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BOARD STRUCTURE AND MARKET REACTION TO CORPORATE DIVESTITURE DECISIONS

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ABSTRACT

Board Structure & Market Reaction to Corporate Divestiture Decisions

Rami Bazzi

Recently, the topic of internal corporate governance has been the focus of many studies by scholars and practitioners. Specifically, researchers have studied the effects of board structure on shareholders' wealth in the context of different financial decisions, such as green mail, management buy-out, bankruptcy, and mergers and acquisitions. However, the differences in the internal governance of divestitures, usually undertaken to reverse a merger activity and increase the firm's focus on its core business, have not been empirically investigated.

This study examines the market reaction to divestiture decisions characterized by spin-offs and equity carve-outs. It further moves to analyze the determinants of such reaction by focusing on firm specific variables, as well as those characterized by the board structure of the divested firm. To our knowledge, this latter aspect of divestiture decisions has not been comprehensively analyzed in the literature.

The results show that only shareholders of spin-off firms realize significant abnormal returns at the announcement date. There is some support for the hypothesis that states that carve-out firms have higher needs for external financing. The belief that carve-out firms have better access to capital markets is not empirically supported. Also, market reactions to divestitures, which are characterized by smaller boards, are found positive and larger, supporting the efficiency argument of the firm's internal governance. Moreover, a higher voting control by outside directors was positively related to the abnormal returns of the divestiture sample. Spin-off firms with higher dividends realize lower returns at the announcement of a divestiture. Outside board directorships are associated with positive abnormal returns for spin-off firms. In addition, CEO-chairman duality decreases shareholders' wealth in spin-off firms.

To Suha, Siham, Hassan, Louay, and to the memory of Hani and Rabih

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CHAPTER ONE – INTRODUCTION

The topic of internal corporate governance has been extensively researched by scholars and practitioners in the last decade. Many researchers have attempted to unveil the effect of board structure on major financial decisions and corporate performance. In particular, the effect of corporate governance on shareholders' wealth in the context of mergers and acquisitions has been addressed by Byrd & Hickman (1992) and Shivdasani (1996). While the end of the twentieth century is witnessing a wave of divestiture activities, none of the previous studies examine the effect of board structure and characteristics on the divestiture decision making. A divestiture is typically undertaken to reverse a merger activity and increase the firm's focus on its core business. The main purpose of this paper is to investigate how these reverse merger activities, divestitures, are affected by the characteristics of the board of directors structure.

Empirical studies have shown that boards with different structures and characteristics have different motives and interests and, therefore, have different effects on corporate performance and on the decision making process [Molz, 1988]. Other studies have examined the effect on shareholders' returns at the announcement of a divestiture decision. These studies suggest that spin-offs and carve-outs are associated with positive returns, which supports the view that these decisions result in operating efficiency [Schipper and Smith, 1986, and Hite and Owers, 1983].

The literature has long witnessed a gap between the internal governance characteristics and the choice of the divestiture method. The purpose of this paper is to close this gap by linking the board structure to the nature of divestiture decision. This paper focuses on two forms of divestitures: spin-offs and equity-carve-outs. Specifically, the paper investigates the returns to shareholders at the announcement of a divestiture as well as the impact of different board structures associated with each type of divestiture.

Many studies have examined the effect of corporate governance on corporate performance, management turnover, and various financial decisions. Empirical studies have shown that boards with different structures and characteristics have different motives and interests and, therefore, have different effects on corporate performance and/or the decision making process. Vance (1979) investigates the association of some board attributes with corporate performance. The results show that best performers were associated with competent and dynamic internal management. Molz (1988) considers two extreme forms of board of directors: managerial dominated and pluralistic. Managerial dominated boards are constituted of insiders, whereas pluralistic boards include diverse directors. The findings weaken the argument that managerial dominated boards are associated with superior financial performance. Similarly, Rosenstein and Wyatt (1990) report that market reaction to appointments of outside directors is significantly positive, which supports the hypothesis that outside directors are selected, on average, in the interests of shareholders. Yermack (1996) reports that there is an inverse association between board size and firm value and that the largest fraction of lost value occurs as boards grow from small to medium size. Firms realize a positive stock

return around the announcement of a board size reduction, and experience a negative return around the announcement of a board expansion.

Another stream in the literature examined the effect on shareholders' returns at the announcement of a divestiture decision. Divestiture can take on several forms. Spin-off is one form of corporate divestiture where the original company is split into different entities, each has its own stocks traded separately on the capital market. The stocks of the spun-off division are divided on a pro rata basis to shareholders of the original corporation. Another form of divestiture is equity carve-out. This method divestiture is similar to a spin-off in that it creates a new business entity that has its own stocks. However, an equity carve-out establishes a new shareholder base for the divested division, and generates a positive cash flow to the divesting company.

Previous studies find that announcements of spin-offs are associated with positive abnormal returns, which supports the view that spin-offs result in operating efficiency [Schipper & Smith, 1986, Hite & Owers, 1983, and Miles & Rosenfeld, 1983].

Michaely and Shaw (1995) argue that a company chooses spin-off whenever the management considers the divested asset to be undervalued, and, therefore, is worth more than what the market estimates. Consequently, a spin-off will keep the undervalued assets in the hands of the original shareholders. In addition, Michaely and Shaw (1995) document that more leveraged firms divest through spin-off, which is consistent with the hypothesis that weak companies have restricted access to the capital market. The authors

report that carve-outs are associated with a significant positive market reaction. Also, they find little support for the hypothesis that the need for cash is the reason behind choosing an equity carve-out divestment.

The results of this study will be of great interest to both academics and practitioners. From an academic standpoint, this study will attempt to clearly identify the structure of boards that divest through an equity carve-out and those of boards that divest through a spin-off. Until now, we do not know how the type of the divestiture is affected by the internal governance structure. The linkage between the divestiture type and the internal governance structure is important because it identifies the economic rational behind the divestiture decision. In terms of practical interest, tremendous interest has been shown from companies and industry analysts in understanding the effect of internal governance structure on the firm's performance and growth. Companies are striving to create board of directors that best protect shareholders' wealth and monitor management's activities. Therefore, knowing what board structure is aligned with companies' value maximization objectives is of great importance to practitioners. In addition, this paper examines market reactions to divestiture decisions and analyzes the determinants of these reactions. Using a sample of spin-offs and carve-outs performed during 1988-1992, the study provides evidence that divestitures increase shareholders' wealth. We also find that the choice between spin-off and carve-out may be driven by the need for external financing and level of internally generated funds. Consistent with previous studies, the results show that outside directors control, board size, CEO-chairman duality, and outside board directorships explain the excessive returns of divesting firms.

The remainder of this paper is organized as follows: chapter two provides a review of related work on divestitures; chapter three describes the hypotheses and methodology; chapter four outlines the data and the sample collection; chapter five presents the results and the analysis; and chapter six provides a conclusion.

CHAPTER TWO – BACKGROUND & RELATED WORK

Section one – The Literature on Divestitures

This section provides a literature review on two types of divestitures: spin-off and equity carve-out. In addition, the motivations behind each type of divestiture as well as the sources of gain to shareholders upon the announcement of a divestiture are presented.

1.1 Spin-offs

Spin-off is one form of corporate divestiture where the original company is split into two different entities, each has its own stocks traded separately on the capital market. The stocks of the spun-off division are divided on a pro rata basis to shareholders of the original corporation. As a result, shareholders of the original company remain the owners of the spun-off division. This method of divestiture does not generate any cash to the parent company. However, the company will be able to get rid of inefficient divisions, and focus more on its core business. In addition, there will be an increase in public disclosure about the spun-off unit, which will improve investors' understanding and investment opportunities.

Several studies in the finance literature investigate the impact of spin-off activities on shareholders' wealth. Most researchers reached a consensus that spin-offs are associated with positive abnormal returns to the parent.

Schipper and Smith (1983) test the effect of spin-off on shareholders' wealth. Their sample consisted of 93 spin-offs over the period 1963 – 1981. Using the market model to estimate the abnormal returns, the findings reveal a significant positive abnormal return to parent companies around the announcement of a spin-off. By the same token, Hite and Owers (1983) report significant positive abnormal returns to shareholders of 116 firms involved in spin-off activities during the period 1963 – 1981.

In addition, Rosenfeld (1984) reports that shareholders of divesting and acquiring firms realize positive abnormal return at the announcement of a spin-off. The sample consisted of 35 spin-offs during the period 1963 – 1981.

Cusatis, Miles, and Woolridge (1993) examine whether the spin-off is a value-creating mechanism to parent firms, and spun-off subsidiaries. The sample consists of 146 spin-offs over the 1965 – 1988 period. The results show that parent companies and spun-off units do not experience significant abnormal returns in the short-term, 40 trading days. However, both the parent firms and their spun-off subsidiaries realize superior abnormal returns over a three-year period after the spin-off. Nevertheless, the results indicate that the added value created through spin-offs is restricted to firms involved in takeover activities within three years from the spin-off date. The authors conclude that spin-offs create value by providing an efficient way for bidding firms to acquire corporate assets without having to acquire the entire parent firm. The methodology used in Cusatis et al (1993) is different than the ones used in other papers. The authors calculate post-spin-off abnormal returns rather than focusing on announcement's returns only.

1.2 Equity Carve-outs

An equity carve out is similar to a spin-off in that it creates a new business entity that has its own stocks. However, an equity carve out establishes a new shareholder base for the divested division, and generates a positive cash flow to the divesting company. Nevertheless, the divestment through an equity carve out is accompanied with some expenses and is subject to more stringent disclosure requirements by the SEC. Firms that need cash to finance growth opportunities, to distribute cash to shareholders, or to repay debts may choose to divest through an equity carve-out.

Schipper and Smith (1986) compares the abnormal returns to shareholders of parent companies at the announcement of equity carve-outs to those at the announcement of seasoned equity offerings. A sample of 76 carve-outs during the period 1963 – 1983 is used in their study. The results show that shareholders gain 1.8% abnormal returns at the announcement of equity carve-out. This result is compared to a 3% loss associated with seasoned equity offerings.

Slovin, Sushka, and Ferraro (1995) examine the returns to parent firms that undertook equity carve-out or spin-off activities, and the returns to the rival firms of both the parent and the divested subsidiary. The latter tests help understand the source of gain/loss to the parent company and its subsidiary. Similar to previous findings, the results show that shareholders of firms that announce an equity carve-out experience a significant positive abnormal return at the announcement of an equity carve-out.

Michaely and Shaw (1995) report that carve-outs are associated with a significant positive market reaction. Also, they find little support for the hypothesis that the need for cash is the reason behind choosing an equity carve-out divestment. By examining the percentage of shares owned by insiders and the size of the firm, they observe that the probability of a carve-out is higher for larger divestitures and higher fractional holdings by insiders. Moreover, firms that choose the carve-out route tend to be large, with high profitability and low level of debt [Michaely & Schaw, 1995].

1.3 Restructuring & Motivation

In a perfect capital market, a divestiture announcement should not alter the value of the firm unless investors expect future cash flows to increase. The finance literature identifies several motives behind divestiture decisions. Most motives for divestiture are related to issues such as operational efficiency, asset management, elimination of negative synergy, enhancing investment and growth opportunities, and reconstructing managerial incentive contracts. Other studies examine spin-off as an antitakeover mechanism, Loh, Bezjak, and Toms (1995), and others investigate spin-offs in the agency framework, Myers (1977), Aron (1991), and Seward and Walsh (1996).

