *t* statistic for testing the significance of a dummy variable equal to one in the observation in question and zero everywhere else (Belsley, Kuh, & Welsch, 1980). After generating these values, all studentized residuals for assets, employees, debt, or equity that were greater than 1.96 (which is the *t* statistic that is approximately significant at $p < 0.05$) were coded as one and all others were coded zero.

APPENDIX D

TEXT ANALYSIS

To give the user an overall feeling for a given text, Diction constructs five master variables (Activity, Certainty, Realism, Optimism, and Commonality) on the basis of the thirty-one individual dictionary scores and four calculated variables. Master variables are calculated by translating raw dictionary totals into Z-scores, adding and subtracting them in the appropriate fashion, and then adding constants of 50 to eliminate negative numbers. The scores for the master variables are calculated as follows:

Variable	Equation
Certainty	(Tenacity + Leveling + Collectives + Insistence) - (Numerical + Ambivalence + Self-Reference + Variety)
Optimism	(Praise + Satisfaction + Inspiration) - (Blame + Hardship + Denial)
Reality	(Familiarity + Spatial Awareness + Temporal Awareness + Present Concern + Humanity + Concreteness) - (Past Concern + Complexity)
Activity	(Aggression + Accomplishment + Communication + Motion) - (Cognitive Terms + Passivity + Embellishment)
Commonality	(Centrality + Cooperation + Rapport) - (Diversity + Exclusion + Liberation)

The variables for the equations are described as follows:

Variable	Description
Accomplishment	Words expressing task-completion (establish, finish, influence, proceed) and organized human behavior (motivated, influence, leader, manage). Includes capitalistic terms (buy, produce, employees, sell), modes of expansion (grow, increase, generate, construction) and general functionality (handling, strengthen, succeed, outputs). Also included is programmatic language: agenda, enacted, working, leadership.

Variable	Description
Aggression	A dictionary embracing human competition and forceful action. Its terms connote physical energy (blast, crash, explode, collide), social domination (conquest, attacking, dictatorships, violation), and goal-directedness (crusade, commanded, challenging, overcome). In addition, words associated with personal triumph (mastered, rambunctious, pushy), excess human energy (prod, poke, pound, shove), disassembly (dismantle, demolish, overturn, veto) and resistance (prevent, reduce, defend, curbed) are included.
Ambivalence	Words expressing hesitation or uncertainty, implying a speaker's inability or unwillingness to commit to the verbalization being made. Included are hedges (allegedly, perhaps, might), statements of inexactness (almost, approximate, vague, somewhere) and confusion (baffled, puzzling, hesitate). Also included are words of restrained possibility (could, would, he'd) and mystery (dilemma, guess, suppose, seems).
Blame	Terms designating social inappropriateness (mean, naive, sloppy, stupid) as well as downright evil (fascist, blood-thirsty, repugnant, malicious) compose this dictionary. In addition, adjectives describing unfortunate circumstances (bankrupt, rash, morbid, embarrassing) or unplanned vicissitudes (weary, nervous, painful, detrimental) are included. The dictionary also contains outright denigrations: cruel, illegitimate, offensive, miserly.
Centrality	Terms denoting institutional regularities and/or substantive agreement on core values. Included are indigenous terms (native, basic, innate) and designations of legitimacy (orthodox, decorum, constitutional, ratified), systematicity (paradigm, bureaucratic, ritualistic), and typicality (standardized, matter-of-fact, regularity). Also included are terms of congruence (conformity, mandate, unanimous), predictability (expected, continuity, reliable), and universality (womankind, perennial, landmarks).
Cognitive Terms	Words referring to cerebral processes, both functional and imaginative. Included are modes of discovery (learn, deliberate, consider, compare) and domains of study (biology, psychology, logic, economics). The dictionary includes mental challenges (question, forget, re-examine, paradoxes), institutional learning practices (graduation, teaching, classrooms), as well as three forms of intellection: intuitional (invent, perceive, speculate, interpret), rationalistic (estimate, examine, reasonable, strategies), and calculative (diagnose, analyze, software, fact-finding).
Collectives	Singular nouns connoting plurality that function to decrease specificity. These words reflect a dependence on categorical modes of thought. Included are social groupings (crowd, choir, team, humanity), task groups (army, congress, legislature, staff) and geographical entities (county, world, kingdom, republic).