Hite and Owers (1983) identifies three rationales that lead to the corporate divestiture decision. The 123 spin-offs in their sample were classified in three different categories: firms that divest to facilitate a merger, firms that divest to increase their focus on core business, and those who divest in response to legal/regulatory difficulties. The latter

group experiences negative abnormal return, while the first two categories realize positive abnormal returns of 0.116% and 0.145%, respectively. Schipper and Smith (1986) find that spin-offs are associated with positive returns, which supports the view that spin-offs result in operating efficiency. On the contrary, Michaely and Shaw (1995) do not give support to previous studies that find that spun-off companies outperform the market. Indeed, these companies achieved returns well below the market return. Also, there is little support for operating efficiency as being the main reason for spin-off. Michaely and Shaw (1995) argue that a company chooses spin-off whenever the management considers the divested asset to be undervalued, and, therefore, is worth more than what the market estimates. Consequently, a spin-off will keep the undervalued assets in the hands of the original shareholders. The authors hypothesize that firms with high level of debt, or without high growth opportunities, will face difficulties accessing the capital market. Therefore, these firms will divest through a spin-off. The results do not show that spun-off divisions were undervalued at the time of divestiture. The hypothesis that management wants to keep undervalued assets in the hands of original shareholders is therefore rejected. However, Michaely and Shaw (1995) document that more leveraged firms divest through spin-off, which is consistent with the hypothesis that weak companies have restricted access to the capital market.

Nanda (1991) reports that firms choose an equity carve-out whenever the parent company is undervalued. When the company needs to raise cash, it is better to raise it through an overvalued subsidiary rather than through the undervalued parent company.

Looking at financial performance as the main motive behind divestitures, Khan and Mehta (1996) hypothesize that firms "undertake voluntary divestiture when they suffer from inadequate profitability, or poor discretionary cash flows, or excessive operating and financial leverage." The results support the hypothesize and reveal that spin-offs are undertaken by firms with high operating risks, whereas those with low operating risk divest through a sell-off.

1.4 Sources of Gain

As mentioned earlier, in a perfect capital market, divestitures should not result in any abnormal returns neither to the parent company nor to its subsidiary. However, the literature shows that most of the divestitures result in abnormal returns to the parent company as well as to the divested unit. Hypothesized sources of gain were diverse and included wealth transfer from bondholders to shareholders, improvement in investment opportunity, enhanced incentive-based contracts, improved managerial efficiency, tax advantages, and involvement in takeover activities after the divestiture.

Cusatis et al, (1993) conclude that the source of gain to spun-off units and their parents is attributed to their involvement in takeover activities after the spin-off. Spin-offs provide an efficient mechanism for companies willing to acquire part of the corporate assets. By creating two separate entities, bidders are able to create more value since they do not have to acquire the whole company and incur unnecessary expenses. The authors compare the takeover activity of the spin-off sample to a matching sample based on

market value and a four-digit SIC code. Both parent companies and spun-off units were significantly more involved in takeover activities than their corresponding matching firms within two to three years from the spin-off date.

Schipper and Smith (1983) examine wealth transfer from bondholders to shareholders as a source of gain from spin-offs. In that case, there is a reduction in the expected cashflows to bondholders. Their results provide evidence that the leverage of spun-off subsidiaries is similar to that of the pre-spin-off firms. In addition, changes in bond prices and bond ratings do not reveal that bondholders' wealth is changed as a result of the spin-off. The paper concludes that wealth transfer from bondholders to shareholders is not likely to be the source of gain around the announcement of spin-offs. By the same token, Hite and Owers (1983) examine if spin-offs gains are an expropriation from bondholders to common stockholders. The results show small positive abnormal returns to senior securityholders, however, these returns are not statistically significant. Therefore, the hypothesis that wealth transfer from bondholders to stockholders is the source of gain in spin-offs is rejected.

Shipper and Smith (1986) examine the effect of spin-offs on contracts other than between stockholders and bondholders. They investigate if the source of gain is attributed to changes in contracts with regulators such as Internal Revenue Service, labor unions, or rate regulators. These contracts might change and benefit shareholders once the asset structure of the parent company changes and a new entity is created. The results indicate

that firms who divested for that reason incur a positive abnormal return. However, these returns do not fully account for the total gains of the sample.

Another contract considered by the authors is the incentive-based contract between managers and shareholders. The paper identifies two reasons that diminish returns to management: first, the number of divisions under management control, and second, the diversity of assets under management control. Spin-offs reduce the number and the diversity of assets managed. This helps to improve incentive-based contracts by tying management compensation to the performance of the divested business unit.

Section Two – The Literature on Board of Directors

In the following section, we will start by discussing the main duties of the board of directors and the characteristics of its structure. Then, a discussion about the related work will follow.

2.1 Board of directors

The role of the board of directors is to act on behalf of shareholders and to ensure that management's activities are value maximizing. In other words, it is the board's role to eliminate the presence of agency problem. Managers might expropriate shareholders' wealth for their own benefits through different methods, such as setting up independent companies and transferring to them the assets of the company they control, resisting to resign when they are no longer capable and qualified to run the company, or simply to undertake unprofitable projects to increase their managerial compensation [Shleifer & Vishny, 1995]. Board of directors are supposed to be the guardians of shareholders interests and they should undertake any protective measures when necessary. The role of the board of directors includes: establishing strategic direction, securing top management succession, controlling, monitoring, and supervising management, caring for shareholders, and allocating resources [Demb & Neubauer, 1992]. (See Table 1 for more details)

Table 1

The Mandate of the Board

Establishing strategic discretion
Creating policy for the corporation
Securing succession, hiring, and firing of the CEO and top management
Controlling, monitoring, and supervising
Caring for shareholders and ensuring dividends
Deciding on the use of resources, investments, and divestments
Setting standards of behavior and securing compliance with the law
Caring for employees
Caring for the community
Involvement in budgets
Securing financial resources
Approving financial results
Securing the implementation of the board decisions
Executive compensation
Preservation of the environment
Ensuring the establishment of appropriate corporate procedures
Caring for customers
Advising and counseling top management
Involvement in setting personnel policies
Achieving coordination and coherence throughout the company
Taking care of the composition of the board
Representing the company in the public and playing spokesperson

2.2 Structure & Characteristics of the Board

2.2.a Independence

In order to avoid potential conflict of interests, board members should not have any connection or personal ties with the company's management. Otherwise, it will be difficult for them to challenge management's proposals and to provide an unbiased judgment [The Conference Board, 1993]. Accordingly, most companies are appointing more outside directors, and they are reducing the number of inside executives in the board.

2.2.b Size

The size of the board has been a controversial issue over the years. However, "there is certainly no perfect size. A board should be large enough to avoid becoming too intimate and small enough that no one can escape the pressures of responsibility" [Demb & Neubauer, 1992]. If the board is too large, it becomes very slow and difficult to manage the process of decision making. This may lead to an environment dominated by tension and conflicts, and, therefore, have a negative impact on the firm's performance. On average, the size of a board lies between 5 and 15, depending on the firm's size and industry. Another issue to consider is the proportion of outside directors to inside directors; the outsiders should constitute the majority of the board for the same reasons stated in the previous section.

2.2.c The Nominating committee

The Nominating Committee plays a very important role in paving the road for future growth and improved performance of the company. The committee deals with selecting and hiring new directors and board members, and making sure that they have the expertise that align with the firm's objectives and mission. Further, its function is to "improve and formalize the process by which board membership needs are assessed and candidates are located and screened" [The Conference Board, 1993].

2.2.d The Compensation Committee

The committee should ensure the fairness of the compensation scheme for both the executives and the firm. It should prohibit any excessive payment or abuse.

The following describes the detailed role of Compensation Committees:

- Review the company's table of organization, and the responsibilities and performance of managers.
- Recommend to the board compensation and fringe benefits for the board and selected principal corporate officers.
- Approve executive salary grade structure, and compensation and fringe benefits for other principal corporate officers.
- Each year the committee should (a) approve the CEO's goals and his/her performance against those goals, (b) approve annual incentive compensation targets by salary grade, (c) and approve an annual incentive compensation award for the CEO and other managers.
- Approve (a) long-term incentive compensation measurements for the succeeding cycle and grant guidelines by salary grade, (b) stock option awards, and (c) performance unit awards.
- Review (a) changes in principal corporate officers, (b) policy on matters pertaining to compensation, (c) special benefits and perquisites, (d) corporate results against corporate goals, and (e) compensation changes made previously to determine whether policies established by the Committee have been executed as intended and are achieving the intended results [The Conference Board, 1993].

2.2.e The Audit Committee

With the cooperation of an external audit firm, the Audit Committee monitors financial reporting and controls. It reviews the annual financial statements, and examines changes in accounting policies and legislation. Moreover, the Audit Committee monitors the firm's internal audit system and scrutinizes the effectiveness of the control system throughout the corporation [Demb & Neubauer, 1992].

2.2.f The Chairman of the Board

The Chairman responsibilities are to plan, schedule, and manage meetings of both the board and the committees. The CEO does not report to the Chairman, but rather he/she reports to the board as a whole. The Chairman and the CEO are expected to maintain a healthy relationship and work together on certain issues. In some companies the Chairman of the board happens to be the CEO of the company. In this case, the degree of agency problem is expected to be high, and monitoring measures to protect shareholders interests will not be efficient [The Conference Board, 1993].

2.2.g Information

Information is an important factor that can affect directors' decisions. Companies have to provide directors with any information they request in order to perform their job of monitoring management activities, and acting on behalf of shareholders.

2.3 Board of Directors & Corporate Performance

Having examined the structure and characteristics of the board of directors, we know that boards can be structured in different ways. However, since boards with different structures will have different motives and interests, it is reasonable to assume that firms' performance will be affected differently by different board structures. Fortunately, the answer to this assumption is not a mystery. Finance scholars, as well as others from different disciplines, have tested the impact of board structure on overall firm performance.

Vance (1979) investigates the association of 15 boardroom attributes with corporate performance. The attributes are: technical expertise, managerial experience within the same industry, managerial experience in other industries, specific economic service, broad economic sophistication, image, asset impact, interlock in a legalistic sense, interlock in a social sense, owners' equity, multinational focus, representativeness, social responsibility, public directors, co-management. The results show that best performers were associated with competent and dynamic internal management. Technical expertise and managerial expertise dominated among the other variables [Vance, 1978].

Molz (1988) considers two extreme forms of board of directors: managerial dominated and pluralistic, or activist. Managerial dominated boards are constituted of insiders, whereas pluralistic boards include diverse directors. Molz looked at factors such as joint Chairman/CEO, outside-dominated Nominating Committee, outside-dominated Social Responsibility Committee, inside versus outside directors. The findings weaken the

argument that managerial dominated boards are associated with superior financial performance [Molz, 1988].

Similarly, Rosenstein and Wyatt (1990) report that market reaction to appointments of outside directors is significantly positive, which supports the hypothesis that outside directors are selected, on average, in the interests of shareholders.

Hermalin and Weisbach (1991) investigate differences in firm performance caused by board composition and ownership structure. In contrast to other studies, the findings show no relation between board composition and performance. The number of outsiders and insiders has no effect on performance. In addition, at low levels of ownership, less than one percent, corporate performance improves with increases in ownership. At ownership levels higher than one percent, corporate performance declines with increases in ownership. One possible explanation is that insulation from disciplinary devices, such as the takeover market, more than offsets the increased alignment of interests [Hermalin & Weisbach, 1991]. This result is supported by Morck, Shleifer, and Vishny (1988) who report that Tobin's Q increases, on average, when ownership rises from 0% to 5%, but decreases in the neighborhood of 5% level.

Brook and Rao (1994) examine the impact of adopting liability limitation provisions (LLP) on shareholders wealth. The LLP eliminates directors and managers' personal liability for monetary damages if they are sued by investors for mismanagement reasons. The absence of a LLP decreases the firm's ability of hiring qualified outside directors,

and hence reducing the board's capability to function effectively. The adoption of LLPs increases the cost of disciplining poor decisions. The results indicate that the benefits and costs of adopting LLPs offset each other. However, there is an inverse relationship between market reaction for adopting LLPs and the firm's financial condition. The net benefit of LLPs is higher for financially troubled firms than for other firms. One explanation is that directors of financially distressed firms face a higher probability of being sued, and that the cost of a lawsuit is larger for these firms. Also, LLPs reduce the cost of hiring outside expert directors [Brook & Rao, 1994].

Few studies examine the relation between board size and firm value. Yermack (1996) investigates whether the size of the board represents an important determinant of firms' performance. He argues that smaller boards are more efficient in monitoring management activities, and acting for shareholders' best interest. The results of his study reveal that there is an inverse association between board size and firm value and that the largest fraction of lost value occurs as boards grow from small to medium size. Firms realize a positive stock return around the announcement of a board size reduction, and experience a negative return around the announcement of a board expansion [Yermack, 1996].

2.4 Board of Directors & Management Turnover

Another stream in the literature focused on the relation between management turnover and the board of directors structure. Management turnover is considered as a step toward a new strategy that addresses the firm's future performance.

Management turnover can result from an internal monitoring mechanism of firm performance. Forced to resign by the board of directors, CEOs are more likely to be changed after a weak firm performance. The literature documents an inverse relationship between prior stock performance and CEO turnover [Furtado & Karan, 1990]. Managers are more likely to be removed when the firm approaches bankruptcy. However, performance is not the only factor affecting managerial turnover. Studies have shown that share ownership is an important factor in determining managers' future employment with the firm. Managers with large ownership are seldom changed regardless of the firm performance. Another issue to consider is the board of directors composition. Boards with a large proportion of outsiders is expected to enhance the board's ability to monitor management actions and performance. Inside-dominated boards reduce the probability of management turnover, even when performance is very poor [Furtado & Karan, 1990]. Weisbach (1988) tested the hypothesis that inside and outside directors behave differently in their decisions to remove top management. The findings confirm that CEO turnover is more highly correlated with corporate performance for firms with outside-dominated boards than for firms with inside-dominated boards.

Lerner (1995) examines the representation of venture capitalists on the boards of private firms. Venture capitalists, who finance firms with few tangible assets, are understood to

intensively oversee activities of the firms that are in their portfolios. The paper specifically examines whether venture capitalists' representation on boards is greater when the need for oversight is larger. The results reveal that the representation of venture capitalists increases around the time of CEO turnover. Moreover, since the provision of oversight is costly for venture capitalists, the findings indicate that proximity is an important determinant of board membership.

Helmich (1980) investigates the association of board size variation with CEO turnover. The author argues that "changes in both board size and CEO tenure are considered to be responses in organizational adjustments to environmental conditions." The results confirm that a positive relationship exists between variations in board of directors' size and the rate of replacement of CEOs.

In another perspective, Kaplan and Minton (1994) examine the implications for Japanese managers of appointing outside directors on the board. "In contrast to market-oriented corporate governance in the U.S., corporate governance in Japan is generally characterized as a stable, relationship-based system" [Kaplan & Minton, 1994]. Corporate governance in Japan is influenced by the firm's relationship with its bank, corporate shareholders, and corporate group. There is evidence that appointment of directors increases significantly with poor stock performance. Also, executive turnover increases substantially in years of outside appointments.

2.5 Board of Directors & Financial Decisions

2.5.a Mergers & Acquisitions

In the previous section we discussed the major findings on board of directors structure and its relation to firms' performance and management turnover. In this section the focus is on the board's structure and its influence on major financial decisions.

Byrd and Hickman (1992) investigate the association between the presence of outside directors and the returns to shareholders of bidding firms in tender offers. Outside directors are believed to be more objective in assessing the outcomes of an acquisition than the managers proposing the takeover. The literature provides evidence that bidding firms of tender offers realize significant losses. This suggests that bidding firms either overestimate the target's worth, or that tender offers are motivated by goals other than shareholders wealth maximization. The results disclose that shareholders' wealth of bidding firms is affected by board structure. Shareholders realize less negative returns when board of directors is constituted of at least fifty percent of independent managers. However, a board comprised of entirely outside directors is not associated with positive returns. The results also show that stock ownership by managers and outside directors benefit shareholders of the bidding firm [Byrd & Hickman, 1992].

Shivdasani (1993) examines the characteristics of the board of directors and the ownership structure of firms that receive takeover bids. The findings indicate that there is no relationship between the fraction of outside directors on the board and the likelihood of receiving a hostile takeover attempt. Moreover, there is a negative relationship

between outside directors' ownership and hostile takeover likelihood. This suggests that outside directors have less financial incentives to monitor managerial behavior. In addition, outside directors of hostile targets are involved in less outside directorship activities, which has the benefit of improving a director's experience and expertise. The conclusion is that boards of directors of hostile takeover targets comprise inexperienced managers [Shivdasani, 1993]. The findings of Shivdasani (1993) are affirmed by Weisbach (1993) who went over the same sample and found similar results.

Lee, Rosenstein, Rangan, and Davidson (1992) investigate whether board of directors' composition affects a special type of acquisitions that is induced by management: management buyout (MBO). Since management has an incentive to pay a lower price for shareholders, they might hide some information or try to underpay for the firm. In that case, the role of outside directors assumes greater importance in protecting shareholders' interests. The authors hypothesize that market reaction to MBOs will be greater for firms with boards that are outside dominated than for firms with boards that are inside dominated. The results suggest that agency problem, caused by conflicting interests between managers and shareholders, is reduced for firms with boards dominated by independent members. The market reaction for MBO announcements is higher for such boards.

2.5.b Restructuring

Dann and DeAngelo (1988) examine changes in shareholders' wealth due to restructuring activities - acquisitions, divestitures, and issuance or repurchase of securities - carried out by incumbent management as a defensive strategy against takeover attempts. The findings indicate that the announcement of a defensive corporate restructuring entails significant average wealth losses to target shareholders. Restructuring activities included consolidation of blocks of voting securities in the hands of friendly parties and/or the creation of barriers specific to the hostile bidder [Dann & DeAngelo, 1988].

Another type of restructuring analyzed by Brickley, Coles, and Terry (1994) is the adoption of poison pills. Such a decision conveys to the market that a takeover is likely to occur, which will benefit shareholders. Market reaction to poison pills can vary with the composition of the board of the target firm. The authors report that significant positive market reaction to the announcement of a poison pill is associated with outside-dominated board of directors, whereas inside-dominated boards are associated with significant negative returns.

Mikkelson and Partch (1989) study how managers' control of voting shares affects the firm's likelihood of being a target of control events. There is evidence that takeover attempts by outsiders, as well as managerial resistance to these attempts, are negatively related to managers' control of shares. However, the results indicate that there is a positive relation between managers' voting control and the probability that a takeover attempt will lead to a change in control.

Kosnik (1987) examines the board structure of firms that were involved in greenmail activities. A greenmail, or private repurchase of stocks, does not align with shareholders interests. A greenmail transaction strengthens management control position, and, thus, reduces the role of the market as a disciplinary mechanism. Managers might take decisions that benefit them at shareholders' expense. In addition, a greenmail discriminates against small corporate shareholders, and transfers wealth away from shareholders if it is financed with debts. A comparison between the board structure of companies that paid greenmail and companies that resisted greenmail indicates that boards of greenmail-resisting companies have more outside directors, more directors with executive experience, and more directors who represent interorganizational transactions [Kosnic, 1987].

Board structure and size is subject to change whenever the firm experiences crisis situations or moves to a new operating environment. Gales and Kesner (1994) investigate the impact of chapter 11 filing on board structure. In the pre-bankruptcy period, boards are found to be smaller than their nonbankrupt counterparts and have fewer insiders in the two-year period preceding bankruptcy declaration. For firms that survived bankruptcy, post-bankruptcy results show that boards continued the trend of declining their size and the number of outsiders that began before bankruptcy declaration [Gales & Kesner, 1994]. By the same token, Gilson (1990) analyzes the change in corporate ownership as a result of corporate default. The study reports evidence of shift in control over corporate resources from board of directors and incumbent management

to nonmanagement blockholders and creditors. In some cases, banks place their representatives on the board directly.

2.5.c Dividend policy and diversification

Based on the theory that outside directors better represent shareholders and act for their best interest, Schellenger, Wood, and Tashakori (1989) hypothesize that boards with an outside directors majority take financial decisions that benefit shareholders. In particular, they examined the impact of board structure on dividend policy. The results show that the two-year dividend payout ratio is positively correlated to outside-dominated boards. Zantout and O'Reilly-Allen (1996) also analyze the association between board composition and financial decisions. In accordance to the theory, their findings reveal that boards dominated by outside directors reduce the probability of the firm getting engaged in a diversification program. However, the probability of increasing diversification increases when the CEO of the firm happens to be the Chairman of the board.

CHAPTER THREE – EMPERICAL HYPOTHESES

In this section we develop some hypotheses based on available empirical results and the potential impact of board structure on the divestiture decision.

1. Increased Focus

Divestitures in general are typically undertaken to increase a firm's focus on core business. Shipper & Smith (1983) argue that as the number and diversity of transactions increase, the returns to management diminish. This, in turn, could lead to asset management inefficiencies. In addition, Daley et al. (1997) show that increased focus improves the firm's performance because managerial skills might be more suited to manage the core business rather than the whole diversified firm. By identifying the degree of diversification of each firm, I expect higher abnormal returns for more diversified firms and lower abnormal returns for more focused firms.

2. Need for External Financing

Firms with high growth opportunities that need external financing are expected to divest through an equity carve-out [Michaely & Shaw, 1995]. Carve-outs, contrary to spin-offs, generate cash to the parent company, and, therefore, help the firm to finance its positive NPV projects. If the firm divests through a spin-off, it does not get any external financing, and if the firm chooses to issue seasoned equity, the market will react unfavorably to the announcement. Investors perceive a seasoned equity issue as a negative signal about the parent firm's value. Therefore, it is expected that high growth

firms with low internally generated funds and high dividend payout will choose the carve-out route.

3. Access to Market

Michaely & Schaw (1995) hypothesize that firms with higher financial risk are less likely to have sufficient access to the capital market and be able to divest through a carve-out. On the contrary, these firms will choose the spin-off route, which is less costly than a carve-out[1]. Spin-off firms are expected to have a higher financial risk than equity carve-out firms.

4. Board Structure and Characteristic

A set of board variables will be used to explore the differences in board structure and characteristics of both samples. Moreover, it would be of great interest to examine what board variables characterize the structure of the board of firms that undertake divestment activities. Board variables include directors voting control, outsiders cash compensation, board size, number of outside directors as well as many other variables that relate to board composition, characteristics and directors stock ownership and compensation. It is expected that good board of directors will lead the firm to take value maximizing decisions.

[1] Michaely & Schaw (1995) indicate that carve-out firm incur investment banking and exchange fees that are three times more costly than those of a spin-off. In a spin-off, the parent firm has to distribute the firm to current shareholders, whereas in the carve-out case the parent company has to establish a new set of shareholders.

5. Information Asymmetry

Slovin et al. (1995) argue that firms divest through a carve-out whenever the parent company is undervalued and whenever the market's perceived value of the subsidiary is higher than that of managers. Although this paper does not attempt to investigate the under or overvaluation of the parent firm or its subsidiary, some of the variables used in this study may reflect the degree of information asymmetry that is present for the firm. The higher the growth opportunities and the more diversified is the firm, the higher the asymmetry of information is expected to be. This may result in undervaluation of the firm's value. If this is the case, it is better for the parent company to spin-off the subsidiary and to keep the undervalued assets in the hands of shareholders rather than selling it to the public.