Variable	Description
Communication	Terms referring to social interaction, both face-to-face (listen, interview, read, speak) and mediated (film, videotape, telephone, e-mail). The dictionary includes both modes of intercourse (translate, quote, scripts, broadcast) and moods of intercourse (chat, declare, flatter, demand). Other terms refer to social actors (reporter, spokesperson, advocates, preacher) and a variety of social purposes (hint, rebuke, respond, persuade).
Complexity	Characters/Words
Concreteness	A large dictionary possessing no thematic unity other than tangibility and materiality. Included are sociological units (peasants, African-Americans, Catholics), occupational groups (carpenter, manufacturer, policewoman), and political alignments (Communists, congressman, Europeans). Also incorporated are physical structures (courthouse, temple, store), forms of diversion (television, football, CD-ROM), terms of accountancy (mortgage, wages, finances), and modes of transportation (airplane, ship, bicycle). In addition, the dictionary includes body parts (stomach, eyes, lips), articles of clothing (slacks, pants, shirt), household animals (cat, insects, horse) and foodstuffs (wine, grain, sugar), and general elements of nature (oil, silk, sand).
Cooperation	Terms designating behavioral interactions among people that often result in a group product. Included are designations of formal work relations (unions, schoolmates, caucus) and informal associations (chum, partner, cronies) to more intimate interactions (sisterhood, friendship, comrade). Also included are neutral interactions (consolidate, mediate, alignment), job-related tasks (network, détente, exchange), personal involvement (teamwork, sharing, contribute), and self-denial (public-spirited, care-taking, self-sacrifice).
Denial	A dictionary consisting of standard negative contractions (aren't, shouldn't, don't), negative functions words (nor, not, nay), and terms designating null sets (nothing, nobody, none).
Diversity	Words describing individuals or groups of individuals differing from the norm. Such distinctiveness may be comparatively neutral (inconsistent, contrasting, non-conformist) but it can also be positive (exceptional, unique, individualistic) and negative (illegitimate, rabble-rouser, extremist). Functionally, heterogeneity may be an asset (far-flung, dispersed, diffuse) or a liability (factionalism, deviancy, quirky) as can its characterizations: rare vs. queer, variety vs. jumble, distinctive vs. disobedient.
Embellishment	Adjectives / Verbs

Variable	Description
Exclusion	A dictionary describing the sources and effects of social isolation. Such seclusion can be phrased passively (displaced, sequestered) as well as positively (self-contained, self-sufficient) and negatively (outlaws, repudiated). Moreover, it can result from voluntary forces (secede, privacy) and involuntary forces (ostracize, forsake, discriminate) and from both personality factors (small-mindedness, loneliness) and political factors (right-wingers, nihilism). Exclusion is often a dialectical concept: hermit vs. derelict, refugee vs. pariah, discard vs. spurn).
Familiarity	Consists of a selected number of C.K. Ogden's "operation" words that he calculates to be the most common words in the English language. Included are common prepositions (across, over, through), demonstrative pronouns (this, that) and interrogative pronouns (who, what), and a variety of particles, conjunctions and connectives (a, for, so).
Hardship	This dictionary contains natural disasters (earthquake, starvation, tornado, pollution), hostile actions (killers, bankruptcy, enemies, vices) and censurable human behavior (infidelity, despots, betrayal). It also includes unsavory political outcomes (injustice, slavery, exploitation, rebellion) as well as normal human fears (grief, unemployment, died, apprehension) and incapacities (error, cop-outs, weakness).
Human Interest	An adaptation of Rudolf Flesch's notion that concentrating on people and their activities gives discourse a life-like quality. Included are standard personal pronouns (he, his, ourselves, them), family members and relations (cousin, wife, grandchild, uncle), and generic terms (friend, baby, human, persons).
Insistence	(Heavily Used Words x Total Occurrences)/10
Inspiration	Abstract virtues deserving of universal respect. Most of the terms in this dictionary are nouns isolating desirable moral qualities (faith, honesty, self-sacrifice, virtue) as well as attractive personal qualities (courage, dedication, wisdom, mercy). Social and political ideals are also included: patriotism, success, education, justice.
Leveling	Words used to ignore individual differences and to build a sense of completeness and assurance. Included are totalizing terms (everybody, anyone, each, fully), adverbs of permanence (always, completely, inevitably, consistently), and resolute adjectives (unconditional, consummate, absolute, open-and-shut).