CHAPTER FOUR – SAMPLE SELECTION & METHODOLOGY

1.1 Sample Selection

A preliminary sample of 100 divestitures was selected from companies traded on the New York Stock Exchange. The sample represents 54 equity carve-outs and 46 spin-offs during the period 1988 - 1992. The sample of divestitures was obtained from Security Data Corporation[2], which includes the name of the parent company, the divested subsidiary, the effective date, the ticker symbol of the subsidiary, and the stock exchange on which the subsidiary is traded. The exact event date as well as the parent's stock exchange, for the spin-off sample, was collected from the M&A IDD reports database. 45 spin-offs were eliminated because they were traded on exchanges other than the NYSE, which resulted in a sample of 46 spin-offs. The divestiture sample covers a period that was not covered by most previous studies. One exception is the Slovin et al. (1995) paper, which covers the period 1980 – 1991. Board structure variables were gathered from proxy statements of each corresponding company right after the announcement date, which were downloaded from the Lexis Nexis database. The unavailability of some annual reports resulted in the elimination of 12 divestitures, 3 equity carve-outs and 5 spin-offs. The next step was to gather daily stock returns from the 1995 CRSP tapes (Center for Research on Security Prices). Firms lacking stock returns from day –300 to day +45 from the event date were eliminated, which finally resulted in a sample of 41 equity carve-outs and 30 spin-offs.

[2] The equity carve-out sample was used by Stephen Wood (1995), which was obtained from Security Data Corporation. We thank the author for providing us with the list of carve-out firms.

Financial data for 5 years prior to the event date and two years after the event date were collected from the Compustat database. One equity carve-out and five spin-offs were not available which reduced the sample to a total of 65 observations. Nevertheless, at each step of the testing process the maximum number of observations available was used. For instance, analysis of board structure was based on a sample of 92 cases, calculation of cumulative abnormal returns used 71 cases, and regression analysis comprised a total of 64 firms.

1.2 Sample Statistics

The distribution of divestitures over the 1988-1992 period is reported in Table 2. The number of equity carve-outs increases as we move from the late eighties to the early nineties. The pattern of divestitures through a spin-off seems to follow the opposite trend. The following highlights the fact that equity carve-out is becoming the more favorable method of divestiture for corporate executives.

Table 2

Sample Distribution

Year	Equity Carve-outs	Spin-offs	Total
1988	9	12	21
1989	7	9	16
1990	9	10	19
1991	13	5	18
1992	16	10	26
Total	**54**	**46**	**100**

1.3 Variables Selection

Board Structure and Characteristics

In order to examine the effect of board structure on the divestiture decision and what drives the management of a company to choose between a pin-off or a carve-out as a method of divestiture, several variables that shape the board composition as well as directors' control and compensation were identified. All variables were gathered from companies' proxy statements.

The variables selected identify several categories: the board composition, the board characteristics, outside directors' compensation, and the voting power of board directors. Table 4 reports the variables collected for each different category and Appendix 1 explain how these variables were calculated.

Since boards may differ in structure and composition, it is rational to assume that boards with different structures have different motives and incentives. In order to capture the differences in board structures, this paper examines the number of insiders, outsiders, nonaffiliated outsiders, and the size of the board. These variables are used to investigate any differences in board structure between spin-offs and equity carve-outs. The importance of these variables has been highlighted in the literature by scholars who attempted to unveil the effect of board structure on shareholders' wealth, performance, and the making of financial decisions. Molz (1988) identifies two types of boards: outside-dominated and inside-dominated boards. His findings weaken the argument that managerial dominated boards are associated with superior financial performance.

Similarly, Rosenstein and Wyatt (1990) find that the appointment of outside directors receives favorable reaction in the market. On the contrary, Hermalin and Weibach (1991), by looking at the number of insiders and outsiders, report that there is no relation between board composition and performance. Byrd and Hickman (1992) go further and divide the number of outsiders into affiliated and nonaffiliated outsider directors. The results show that bidding firms with nonaffiliated directors comprising more than fifty percent of the board realize higher abnormal returns than other bidders.

Yermack (1996) finds an inverse relationship between board size and market valuation. In addition, firms with smaller boards have better financial ratios. Variables such as board meetings, CEO-Chairman duality, directors' outside directorships, as well as different other variables were used to examine the board characteristics. Table 4 presents a complete list of these variables. Shivdasani (1993) examines variables such as CEO age, CEO tenure, and CEO-Chairman duality to measure the control power of CEOs and its association with takeover likelihood. Additional directorships by board directors indicate that directors are well reputable monitors, which reflects their ability to effectively act for the shareholders' best interest.

In order to measure outside directors' incentive to monitor the firm's management, outsiders total cash compensation is calculated. Dummy variables that took into account any other benefits included in the compensation package such as retirement plan, stock option, or restricted stocks are also used. In addition, stock and stock options ownership information, for both inside and outside directors, were collected as a proxy for control

and incentive to maximize shareholders' wealth. Increased ownership increases directors' incentive to make decisions that are value maximizing. However, high ownership levels may insulate managers from disciplinary devices, such as the threat of a takeover, rather than aligning their interests with those of shareholders.

Table 3
Board Variables

Composition	**Board Compensation**
Board Size	Outside directors Cash Compensation
Number of Insiders	Outside directors have retirement package
Number of Outsiders	Outside directors receive stock options
Number of Affiliated Outsiders	Outside directors receive stocks
Number of Nonaffiliated Outsiders	Outside directors receive stocks purchase plan
Insiders / Outsiders	Outside directors receive restricted stocks
Insiders / Nonaffiliated Outsiders	Outsiders compensation extensiveness
Board Characteristics	**Control**
Board Classes	Total Directors Voting Control
Frequency of Elections	Total Insiders Voting Control
Total Board & Committees Meetings	Total Outsiders Voting Control
Board Meetings	Insiders Control / Outsiders Control
Committees Meetings	Total Directors & Executives Stock Ownership
CEO / Chairman	Total Directors Stock Ownership
CEO Tenure	Total Insiders Stock Ownership
CEO Age	Total Outsiders Stock Ownership
CEO Directorships	Insiders / Outsiders Stock Ownership
Directors Tenure	Total Directors & Executives Stock Options
Directors Age	Total Directors Stock Options
Board outside Directorships	Total Insiders Stock Options
	Total Outsiders Stock Options
Board has Audit Committee	Outsiders / Insiders Stock Options
Board has Compensation Committee	
Board has Nomination Committee	Total Blockownerships
Board has Executive Committee	Total Affiliated Blockownerships
	Total Nonaffiliated Blockownerships

1.4 Financial Characteristics

In order to test the hypotheses, financial ratios were collected from the Compustat database. Table 5 presents all the ratios collected for the pooled sample. ROA and dividend payout ratios are used to measure the firm's need for external financing [Michaely & Schaw, 1995]. Interest coverage is used by Lang, Poulsen, and Stulz (1995) to measure leverage and risk. Net capital expenditures is used to capture the scale of operations and the need for additional financing [Daley, Mehrotra, and Sivakumar, 1997]

Table 4

Financial Ratios[a]
ROA
Net Capital Expenditure (Assets)
Net Capital Expenditure (Sales)
Debt to Equity
Dividend Payout Ratio
Interest Rate Coverage
Quick Ratio
Debt to Market Value
Quick Acid Ratio
Liquidity to Assets
Size

a. Appendix 1 provides a detailed description of each ratio.

1.5 Methodology

In order to calculate the abnormal returns, the Joint Generalized Least Squares Event Parameter Estimator defined by Malatesta (1986) is used:

$y_{it} = \alpha_I + b_i\, r_{mt} + \gamma_i\, \delta_{it} + u_{it}$

Where:

y_{it} = rate of return to stock i on day t;

α_i, b_i = estimated intercept and slope, respectively, for stock i;

r_{mt} = rate of return to the market portfolio proxy;

γ_i or ARi = abnormal return associated with event periods for firm i;

δ_{it} = dummy variable taking the value 1 if t is an event period for firm i, and the value 0 if not.

u_{it} = estimated residual return on stock i on day t.

Stock returns were used from day –300 to + 45, where day 0 is the announcement date.

$CAR_T = \Sigma^T_{t=t0}\, AR_t$

The following linear regression model is tested:

$CAR_{i,(-1,1)} = f_1$ (Firm related control variables) + f_2 (Board structure variables)

Where:

- $CAR_{i,(-1,1)}$ = Cumulative abnormal returns for firm i over the window [-1,1].
- f_1 (Firm related control variables) include the following:
  - SIC_i = the number of different industries firm i operates in, based on the two-digit SIC code.
  - $INTCOV_i$ = Interest coverage ratio for firm i.

- ROA_i = Return on asset for firm i.
- $SIZE_i$ = Size of firm i represented by the natural log of total assets.
- DIV_i = Dividend payout ratio for firm i.
- $METHOD_i$ = Dummy which takes the value of 0 if the divestiture is a spin-off, and 1 otherwise.

- f_2 (Board structure variables)
  - $BOARDSIZE_i$ = The size of the board of directors, for firm i.
  - $CEO/CHAIR_i$ = Dummy variable which takes the value of 1 if the CEO is the chairman of the board, and 0 otherwise.
  - $EXTENS_i$ = Average of the five dummy variables which characterize outside directors' compensation, for firm i.
  - $BOARDDIR_i$ = Number of outside board directorships divided by the board size, for firm i.

Information on board of directors is gathered from annual reports right after the announcement date. Independent samples t-test for equality of means between the spin-off and the carve-out sample is performed. Financial ratios are collected from the Compustat database for five years preceding the announcement and two years following it. The five-year average before the event date is computed as well as the two-year average following it. Descriptive statistics and Independent samples t-tests are performed to check for differences in mean between the two samples.

CHAPTER FIVE - RESULTS

1.1 Descriptive Statistics

In order to examine the degree of diversification of each firm, we calculated the number of different industries in which the firm operated at the time of the announcement (based on the two-digit SIC). Table 3a indicates that firms operated in three different industries, on average, around the announcement date, with 72.5% of the pooled sample operating in two or more different industries. However, Table 3b indicated that the degree of diversification is higher for equity carve-outs, which reflects their greater need for focus. The mean industry diversification is 3.195 and 2.64 for equity carve-outs and spin-offs, respectively. Nevertheless, the difference in means for both samples is not statistically significant. Tables 3c and 3d provide descriptive statistics about each sample's diversification.

Table 5a
Industry Diversification

	Mean	Median	Range	Minimum	Maximum
SIC[a]	2.9710	3.0000	6.00	1.00	7.00

a. SIC indicates the number of different industries the firm operates in (based on the two-digit SIC code).

Table 5b
Industry Diversification - Divestitures

		Frequency	Percent	Cumulative Percent
# of Industries	1.00	19	27.5	27.5
	2.00	14	20.3	47.8
	3.00	13	18.8	66.7
	4.00	7	10.1	76.8
	5.00	8	11.6	88.4
	6.00	5	7.2	95.7
	7.00	3	4.3	100.0
	Total	69	100.0	
Total		69	100.0	

Table5c
Industry Diversification - Equity Carve-out

	Mean	Median	Std. Deviation	Range	Minimum	Maximum
SIC	3.1951	3.0000	1.8738	6.00	1.00	7.00

Table 5d
Industry Diversification - Spin-off

	Mean	Median	Std. Deviation	Range	Minimum	Maximum
SIC	2.6429	2.0000	1.6825	6.00	1.00	7.00

Board size ranges from 3 to 19 for the whole sample. The mean board size was found to be greater for the carve-out sample, 11.33, than for the spin-off sample, 10.29. However, the difference between the two is not statistically significant. The number of insiders as a percentage of the total board size ranges from 6% to 78%. Table 6 shows that carve-outs have more outsiders on the board, on average. However, the mean number of outsiders is not statistically different between carve-outs, 72%, and spin-offs, 70%. It was also important to examine the number of nonaffiliated outsiders and how it differs in both samples. The ratio of insiders to nonaffiliated outsiders is higher for spin-offs, 69% compared to 60% for carve-outs. The CEO acting as a chairman of the board is more likely to occur in spin-offs than in carve-outs [Table 7]. Again, the mean difference between the two is not statistically significant. Other directorships held by board members reflect how reputable directors are in the market [Shivdasani, 1993]. The mean outside board directorship is 2.28 for the pooled sample, and 2.3 and 2.2 for spin-offs and carve-outs, respectively. There is no significant difference between the outside board directorships mean of the two samples. However, CEO outside directorships s significantly greater for CEO, indicating that CEOs of carve-out firms may have better experience and reputation than other directors on the board. Compensation to outside directors as measured by the extensiveness of the compensation and the cash component as a percentage of EBIT is higher for firms that divest through spin-off [Table 8]. Therefore, directors of spin-off firms might be more motivated to act in the best interest of shareholders. Nonetheless, the t-test for difference in means indicates that the difference between the two samples is not significant. The variables representing stock options offered to directors, however, indicate that carve-out firms provide more stock

options to their directors [Table 9]. The difference is significant at the 10% level for options offered to all directors and executives, all directors, and inside directors. Although outside directors receive more stock options in carve-out firms, the difference between the two samples is not statistically significant. In addition, carve-outs have more ownership by blockholders, but the percentage of equity held by nonaffiliated blockholders is statistically higher (at the 5% level) for that group than the percentage of equity held by blockholders of spin-offs. Since blockholders control a significant percentage of the company's outstanding shares, they can play an effective role in monitoring managers' behaviors and ensure that their decisions are value maximizing. In summary, the comparison of board variables of spin-off and carve-out firms shows that carve-out firms might have a better corporate governance mechanism, since directors of these firms have better compensation packages and higher incentives, as reflected by the percentage of stock options they own.

Table 6
Board Composition

	Type	Mean	Median	Std. Deviation	Minimum	Maximum	T-Test (Mean Difference)
Board Size	Spin-off	10.29	10.00	3.60	4.00	18.00	-1.330
	ECO	11.33	11.00	3.89	3.00	19.00	
Insiders	Spin-off	0.29	0.27	0.14	0.06	0.70	0.606
	ECO	0.27	0.22	0.17	0.07	0.78	
Outsiders	Spin-off	0.71	0.73	0.14	0.30	0.94	-0.606
	ECO	0.73	0.78	0.17	0.22	0.93	
Affiliated Outsiders	Spin-off	0.14	0.13	0.13	0.00	0.50	0.585
	ECO	0.12	0.12	0.12	0.00	0.36	
Nonaffiliated Directors	Spin-off	0.56	0.57	0.18	0.14	0.88	-0.984
	ECO	0.60	0.60	0.16	0.22	0.92	
Insiders/Outsiders	Spin-off	0.49	0.36	0.42	0.07	2.33	-0.134
	ECO	0.51	0.29	0.62	0.07	3.50	
Insiders/Nonaffiliated Outsiders	Spin-off	0.69	0.50	0.64	0.08	3.00	0.681
	ECO	0.60	0.40	0.68	0.08	3.50	

Table 7
Board Characteristics

	Type	Mean	Median	Std. Deviation	Minimum	Maximum	T-Test (Mean Difference)
Board Classes	Spin-off	1.98	1.00	1.01	1.00	3.00	-0.023
	ECO	1.98	1.00	1.01	1.00	3.00	
Frequency of elections	Spin-off	1.95	1.00	1.01	1.00	3.00	-0.595
	ECO	2.08	3.00	1.04	1.00	4.00	
Total board meetings	Spin-off	19.29	20.00	8.76	6.00	39.00	-0.940
	ECO	21.39	21.00	12.61	5.00	62.00	
Committee meetings	Spin-off	11.10	10.00	6.69	2.00	28.00	-1.337
	ECO	13.62	11.00	11.10	0.00	53.00	
CEO/Chair	Spin-off	0.85	1.00	0.36	0.00	1.00	0.628
	ECO	0.80	1.00	0.40	0.00	1.00	
CEO Tenure	Spin-off	12.08	9.50	9.21	0.00	34.00	-0.161
	ECO	12.39	10.00	9.53	0.00	35.00	
CEO Age	Spin-off	56.93	57.00	7.63	43.00	76.00	0.923
	ECO	55.45	56.00	7.48	40.00	73.00	
CEO directorships	Spin-off	0.15	0.14	0.13	0.00	0.57	-3.71***
	ECO	0.29	0.25	0.21	0.00	0.86	
Directors Tenure	Spin-off	13.33	7.60	32.44	0.00	211.10	0.267
	ECO	11.69	8.06	23.95	0.56	176.50	
Directors Age	Spin-off	58.26	59.46	4.36	49.57	65.67	-0.548
	ECO	58.72	59.28	3.55	50.70	64.91	
Board Directorships	Spin-off	2.35	2.43	0.94	0.00	4.00	0.563
	ECO	2.23	2.25	1.15	0.25	4.83	
Audit committee	Spin-off	0.98	1.00	0.16	0.00	1.00	-1.000
	ECO	1.00	1.00	0.00	1.00	1.00	
Compensation committee	Spin-off	0.80	1.00	0.40	0.00	1.00	-0.472
	ECO	0.84	1.00	0.37	0.00	1.00	
Nomination committee	Spin-off	0.61	1.00	0.49	0.00	1.00	1.143
	ECO	0.49	0.00	0.50	0.00	1.00	
Executive committee	Spin-off	0.56	1.00	0.50	0.00	1.00	-0.831
	ECO	0.65	1.00	0.48	0.00	1.00	

*** Significant at the 1% level

Table 8
Voting Control & Stock Ownership

	Type	Mean	Median	Std. Deviation	Minimum	Maximum	T-Test (Mean Difference)
Control: all directors	Spin-off	0.11	0.04	0.15	0.00	0.61	-0.707
	ECO	0.14	0.04	0.21	0.00	0.98	
Control: insider directors	Spin-off	0.08	0.01	0.13	0.00	0.61	-0.869
	ECO	0.11	0.02	0.19	0.00	0.98	
Control: outside directors	Spin-off	0.03	0.00	0.09	0.00	0.51	0.120
	ECO	0.03	0.01	0.11	0.00	0.78	
Control: insider/outsider	Spin-off	35.86	5.19	73.85	0.03	328.25	0.135
	ECO	33.37	4.01	100.26	0.00	509.49	
Dir. & Exec. stock ownership	Spin-off	0.12	0.05	0.15	0.00	0.54	-0.449
	ECO	0.13	0.03	0.21	0.00	0.98	
Directors stock ownership	Spin-off	0.10	0.03	0.15	0.00	0.60	-0.505
	ECO	0.12	0.03	0.21	0.00	0.98	
Insiders stock ownership	Spin-off	0.07	0.01	0.13	0.00	0.60	-0.655
	ECO	0.09	0.01	0.18	0.00	0.97	
Outsiders stock ownership	Spin-off	0.03	0.00	0.09	0.00	0.51	0.130
	ECO	0.03	0.01	0.11	0.00	0.78	
Stock ownership: insider/outsider	Spin-off	34.56	6.71	69.29	0.02	322.23	-0.139
	ECO	37.36	3.04	120.40	0.00	592.21	
Dir. & Exec. stock options	Spin-off	0.01	0.00	0.02	0.00	0.12	-2.15**
	ECO	0.02	0.01	0.03	0.00	0.16	
Directors stock options	Spin-off	0.01	0.00	0.02	0.00	0.10	-1.74*
	ECO	0.01	0.00	0.03	0.00	0.13	
Insiders Stock options	Spin-off	0.00	0.00	0.02	0.00	0.10	-1.70*
	ECO	0.01	0.00	0.03	0.00	0.13	
Outsiders stock options	Spin-off	0.00	0.00	0.00	0.00	0.01	-0.525
	ECO	0.00	0.00	0.00	0.00	0.01	
Outisiders / insiders stock options	Spin-off	0.40	0.05	0.48	0.00	1.00	0.880
	ECO	0.31	0.01	0.52	0.00	2.28	
Blockownership	Spin-off	0.12	0.09	0.14	0.00	0.51	-1.359
	ECO	0.17	0.13	0.19	0.00	0.78	
Affiliated blockholders	Spin-off	0.05	0.00	0.12	0.00	0.51	0.252
	ECO	0.05	0.00	0.12	0.00	0.64	
Nonaffiliated blockholders	Spin-off	0.07	0.00	0.10	0.00	0.42	-2.02**
	ECO	0.12	0.06	0.15	0.00	0.78	

* Significant at the 10% level
** Significant at the 5% level
*** Significant at the 1% level

Table 9
Board Compensation

	Type	Mean	Median	Std. Deviation	Minimum	Maximum	T-Test (Mean Difference)
Outsiders Cash Compensation	Spin-off	684.90	94.23	2220.52	0.00	10736.84	0.813
	ECO	302.16	117.10	489.19	10.36	2651.09	
Retirement	Spin-off	0.41	0.00	0.50	0.00	1.00	0.406
	ECO	0.37	0.00	0.49	0.00	1.00	
Stock options	Spin-off	0.27	0.00	0.45	0.00	1.00	-1.065
	ECO	0.37	0.00	0.49	0.00	1.00	
Stocks	Spin-off	0.12	0.00	0.33	0.00	1.00	-1.431
	ECO	0.24	0.00	0.43	0.00	1.00	
Stock purchase plan	Spin-off	0.00		0.00	0.00	0.00	-1.000
	ECO	0.02	0.00	0.14	0.00	1.00	
Restricted stocks	Spin-off	0.12	0.00	0.33	0.00	1.00	1.026
	ECO	0.06	0.00	0.24	0.00	1.00	
Extensiveness of Outsiders Compensation	Spin-off	0.22	0.20	0.15	0.00	0.40	0.140
	ECO	0.21	0.20	0.19	0.00	0.60	

Table 10 reports descriptive statistics about the financial ratios of both samples and the significance of the difference in means for the 5-year average before the event date. Appendix 2 provides more detailed descriptive statistics for the pooled sample. Table 10 shows that carve-outs have a higher capital expenditure and a lower ROA than spin-off firms do. These numbers represent the 5-year average before the event date. The mean net capital expenditure for equity carve-outs is 0.1 compared to 0.075 for spin-offs. ROA is 2.17 and 5.01 for equity carve-outs and spin-offs, respectively. The following shows that while equity carve-outs have higher a need for capital to finance their capital expenditures, their internally generated funds are lower than those of spin-offs. Michaely and Schaw (1995) find that carve-out firms are more profitable than spin-off companies, but the difference between the two samples is not statistically significant. Because the difference in capital expenditures is not significant between the two samples, while ROA is significant at the 1% level (t-test 2.71), the results are somewhat in line with our external financing hypothesis. Firms with higher need for external financing will choose the carve-out route, while those with lower expenditure requirements will choose to

divest through a spin-off. This result contradicts the findings of Michaely and Schaw (1995). They report that the choice of equity carve-outs is not driven by the need for external financing.