Variable	Description
Liberation	Terms describing the maximizing of individual choice (autonomous, open-minded, options) and the rejection of social conventions (unencumbered, radical, released). Liberation is motivated by both personality factors (eccentric, impetuous, flighty) and political forces (suffrage, liberty, freedom, emancipation) and may produce dramatic outcomes (exodus, riotous, deliverance) or subdued effects (loosen, disentangle, outpouring). Liberatory terms also admit to rival characterizations: exemption vs. loophole, elope vs. abscond, uninhibited vs. outlandish.
Motion	Terms connoting human movement (bustle, job, lurch, leap), physical processes (circulate, momentum, revolve, twist), journeys (barnstorm, jaunt, wandering, travels), speed (lickety-split, nimble, zip, whistle-stop), and modes of transit (ride, fly, glide, swim).
Numerical Terms	Any sum, date, or product specifying the facts in a given case. This dictionary treats each isolated integer as a single "word" and each separate group of integers as a single word. In addition, the dictionary contains common numbers in lexical format (one, tenfold, hundred, zero) as well as terms indicating numerical operations (subtract, divide, multiply, percentage) and quantitative topics (digitize, tally, mathematics). The presumption is that Numerical Terms hyper-specify a claim, thus detracting from its universality.
Passivity	Words ranging from neutrality to inactivity. Includes terms of compliance (allow, tame, appeasement), docility (submit, contented, sluggish), and cessation (arrested, capitulate, refrain, yielding). Also contains tokens of inertness (backward, immobile, silence, inhibit) and disinterest (unconcerned, nonchalant, stoic), as well as tranquility (quietly, sleepy, vacation).
Past Concern	The past-tense forms of the verbs contained in the Present Concern dictionary.
Praise	Affirmations of some person, group, or abstract entity. Included are terms isolating important social qualities (dear, delightful, witty), physical qualities (mighty, handsome, beautiful), intellectual qualities (shrewd, bright, vigilant, reasonable), entrepreneurial qualities (successful, conscientious, renowned), and moral qualities (faithful, good, noble). All terms in this dictionary are adjectives.
Present Concern	A selective list of present-tense verbs extrapolated from C.K. Ogden's list of "general" and "picturable" terms, all of which occur with great frequency in standard American English. The dictionary is not topic-specific but points instead to general physical activity (cough, taste, sing, take), social operations (canvass, touch, govern, meet), and task-performance (make, cook, print, paint).
Rapport	This dictionary describes attitudinal similarities among groups of people. Included are terms of affinity (congenial, camaraderie, companion), assent (approve, vouched, warrants), deference (tolerant, willing, permission), and identity (equivalent, resemble, consensus).

Variable	Description
Satisfaction	Terms associated with positive affective states (cheerful, passionate, happiness), with moments of undiminished joy (thanks, smile, welcome) and pleasurable diversion (excited, fun, lucky), or with moments of triumph (celebrating, pride, auspicious). Also included are words of nurturance: healing, encourage, secure, relieved.
Self-Reference	All first-person references, including I, I'd, I'll, I'm, I've, me, mine, my, myself. Self-references are treated as acts of "indexing" whereby the locus of action appears to reside in the speaker and not in the world at large (thereby implicitly acknowledging the speaker's limited vision).
Spatial Awareness	Terms referring to geographical entities, physical distances, and modes of measurement. Included are general geographical terms (abroad, elbow-room, locale, outdoors) as well as specific ones (Ceylon, Kuwait, Poland). Also included are politically defined locations (county, fatherland, municipality, ward), points on the compass (east, southwest) and the globe (latitude, coastal, border, snowbelt), as well as terms of scale (kilometer, map, spacious), quality (vacant, out-of-the-way, disoriented) and change (pilgrimage, migrated, frontier.)
Temporal Awareness	Terms that fix a person, idea, or event within a specific time-interval, thereby signaling a concern for concrete and practical matters. The dictionary designates literal time (century, instant, mid-morning) as well as metaphorical designations (lingering, seniority, nowadays). Also included are calendrical terms (autumn, year-round, weekend), elliptical terms (spontaneously, postpone, transitional), and judgmental terms (premature, obsolete, punctual).
Tenacity	All uses of the verb "to be" (is, am, will, shall), three definitive verb forms (has, must, do) and their variants, as well as all associated contractions (he'll, they've, ain't). These verbs connote confidence and totality.
Variety	Different Words / Total Words

A sampling of annual financial reports from a variety of Fortune 500 companies, including 3M, Ford, Merck, Dynatech, etc. were run through the software to establish the tolerances for corporate financial reports. These tolerances were used in this research to determine when a shareholder letter or a management discussion registered a score that was “out of range” for the master variables. A dummy variable was set to one if the letter or discussion registered out of range and zero if it did not. Comparisons

were then made between years, with a change in score, either from zero to one or from one to zero, recorded as a change in tone.

APPENDIX E

SPIN-OFF AND PARENT FIRMS

Year	Spin-off	Spin-off SIC	Parent	Parent SIC
1986	Anadarko Petroleum	1311	Panhandle Eastern	4922
1986	Kirschner Medical	3840	Hazleton Labs	7391
1986	North American Communications	4830	Communications System	3661
1986	Premark International	3089	Kraft	2022
1986	VWR	7330	Univar	2833
1986	York International	3585	Borg Warner	2821
1987	Abitibi-Price	2621	Gulf Canada	2952
1987	Aspen Leaf	5650	Bayly	2328
1987	Broadway Holdings	7010	American Midland	7010
1987	Csc Industries	3310	Copperweld	3316
1987	Cyclops Industries	3316	Alleghany	6611
1987	Diamond Shamrock	2810	Maxus Energy	2812
1987	Grow Ventures	3410	Grow Group	2851
1987	Gulf Canada Resources	1311	Gulf Canada	2952
1987	Hancock Fabrics	5949	Lucky Stores	5411
1987	Imo Delavel	3612	Transamerica	6711
1987	Intertan	5730	Tandy	5732
1987	Kay Jewlers	5094	Kay	5944
1987	Nieman Marcus	5311	Carter Hawley Hale Stores	5311
1987	Nycor	3580	Fedders	3714
1987	Sprague Technologies	3675	Penn Central	4011
1988	A P Green Industries	3290	U S G	3275
1988	Baroid New	7359	N L Industries	1389
1988	BHA Group	3560	Standard Havens	3564
1988	Concorde Career lleges	8240	Cencor	6145
1988	Corcap	2822	Lydall	2631
1988	Dekalb Genetics	5191	Dekalb Energy	1380
1988	Electronic Research Associates	3679	REFAC Technology	7397
1988	Fibreboard	2653	Louisiana Pacific	2436
1988	First Financial Caribbean	6160	Culbro	2121
1988	Genlyte Group	3640	Bairnco	6711
1988	KCS Group	5170	N U I	6711
1988	Ketema	3354	Ametek	3822
1988	Medusa	3241	Crane	3494
1988	Michigan Consolidated Gas	4924	Primark	2751
1988	Pride Petroleum Services	1310	Dekalb Energy	1380
1988	S A Y Packaging	3070	Scribe Systems	3079
1988	Sun Exploration & Production	1382	Sun	2911
1988	Sunstyle	1520	Raymond James Financial	6211
1988	Tejas Gas	1311	Hamilton Oil	1311
1989	Allergan	2834	Smithkline Beckman	2834
1989	API Print	6799	Affiliated Publications	2711
1989	Atrix Laboratories	2830	Vipont Pharmaceutical	2830
1989	Beckman Instruments	3826	Smithkline Beckman	2834