Table 10

Financial Performance Data (5-year average before the event date)

	Type	Mean	Median	Std. Deviation	Minimum	Maximum	T-Test (Mean Difference)
Quick acid ratio 5 years	Spin-off	1.18	1.03	0.46	0.71	2.38	-1.421
	ECO	1.64	1.16	1.62	0.68	8.98	
capital expenditures sales 5 years	Spin-off	0.07	0.05	0.06	0.02	0.20	-1.300
	ECO	0.10	0.08	0.11	0.00	0.65	
Debt to Market value 5 years	Spin-off	0.30	0.26	0.18	0.05	0.80	-2.177
	ECO	0.41	0.38	0.21	0.04	0.84	
Debt to Equity 5 years	Spin-off	0.97	0.53	1.30	1.75	6.48	-1.833
	ECO	1.73	1.23	2.02	0.01	10.49	
Dividend payout 5 years	Spin-off	1.09	0.40	1.68	0.00	7.04	1.138
	ECO	0.65	0.41	1.18	0.00	7.04	
Interest rate coverage 5 years	Spin-off	5.65	4.76	5.15	0.44	23.37	1.272
	ECO	3.88	2.24	5.31	-3.13	30.35	
Liquidity to asset 5 years	Spin-off	0.30	0.29	0.13	0.10	0.67	0.274
	ECO	0.29	0.24	0.16	0.11	0.72	
Market value to Assets 5 years	Spin-off	1.09	0.97	0.55	0.23	2.84	0.378
	ECO	1.03	0.89	0.70	0.15	4.42	
quick ratio 5 years	Spin-off	1.75	1.77	0.68	0.77	3.03	-1.150
	ECO	2.14	1.75	1.68	0.82	9.55	
ROA 5 years	Spin-off	5.01	4.81	3.71	-0.81	16.15	2.713
	ECO	2.17	2.64	4.56	-14.69	13.99	
Size (ln assets) 5 years	Spin-off	7.39	7.77	1.51	3.81	9.97	-0.406
	ECO	7.57	7.70	1.95	3.29	11.81	
SIC codes	Spin-off	2.80	2.00	1.71	1.00	7.00	-1.055
	ECO	3.28	3.00	1.85	1.00	7.00	

Debt to market value and debt to equity ratios are significantly higher for equity carve-outs. Interest rate coverage is also lower for carve-outs but the difference between the two samples is not statistically significant. The following contradicts our hypothesis that firms with higher leverage will find it difficult to access the market and, therefore, choose to divest via a spin-off. Nonetheless, given the same need for external financing for both samples, it is reasonable to expect firms with higher financial risk to raise funds through equity issuance. In fact, our results show that carve-out firms have lower internally generated funds than spin-offs and higher financial risk. That could be a legitimate explanation why they chose the carve-out route. If the firm does not generate enough cash flow and has a high debt level, its most viable alternative would be to issue equity. In addition, by issuing equity in the subsidiary, the firm does not convey negative information about the parent firms' value. Myers & Majluf (1984) argue that by issuing equity in the subsidiary, the parent firm separates financing for subsidiary growth opportunities and overcomes the underinvestment problem, whenever the company have high leverage and possible positive NPV projects.

The results also indicate that firms that divest through a carve-out are bigger in size and are more diversified. However, the results do not show that the difference is statistically significant. Table 11 shows that the difference for the same financial ratios between the two samples, two years after the event date. The difference in debt to market value, interest rate coverage, and ROA between the two samples is still significant. We notice that carve-out firms are still more highly leveraged than spin-off firms are, and have lower interest rate coverage and return on assets. Table 12 compares the 5-year average

ratios to the 2-year average ratios for the pooled sample. The results do not show any significant change in financial performance for the pooled divestiture sample. Table 13 presents the changes in carve-outs' financial ratios after the event date as well as the significance of these changes. Table 14 presents the same ratios for the spin-off sample. None of these firms experience any significant financial changes after the divestiture.

Table 11

Financial Performance Data (2-year average after the event)

	Type	Mean	Median	Std. Deviation	Minimum	Maximum	T-Test (Mean Difference)
Quick acid ratio 2 years	Spin-off	1.56	0.99	1.82	0.45	8.81	0.077
	ECO	1.51	1.18	1.86	0.45	10.94	
capital expenditure sales 2 years	Spin-off	0.07	0.05	0.08	0.00	0.36	-0.915
	ECO	0.09	0.08	0.10	0.00	0.64	
Debt to market value 2 years	Spin-off	0.30	0.28	0.20	0.05	0.88	-2.449
	ECO	0.44	0.48	0.22	0.08	0.88	
Debt to Equity 2 years	Spin-off	1.21	0.78	1.78	0.04	8.47	-1.498
	ECO	2.22	1.27	3.50	0.18	18.81	
Dividend payout 2 years	Spin-off	0.53	0.45	0.41	0.00	1.38	0.134
	ECO	0.51	0.34	0.76	0.00	3.35	
Interest rate coverage 2 years	Spin-off	5.26	3.70	4.99	0.69	22.05	1.968
	ECO	2.86	2.03	4.12	-10.95	14.97	
Liquidity to asset 2 years	Spin-off	0.30	0.28	0.15	0.07	0.69	1.260
	ECO	0.25	0.21	0.12	0.05	0.58	
Market value to assets 2 years	Spin-off	0.96	0.84	0.39	0.14	1.94	-0.289
	ECO	0.99	0.90	0.53	0.18	2.50	
Quick ratio 2 years	Spin-off	1.85	1.56	1.15	0.53	5.66	-0.617
	ECO	2.13	1.56	2.05	0.56	12.21	
ROA 2 years	Spin-off	4.63	4.00	3.96	-1.15	14.87	3.421
	ECO	0.77	1.74	4.86	-15.82	9.37	
Size (ln assets) 2 years	Spin-off	7.43	7.75	1.61	4.24	10.30	-0.876
	ECO	7.82	8.04	1.79	4.27	11.47	

Table 12

Financial Performance - All Divestitures (5 years before & 2 years after the event)

	5-year average		2-year average		T-Test
	Mean	Std. Deviation	Mean	Std. Deviation	(Mean Difference)
Quick Acid Ratio	1.46	1.31	1.53	1.82	-0.215
Capital Expenditures (sales)	0.09	0.10	0.08	0.10	0.604
Debt to Market value	0.37	0.20	0.38	0.22	-0.359
Debt to Equity	1.45	1.81	1.83	2.97	-0.872
Dividend payout	0.81	1.39	0.52	0.64	1.529
Interest Rate Coverage	4.53	5.28	3.80	4.60	0.805
Liquidity to Asset	0.29	0.15	0.27	0.13	0.798
Market Value to Assets	1.05	0.64	0.98	0.47	0.678
Quick Ratio	1.99	1.38	2.02	1.74	-0.082
ROA	3.23	4.45	2.26	4.88	1.170
Size (ln assets)	7.50	1.78	7.67	1.72	-0.532

Table 13

ECO Financial Performance (5 years before & 2 years after the event)

	5-year average		2-year average		T-Test
	Mean	Std. Deviation	Mean	Std. Deviation	(Mean Difference)
Quick Acid Ratio	1.64	1.62	1.51	1.86	0.275
Capital Expenditures (sales)	0.10	0.11	0.09	0.10	0.474
Debt to Market value	0.41	0.21	0.44	0.22	-0.568
Debt to Equity	1.73	2.02	2.22	3.50	-0.751
Dividend payout	0.65	1.18	0.51	0.76	0.604
Interest Rate Coverage	3.88	5.31	2.86	4.12	0.932
Liquidity to Asset	0.29	0.16	0.25	0.12	1.046
Market Value to Assets	1.03	0.70	0.99	0.53	0.235
Quick Ratio	2.14	1.68	2.13	2.05	0.031
ROA	2.17	4.56	0.77	4.86	1.317
Size (ln assets)	7.57	1.95	7.82	1.79	-0.587

Table 14
Spin-off Financial Performance (5 years before & 2 years after the event)

	5-year average		2-year average		T-Test
	Mean	Std. Deviation	Mean	Std. Deviation	(Mean Difference)
Quick Acid Ratio	1.18	0.46	1.56	1.82	-0.872
Capital Expenditures (sales)	0.07	0.06	0.07	0.08	0.284
Debt to Market value	0.30	0.18	0.30	0.20	-0.062
Debt to Equity	0.97	1.30	1.21	1.78	-0.537
Dividend payout	1.09	1.68	0.53	0.41	1.587
Interest Rate Coverage	5.65	5.15	5.26	4.99	0.260
Liquidity to Asset	0.30	0.13	0.30	0.15	-0.012
Market Value to Assets	1.09	0.55	0.96	0.39	0.913
Quick Ratio	1.75	0.68	1.85	1.15	-0.332
ROA	5.01	3.71	4.63	3.96	0.343
Size (ln assets)	7.39	1.51	7.43	1.61	-0.091

1.2 Stock Reaction to Announcements of Divestitures

The CAR of all divestitures at days [-1,0] and [-1,1] are 0.92% and 2.79%, respectively, which are statistically different from zero. The result supports the view that divestitures in general create value for shareholders of the divesting company [Hearth & Zaima, 1984]. The CARs of spin-offs and carve-outs are then examined separately to identify if investors perceive both types of divestitures as value maximizing. Table 15 reports the CARs for the pooled sample as well as for each sample separately, for different windows. Spin-off firms realize significant returns of 4.44% over the period day –1 and day +1, and 2.0% over day –1 and day 0. Carve-out firms do not realize any significant returns over all windows.

Table 15

	Cumulative Abnormal Returns			
	[-1,0]	[-1,1]	[-5,0]	[-5,5]
All Divestitures	0.927 (1.684)	2.795 (2.459)	1.362 (1.588)	2.53 (1.474)
ECO	0.141 (0.264)	1.591 (1.236)	0.864 (0.764)	1.247 (0.555)
Spin-off	2.002 (1.889)	4.441 (2.194)	2.042 (1.537)	4.282 (1.602)

T-Test value between parentheses

Table 16

	Cumulative Abnormal Returns – Diversification Index							
	[-1,0]		[-1,1]		[-5,0]		[-5,5]	
	1st Quartile	4th Quartile	1st Quartile	4th Quartile	1st Quartile	4th Quartile	1st Quartile	4th Quartile
All Divestitures	0.765 (0.868)	0.368 (0.309)	1.073 (0.944)	-0.087 (-0.061)	1.047 (0.820)	0.289 (0.205)	-1.09 (-0.533)	-2.369 (-0.972)
Spin-off	0.197 (0.154)	2.914 (1.518)	1.319 (0.713)	14.707 (1.469)	0.0192 (0.015)	3.68 (1.354)	0.96 (0.33)	11.6 (1.716)
ECO	1.107 (1.051)	-1.153 (-1.604)	3.494 (1.654)	-1.579 (-1.153)	1.075 (0.488)	-1.077 (-0767)	1.126 (0.313)	-3.8 (-1.239)

T-Test value between parentheses

The results of spin-offs are similar to those found by Cusatis et al. (1993), Slovin et al. (1995), Shipper & Smith (1983), and Hite & Owers (1983). The returns for carve-out firms contradict the results reported by Shipper & Smith (1986) and Michaely & Shaw (1995). Their results show positive abnormal returns for parent firms at the announcement of equity carve-out.