Year	Spin-off	Spin-off SIC	Parent	Parent SIC
1989	Burlington Resources	3312	Burlington Northern	4011
1989	Cray Computer	3570	Cray Research	3573
1989	Eljer	6141	Household International	6145
1989	Geotek Industries	3690	Patlex	7390
1989	Henley Group	2830	Wheelabrator Group	2830
1989	IFR Systems	3610	Regency Electronics	3662
1989	Kaufman & Broad Home	1521	Broad	1521
1989	Matlack Systems	4213	R L C	7512
1989	RSI Holdings	5080	Delta Woodside	5021
1989	Schwitzer	6141	Household International	6145
1989	Scotsman Industries	6141	Household International	6145
1989	Showbiz Pizzatime	5812	Integra A Hotel & Restaurant	7011
1989	Tredegar Industries	3081	Ethyl	2899
1989	Trimas	3690	Masco	3432
1989	Vivra	8031	Community Psychiatric	8063
1989	Waban	5331	Zayre	5311
1989	Yankee Energy System	4920	Northeast Utilities	4911
1990	Aerovox	3620	Cooper Industries	3511
1990	Alliant Techsystems	3679	Honeywell	3483
1990	American Savings & Loan Assn	6030	Enstar Group	8351
1990	Catellus Development	6552	Santa Fe Pac	1311
1990	Datronix Financial Services	7389	B S D Bancorp	6711
1990	E S C O Electronics	3577	Emerson Electric	3621
1990	Firstmiss Gold	1040	First Mississippi	2819
1990	Henley Group	2830	Henley Properties	2830
1990	Hillhaven	8072	National Medical Enterprises	8062
1990	Keene	3670	Bairnco	6711
1990	Momentum	7330	VWR	7330
1990	Pool Energy Services	1380	Enserch	4924
1990	Promus	7011	Holiday	7011
1990	Southern Union	4923	Metro Mobile	4813
1990	Unitrin	6320	Teledyne	3662
1990	Venture Stores	5311	May Department Stores	5311
1990	Videocart	3660	Information Resources	7370
1991	Biowhittaker	2835	Whittaker	2851
1991	Celtrix Laboratories	2830	Collagen	3840
1991	Fisher Price	5092	Quaker Oats	2043
1991	Lawyers Title Conversion	6361	Universal Corp	5159
1991	National Health Investors	8011	National Healthcorp	8049
1991	PET	2023	Whitman	2086
1991	Rigel Energy	1311	Total Petroleum North America	2911
1991	Tandy Brands Accessories	3170	Bombay Company	5712
1992	A C X Technologies	3260	Adolph Coors	2082
1992	Abex	3728	Henley Group	2830
1992	Caremark International	8099	Baxter International	2834
1992	Control Data Systems	7370	Ceridian	3571

Year	Spin-off	Spin-off SIC	Parent	Parent SIC
1992	General Cable	3350	Penn Central	4011
1992	GFC Financial	6153	Dial	4131
1992	Indresco	3533	Dresser Industries	1031
1992	Praxair	2819	Union Carbide	2819
1992	Precision Systems	2810	Home Shopping Network	7299
1992	Spacelabs Medical	3600	Advanced Technology Labs	3840
1992	Worldtex	2241	Willcox & Gibbs	3636
1993	Alltrista	5050	Ball	3221
1993	Alumax	3334	Amax	1011
1993	Anika Research	2830	Medchem Products	2819
1993	Aptargroup	3089	Pittway	6712
1993	Aviall	7699	Ryder System	4210
1993	Contempri Homes	1521	E S I Industries	1382
1993	Dean Witter Discover	6211	Sears Roebuck	5311
1993	Diasonics Ultrasound	5040	O E C Medical Systems	2835
1993	Dovatron International	3670	Dover	3534
1993	First Colony	6311	Ethyl	2899
1993	Galen Health Care	8399	Humana	8062
1993	Lone Star Casino	7990	Viral Testing Systems	3575
1993	Mai Systems	3571	Brooke Group Ltd	2111
1993	Marriott International	7011	Host Marriott	7011
1993	Mental Health Management	8099	Mediq	3851
1993	Phillips & Jacobs	3860	Tasty Baking	6711
1993	Ralston Continental Baking Group	2047	Ralston Purina	2041
1994	Airtouch Communications	7372	Pacific Telesis Group	4811
1994	Albemarle	2819	Ethyl	2899
1994	Associated Group	4830	Associated Communications	4832
1994	Belding Heminway	2200	Noel Group	1380
1994	Eastman Chemical	3861	Eastman Kodak	3830
1994	Gardner Denver Machinery	3530	Cooper Industries	3511
1994	Genzyme - Tissue Repair	2840	Genzyme	2840
1994	Harris Computer Systems	7370	Harris	3662
1994	Lone Star Industries	3272	Lone Star Corp	3272
1994	Qlogic	3670	Emulex	3570
1994	Ralcorp Holdings	2047	Ralston Purina Group	2047
1994	Rayonier	2620	ITT	3661
1994	Santa Fe Pacific Gold	1041	Santa Fe Pacific	1311
1994	Western Atlas	1389	Litton Industries	3570
1995	Airways	4510	Mesaba Holdings	4510
1995	Allstate	6331	Sears Roebuck	5311
1995	Capital One Financial	6141	Signet Banking	6025
1995	Castle & Cooke	2033	Dole Foods	2033
1995	Cooper Cameron	3530	Cooper Industries	3512
1995	Crown Vantage	2620	James River	6711
1995	Culligan Water Technologies	3589	Samsonite	3161
1995	Darden Restaurants	5812	General Mills	2043