To investigate whether more diversified firms realize more abnormal returns, the data is divided into four quartiles, depending on the degree of diversification. Table 16 reports the abnormal returns for the first quartile and the fourth quartile of all samples. We notice that for the sample of all divestitures, there is no difference in abnormal returns when we try to distinguish between companies that are less diversified from those that are more diversified. Spin-off firms, which are more diversified, consistently realize higher returns than firms which are less diversified. However, the only significant CAR is for the window [-5,5] for more diversified firms. This view is consistent with the hypothesis that more diversified firms are expected to achieve higher abnormal returns at the announcement of a divestiture. Carve-out firms experience exactly the opposite reaction from the market. More diversified carve-out firms realize negative CARs over all windows, whereas the less diversified firms realize positive CARs. Less diversified firms realize a significant 3.49% abnormal return over the window [-1,1].

These results suggest that the market's reaction to a spin-off is always favorable. This could be supported by the view that firms with undervalued assets divest through a spin-

off to keep the assets in the hands of shareholders. In addition, as reported by Cusatis et al. (1993), spin-offs provide a low-cost method to transfer the assets from one company to another. In other words, spin-offs facilitate the takeover activity and, thus, create more value to shareholders.

Michaely & Schaw (1995) reject the hypothesis that the need for financing is the driving motive behind carve-outs. Assuming that the reason for divestiture is to increase focus, the market would expect the firm to completely relinquish control over the non-related assets. The negative returns realized by more diversified carve-out firms could be explained by the fact that investors expect more diversified firms to increase focus by selling or spinning-off unrelated assets. By carving-out a unit, the company is maintaining control, keeping the composition of its portfolio merely unchanged.

1.3 Regression Analysis

If good boards are expected to take value-increasing decisions, then we should observe higher abnormal returns for firms with better board structure and characteristics. In order to unveil the effect of board characteristics on abnormal returns of divesting firms, a series of regression models is used for cross-sectional analysis. The dependent variable is the three-day, [-1,1], cumulative abnormal returns. Correlation between the independent variables is presented in Table 17. Al variables included in the models are considered sufficiently independent. The results in Table 17 show that board size has an inverse relationship with abnormal returns for divesting firms.

Table 17

Correaltion Matrix of Variables

	Board directorships over size	Board Size	CEO / Chair	Voting control insiders over outsiders	Dividend Payout	Extensiveness of number of insiders over nonaffiliated	Extensiveness of of outsiders compensation	Interest rate coverage	Market value to assets	Outsiders cash compensation	ROA	SIC	Size (ln assets)	Debt to Equity
Board directorships over size	1.00													
Board Size	0.14	1.00												
CEO / Chair	0.00	-0.04	1.00											
Voting control: insiders over outsiders	-0.06	-0.11	-0.05	1.00										
Dividend Payout	0.03	0.32**	0.00	0.07	1.00									
number of insiders over nonaffiliated	-0.25*	-0.02	-0.24	0.20	-0.23	1.00								
Extensiveness of Outsiders Compensation	0.08	0.29*	0.08	-0.12	0.09	0.12	1.00							
Interest rate coverage	0.16	0.00	0.11	-0.13	-0.22	0.00	0.10	1.00						
Market value to Assets	-0.07	-0.25*	-0.09	-0.15	-0.19	0.22	0.06	0.62**	1.00					
Outsiders Cash Compensation	-0.07	-0.21	0.09	0.10	-0.14	0.16	0.13	-0.08	0.18	1.00				
ROA	0.15	0.07	0.08	-0.06	-0.17	0.07	0.21	0.70**	0.29*	-0.04	1.00			
SIC	0.09	-0.09	-0.10	-0.08	0.06	-0.27*	-0.14	-0.15	-0.09	0.00	-0.03	1.00		
Size (ln assets)	0.42**	0.65**	0.01	-0.05	0.20	-0.23	0.24	-0.10	-0.45**	-0.46**	0.05	0.07	1.00	
Debt to Equity	0.23	0.18	0.07	0.12	0.01	-0.04	-0.09	-0.32*	-0.28*	0.00	-0.30	0.23	0.32**	1.00

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Although not statistically significant, this relationship is consistent with the findings of Yermack (1996). The results show that there is a significant positive relationship between the voting power of nonaffiliated outside directors and the abnormal returns around the announcement of a divestiture. The result supports the hypothesis that the more voting power independent directors have, the more likely it is that the board will take decisions that increase shareholders' wealth. The ratio representing the number of insiders to nonaffiliated outsiders is not significant. Nevertheless, it is important to note that the power of outside directors is by the voting power they have compared to that of inside directors, and not by their number. Variables representing outsiders' compensation, directors' outside directorships, and the CEO-chairman duality do not give us insight on how they might affect the firm's abnormal returns. Directors' outside directorships is negatively related to abnormal return in all models, which contradicts the hypothesis that more reputable directors increase shareholders' wealth. This variable, however, is not significant. Of the financial control variables used in the regression, market to book value and ROA appear to explain significantly the abnormal returns in some of the models.

Table 18
Coefficient Estimates from OLS regressions - Divestitures

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	0.17**	0.19**	0.17**	7.40E-02	1.37E-01	0.133*
Market to Book Value	-0.075***	-3.20E-02	-2.80E-02			
ROA				-0.01***	-3.60E-03	-3.60E-03
SIC	-5.70E-03	-8.60E-03	-8.60E-03	-4.20E-03	-7.50E-03	-7.50E-03
Interest Rate Coverage	3.40E-03	4.00E-03	4.10E-03	5.30E-03	-3.70E-03	-3.40E-03
Size (Ln Assets)	2.40E-03	-2.90E-03	5.30E-03	7.50E-03	5.50E-04	5.10E-03
Dividend Payout	-1.30E-03	-9.80E-03	-6.00E-03	-4.70E-03	-1.00E-02	-7.40E-03
CEO/Chair	5.40E-03	-6.00E-03	-5.50E-04	-7.70E-03	-1.10E-02	-8.80E-03
Outside Board Directorships	-1.50E-02	-1.60E-02	-1.90E-02	-1.10E-02	-1.30E-02	-1.40E-02
Board Size	-4.50E-03		-4.50E-03	-3.60E-03		-3.10E-03
Insiders/Nonaffiliated outsiders		-1.20E-02			-6.40E-03	
Insiders control/Outsiders control	-0.00022**	-2E-04	-0.00021*	-0.00017*	-1.80E-04	-.00019*
Outsiders compensation Extensiveness	2.80E-02			5.00E-02		
Outsiders Cash Compensation		-1.40E-06	-7.40E-06		6.50E-07	-4.00E-06
Method (Spin-off vs. Carve-out)	-8.80E-03	-2.20E-02	-2.00E-02	-2.60E-02	-3.00E-02	-2.80E-02
Adjusted R-Square	0.018	0.053	0.070	0.100	0.066	0.080
F-statistic	1.096	1.244	1.328	1.588	1.323	1.396

* Significant at the 10% level
** Signilicant at the 5% level
*** Significant at the 1% level

Market to book value and ROA are used interchangeably due to the high correlation between the two variables. There is a negative relationship between the two variables and the abnormal returns. The following suggests that investors do not consider divestitures by profitable and growing firms as value increasing. If the company is performing well, then there is no need to divest and change the focus of the firm. By divesting part of its assets, the firm might lose part of its growth momentum. The drivers of growth and profitability encompass a wide range of factors that cannot be easily isolated or identified. We do not find a significant relationship between the degree of diversification and the abnormal returns. The hypothesis that more diversified firms should realize higher abnormal returns can not be confirmed.

The dummy variable controlling for the method of divestiture is not significant in all models. However, to further examine the effect of these variables on each divestiture method, the same regression models were used for each sample.

Table 18 reports the OLS regression estimates for the carve-out sample. Board size is significant in model 1. The result supports the findings of Yermack (1996) that smaller board size is associated with better performance. In contrast to the results of the pooled sample, voting control by outsiders relative to insiders is not significant. The negative significance of directors outside directorships in model 3 is not consistent with the assumption that more reputable directors increase shareholders' value. ROA and market to book value exhibit similar results to the divestiture sample as a whole. If the route of equity carve-out is chosen whenever the company needs external financing, then firms

with high profitability should not divest through a carve-out. In addition, higher market to book value reflects higher growth opportunity, which in turn reflects higher asymmetry of information. If, in general, higher information of asymmetry is correlated with an undervaluation problem, then investors expect the firm to divest through a spin-off in order to keep the undervalued assets in the hands of shareholders. This explains the inverse relationship between market to book value and the abnormal returns. Moreover, the interest rate coverage ratio is significant for carve-out firms, which is consistent with Michaely & Schaw's hypothesis that firms with low risk choose to divest via a carve-out to send a positive signal to the market. Apparently, the market reacts positively to carve-outs by financially sound firms, and differentiates them from riskier firms. Results from model 1 show that there is a negative relationship between the degree of diversification and the abnormal returns. This is contrary to our hypothesis that more diversified firms are expected to realize higher abnormal returns.

The results for the spin-off sample presented in Table 19 indicate that there is a negative relationship between dividend payout and abnormal returns. The result is significant at the 10 % level. The negative relationship suggests that firms with a higher need for cash flow to pay dividends are not expected to divest through a spin-off since this divestiture method does not generate any cash inflows. In addition, there is a significant positive relationship between outside board directors and abnormal returns. This is in line with the view that more reputable directors increase shareholders' wealth. Moreover, we find support to the argument that CEO-chairman duality reduces shareholders' value. The

results of model 6 exhibit a negative relationship between CEO-chairman duality and cumulative abnormal returns. The result is significant at the 5 % level.

Surprisingly enough, we find a significant negative relationship between outside directors cash compensation and abnormal returns. The following does not support the view that the higher the outside directors are compensated, the higher is their incentive to act for shareholders' best interest. An alternative explanation could be that a higher compensation package for outside directors provides a lower incentive for them to confront and challenge management's decisions. Inside directors can alter outsiders' compensation level first by their strong presence on the board, and second by their high control power through equity ownership.

Table 19
Coefficient Estimates from OLS regressions - Equity Carve-outs

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	1.57E-01	1.43E-01	1.49E-01	3.60E-02	5.60E-02	6.40E-02
Market to Book Value	-0.089*	-5.70E-02	-6.60E-02			
ROA				-0.011***	-3.00E-03	-4.10E-03
SIC	-0.017*	-1.10E-02	-1.30E-02	-7.30E-03	-9.10E-03	-8.90E-03
Interest Rate Coverage	0.0057*	-3.40E-03	-4.40E-04	0.0083***	-5.30E-03	-0.0028
Size (Ln Assets)	1.90E-02	3.80E-03	2.00E-02	1.60E-02	8.10E-03	1.50E-02
Dividend Payout	-1.60E-03	-1.00E-02	-2.80E-03	-2.90E-03	-9.40E-03	-3.50E-03
CEO/Chair	3.80E-02	1.80E-02	2.50E-02	2.10E-03	6.40E-03	1.80E-03
Outside Board Directorships	-2.70E-02	-2.60E-02	-0.037*	-2.10E-02	-2.20E-02	-2.50E-02
Board Size	-0.0095*		-9.60E-03	-6.50E-03		-5.40E-03
Insiders/Nonaffiliated outsiders		-7.20E-03			-4.60E-03	
Insiders control/Outsiders control	-2.20E-04	-2.20E-04	-2.70E-04	-1.50E-04	-2.10E-04	-2.40E-04
Outsiders compensation Extensiveness	-5.90E-02			2.00E-02		
Outsiders Cash Compensation		2.40E-05	2.10E-05		2.30E-05	2.40E-05
Adjusted R-Square	0.130	-0.001	0.102	0.176	-0.007	0.037
F-statistic	1.507	0.996	1.317	1.767	0.979	1.114

* Significant at the 10% level
** Significant at the 5% level
*** Significant at the 1% level

Table 20
Coefficient Estimates from OLS regressions - Spin-offs

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	2.70E-02	1.50E-01	1.05E-01	1.30E-02	1.09E-01	1.20E-01
Market to Book Value	-3.00E-02	-6.70E-02	-4.70E-02			
ROA				7.40E-03	2.20E-03	7.10E-03
SIC	9.90E-03	7.90E-03	8.40E-03	8.40E-03	5.60E-03	6.10E-03
Interest Rate Coverage	-2.00E-03	4.10E-03	2.40E-03	-9.00E-03	-4.00E-03	-7.00E-03
Size (Ln Assets)	-1.50E-02	-8.10E-03	-5.20E-03	-5.90E-03	-4.80E-03	3.70E-03
Dividend Payout	-2.60E-03	-0.019*	-0.013*	-2.30E-03	-1.60E-02	-1.20E-02
CEO/Chair	3.70E-02	-7.80E-02	-6.80E-02	3.60E-03	-8.80E-02	-0.107*
Outside Board Directorships	7.90E-03	0.03**	0.03*	3.60E-03	2.30E-02	1.80E-02
Board Size	4.90E-03		-1.30E-03	2.00E-03		-4.90E-03
Insiders/Nonaffiliated outsiders		-3.30E-02			-7.20E-03	
Insiders control/Outsiders control	-2.60E-04	8.70E-05	-4.20E-05	-1.80E-04	1.40E-05	9.50E-06
Outsiders compensation Extensiveness	1.30E-01			8.10E-02		
Outsiders Cash Compensation		-0.000067**	-0.00007**		-0.000058*	-0.000075**
Adjusted R-Square	-0.093	0.434	0.399	-0.083	0.289	0.351
F-statistic	0.820	2.460	2.259	0.840	1.772	2.026

* Significant at the 10% level

** Signilcant at the 5% level

*** Significant at the 1% level

CHAPTER SIX – CONCLUSION

Many studies attempted to unveil the effect of board structure on corporate performance and the financial decision making process. In particular, the effect of corporate governance on shareholders' wealth in the context of mergers and acquisitions has been addressed by Byrd & Hickman (1992) and Shivdasani (1996). While the end of the twentieth century is witnessing a wave of divestiture activities, none of the previous studies have examined the effect of board structure on the divestiture decision making. This paper investigated the effect of divestitures on shareholders' wealth and examined the different characteristics between firms that divest through an equity carve-out and those that choose the spin-off route. Specifically, the paper tested the hypothesis that firms that divest through an equity carve-out have greater need for external financing and better access to the capital market. The paper also looked at the impact of corporate diversity and board structure on shareholders wealth. The results from a cross-sectional regression were used to investigate the effect of board structure on market's reaction to the announcement of carve-outs and spin-offs.

The findings indicate that only spin-offs create value for shareholders. The results show some support to the hypothesis that carve-out firms have a higher need for external financing. These firms are characterized with a high financial risk and a low level of internally generated funds. The results further show that the market reacts more favorably when the carve-out firm has a low return on assets. The results do not support

the hypothesis that carve-out firms have a lower risk than spin-off firms do, and therefore have a better access to the market. However, the market reaction to low-risk firms is more favorable when these firms attempt to divest through a carve-out. The following result reveals that carve-out firms do not necessarily have a better access to the market, but that the market prices their securities higher whenever these firms have a lower risk.

Since the purpose of divestitures in general is to increase focus on core business, it is expected that more diversified firms will realize higher abnormal returns at the announcement of a divestiture. The results from the spin-off sample confirm the hypothesis that more diversified firms realize higher abnormal returns around the event date. However, carve-out firms exhibit the opposite pattern and realize higher abnormal returns for less diversified firms. The regression analysis results confirm this finding since there is a significant negative relation between the abnormal returns and the degree of diversification for carve-out firms.

There is a negative relationship between the board size and the abnormal returns of carve-out firms. The result supports the findings of Yermack (1996) that smaller boards are associated with better corporate performance. We find a weak relationship between outside board directorships and abnormal returns of carve-out firms. However, the opposite relationship is found for spin-off firms, which supports the view that more reputable directors increase shareholders' wealth. In addition, abnormal returns are higher for spin-off firms that do not appoint the CEO of the company as a chairman of the board. Spin-off firms with a high payout ratio realize lower returns, which indicates

that a carve-out might be a better method whenever there is a higher need for cash inflows. Moreover, the comparison of board variables between spin-off and carve-out firms reveals that directors of carve-out firms have higher incentives to act for the best interest of shareholders. Consistent with previous findings, directors' control, board size, outside board directorships, and CEO-chairman duality partly explain the increase in shareholders' wealth.

We recommend for future research to include data on divested assets to examine their performance after the divestiture. In addition, it is important to compare the board structure of spun-off assets to that of carved-out divisions to identify which divestiture method creates new entities with better internal governance mechanisms. We also recommend gathering additional data on executives and directors' compensation, which include cash, stocks, and stock options, to examine if total compensation packages differ between spin-off and carve-out firms.

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APPENDIX 1

VARIABLE DEFINITION

Composition

Board Size: total number of directors on the board.

Number of Insiders: number of inside directors divided by board size.

Number of Outsiders: number of outside directors divided by board size

Number of Affiliated Outsiders: number of affiliated outsiders divided by board size. Affiliated directors are outside directors who have a family relationship with inside directors or receive any fees from the company for services rendered, other than their directorship compensation.

Number of Nonaffiliated Outsiders: number of nonaffiliated directors divided by the board size.

Insiders / Outsiders: number of inside directors divided by the number of outside directors.

Insiders / Nonaffiliated Outsiders: number of inside directors divided by the number of nonaffiliated outsiders.

Board Characteristics

Board Classes: number of different classes that characterize the board.

Frequency of Elections: frequency of electing board of directors (in years).

Total Board & Committees Meetings: total number of board meeting and total committees meetings. Telephone meetings are also included.

Board Meetings: total board of directors meeting. Does not include any committee meeting.

Committees Meetings: total number of committees meetings. Does not include any board of directors meeting.

CEO / Chairman: a dummy variable that is equal to one if the CEO of the company happens to be the chairman of the board, and zero otherwise.

CEO Tenure: the number of years the CEO has been working for the company.

CEO Age: the age of the CEO.

CEO Directorships: the number of outside directorships held by the CEO divided by the total board outside directorships.

Directors Tenure: the average number of years that directors have been stting on the board.

Directors Age: average age of all directors.

Board outside Directorships: total outside directorship held by all directors divided by the board size.

Board has Audit Committee: dummy variable that is equal to one if the board has an audit committee, and zero otherwise.

Board has Compensation Committee: dummy variable that is equal to one if the board has a compensation committee, and zero otherwise.

Board has Nomination Committee: dummy variable that is equal to one if the board has a nomination committee, and zero otherwise.

Board has Executive Committee: dummy variable that is equal to one if the board has an executive committee, and zero otherwise.

Board Compensation

Outside directors Cash Compensation: total compensation of outside directors divided by earnings before interest and taxes.

Outside directors have retirement package: dummy variable that is equal to one if outside directors have a retirement package, and zero otherwise.

Outside directors receive stock options: dummy variable that is equal to one if outside directors receive stock options as part of their compensation package, and zero otherwise.

Outside directors receive stocks: dummy variable that is equal to one if outside directors receive stocks as part of their compensation package, and zero otherwise.

Outside directors receive stocks purchase plan: dummy variable that is equal to one if outside directors have a stock purchase plan as part of their compensation package, and zero otherwise.

Outside directors receive restricted stocks: dummy variable that is equal to one if outside directors receive restricted stocks as part of their compensation package, and zero otherwise.

Outsiders compensation extensiveness: is equal to the average of the five variables mentioned above.

Control

Total Directors Voting Control: directors' stocks and stock options exercisable in 60 days divided by total number of stocks and stock options outstanding.

Total Insiders Voting Control: inside directors' stocks and stock options exercisable in 60 days divided by total number of stocks and stock options outstanding.

Total Outsiders Voting Control: outside directors' stocks and stock options exercisable in 60 days divided by total number of stocks and stock options outstanding.

Insiders Control / Outsiders Control: the ratio of total insiders voting control to total outsiders voting control.

Total Directors & Executives Stock Ownership: number of stocks owned by directors and executives divided by total number of stocks outstanding.

Total Directors Stock Ownership: number of stocks owned by board directors divided by total number of stocks outstanding.

Total Insiders Stock Ownership: number of stocks owned by inside directors divided by total number of stocks outstanding.

Total Outsiders Stock Ownership: number of stocks owned by outside directors divided by total number of stocks outstanding.

Financial Ratios

ROA: earnings before extraordinary items available for common shareholders, divided by total assets, which is defined as the sum of current assets, net property, plant, and equipment and other noncurrent assets.

Net Capital Expenditure (Sales): cash outflow or the funds used for additions to the company's property, plant, and equipment, divided by total sales.

Debt to Equity: total debt divided by total shareholders' equity.

Dividend Payout Ratio: cash dividends distributed to common shareholders, divided by net income.

Interest Rate Coverage: earnings before interest and taxes divided by interest expense on short- and long-term debts.

Quick Ratio: total current assets divided by total current liabilities.

Debt to Market Value: total debt divided by: market value of equity plus total debt plus market value of preferred shares.

Quick Acid Ratio: current assets minus inventory divided by current liabilities.

Liquidity to Assets: current assets minus inventory divided by total assets.

Size: natural logarithm of total assets.

APPENDIX 2

FINANCIAL PERFORMANCE – ALL DIVESTITURES

Financial Performance Data - All Divestitures (5-year average before the event)

	Mean	Median	Std. Deviation	Minimum	Maximum	T-Test
Quick acid ratio	1.46	1.13	1.31	0.68	8.98	7.585
capital expenditures sales	0.09	0.07	0.10	0.00	0.65	7.526
Debt to Market value	0.37	0.36	0.20	0.04	0.84	14.143
Debt to Equity	1.45	0.96	1.81	0.01	10.49	6.397
Dividend payout	0.81	0.40	1.39	0.00	7.04	4.679
Interest rate coverage	4.53	3.33	5.28	-3.13	30.35	6.646
Liquidity to asset	0.29	0.25	0.15	0.10	0.72	13.510
Market value to Assets	1.05	0.93	0.64	0.15	4.42	12.661
quick ratio	1.99	1.77	1.38	0.77	9.55	10.083
ROA	3.23	3.14	4.45	-14.69	16.15	5.818
Size (ln assets)	7.50	7.77	1.78	3.29	11.81	33.632
SIC	3.09	3.00	1.80	1.00	7.00	13.848

Financial Performance Data - All Divestitures (2 years after the event date)

	Mean	Median	Std. Deviation	Minimum	Maximum	T-Test
Quick acid ratio	1.53	1.06	1.82	0.45	10.94	5.817
capital expenditure sales	0.08	0.06	0.10	0.00	0.64	6.641
Debt to market value	0.38	0.38	0.22	0.05	0.88	13.493
Debt to Equity	1.83	1.05	2.97	0.04	18.81	4.851
Dividend payout	0.52	0.40	0.64	0.00	3.35	6.413
Interest rate coverage	3.80	2.59	4.60	-10.95	22.05	6.459
Liquidity to asset	0.27	0.24	0.13	0.05	0.69	14.157
Market value to assets	0.98	0.89	0.47	0.14	2.50	16.114
Quick ratio	2.02	1.56	1.74	0.53	12.21	8.193
ROA	2.26	2.23	4.88	-15.82	14.87	3.648
Size (ln assets)	7.67	8.02	1.72	4.24	11.47	35.093