Year	Spin-off	Spin-off SIC	Parent	Parent SIC
1995	Dave & Busters	5800	Edison Brothers Stores In	5661
1995	Hartford Financial Svcs Group	6331	ITT Industries Ind	3594
1995	Healthdyne Technologies	3840	US Healthdyne	3840
1995	Patlex	3840	Autofinance Group	6140
1995	Republic Environmental Systems	4950	Republic Waste Industries	4950
1995	Schweitzer Mauduit Intl	8011	Kimberly Clark	2621
1995	Sterling Commerce	3577	Sterling Software	7379
1995	Transpro	3444	Allen Group	3714
1995	U S Industries	2522	Hanson PLC	6733
1996	Advanced Digital Information	3570	Interpoint	3670
1996	Allegiance	2834	Baxter International	2834
1996	Bally Total Fitness	7990	Bally Entertainment	7011
1996	Billing Information Concepts	7370	US Long Distance	4810
1996	Bone Care International	2830	Lunar	3840
1996	Cardiotech International	3845	Polymedica Industries	3842
1996	Chemfirst	6036	First Mississippi	2819
1996	Choice Hotels International	7011	Manor Care	8059
1996	Cuno	3560	Commercial Intertech	3561
1996	Data Translation	3570	Media 100	3573
1996	Earthgrains	5149	Anheuser Busch	2082
1996	Echelon International	6512	Florida Progress	4911
1996	Electronic Data Systems	3679	General Motors	3711
1996	Highlands Insurance Group	6311	Halliburton	1389
1996	Host Marriott Services	7011	Host Marriott	7011
1996	Imation	3572	3M	2640
1996	Imperial Tabacco	2111	Hanson PLC	6733
1996	Millennium Chemical	2813	Hanson PLC	6733
1996	National Medical Care	8059	Grace W R & Co	4400
1996	Newport News Shipbuilding	3731	Tenneco Automotive	3523
1996	Payless Shoesource	5661	May Department Stores	5310
1996	Pittston Bax Group	1221	Pittston	1221
1996	Tupperware	3089	Premark International	3089
1996	Union Pacific Resources Group	1311	Union Pacific	4000
1996	Unisource	6552	Alco Standard	2891
1996	Viad	4131	Dial	4131
1997	Arvinmeritor	3714	Rockwell International	3465
1997	Ascent Entertainment Group	4840	Comsat	4899
1997	ATL Products	3570	Odetics	3570
1997	Cable Michigan	4840	C Tec	4810
1997	Ensearch Exploration	4924	Enserch	4924
1997	Mego Mortgage	6160	Mego Financial	6530
1997	Monterey Resources	1099	Santa Fe Energy Resources	1311
1997	Raytheon	3812	General Motors	3711
1997	RCN	4840	C Tec	4810
1997	Solutia	3089	Monsanto	2823
1997	Tricon Global Restaurants	5812	Pepsico	2086

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