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DETERMINANTS OF CORPORATE RESTRUCTURING: THE RELATIVE IMPORTANCE OF CORPORATE GOVERNANCE, TAKEOVER THREAT, AND FREE CASH FLOW

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This study seeks to estimate the relative importance of free cash flow, corporate governance, and takeover threat in determining financial and portfolio restructuring. The free cash flow hypothesis and agency theory prescriptions are used as the basis for developing a model of restructuring. A simple analysis of variance method is used to decompose restructuring transactions and outcomes into the three effects. The results support the hypothesis that financial and portfolio restructuring are motivated, in part, by agency costs. Decomposition of variances indicates that restructuring is equally explained by free cash flow and interaction of governance and takeover threat with free cash flow

Agency problems play an important role in corporate restructuring.[1] According to Jensen's (1986) free cash flow hypothesis, top management in firms with free cash flow (i.e., cash flow in excess of that required to fund all projects with positive net present values) invests in over-diversification and organizational inefficiencies. As the agency costs associated with misuse of free cash flow increase, threat of hostile takeover arises forcing management to restructure the corporation.

Three types of corporate restructuring transactions occur: (1) financial restructuring including recapitalizations, stock repurchases, and changes in capital structure; (2) portfolio restructuring involving divestment and acquisitions and refocusing on core business(es), resulting in change of the diversity of businesses in the corporate portfolio; and (3) operational restructuring includ-

ing retrenchment, reorganization, and changes in business level strategies. These three types of restructuring are not mutually exclusive; and in fact, frequently occur together. This study focuses on financial and portfolio restructuring only.

Financial restructuring (i.e., issuing large amounts of debt and dispersing the proceeds to shareholders, usually via stock repurchases) is prescribed in the free cash flow hypothesis as a device to limit future discretionary power of top managers and to force top management to pursue strategies of retrenchment (i.e., operational restructuring) and dediversification (i.e., portfolio restructuring) to recover agency costs (Jensen, 1986). Alternatively, top management could simply announce its intention to distribute free cash flow to shareholders. But, management's promise is not credible if existing corporate governance mechanisms are ineffective in monitoring and controlling management's actions. Instead, financial restructuring is proposed as a way to bind management's promise to reduce agency costs. Leveraging the firm beyond its ability to service debt from current operating cash flow acts to constrain self-serving behavior and creates the crisis necessary to overcome

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[1] For example, see Jensen (1986); Lehn and Poulsen, 1989; Hoskisson and Turk, 1990; Mitchell and Lehn, 1990.

organizational inertia and resistance to change. Frequently, to reduce the tremendous debt service management is forced to cut expansion programs and to sell those assets which are more valuable to others outside the firm.

Within the context of the free cash flow hypothesis, excess financial resources are a necessary condition for agency costs to arise, but not a sufficient condition to infer agency costs.[2] Existence of free cash flow alone does *not* imply agency costs. It simply presents a potential conflict of interest. The free cash flow hypothesis implicitly assumes management is entrenched, that is, existing corporate governance structures are absent or ineffective in controlling the conflicting interests of managers and shareholders. In addition, an entrenched management must be pressured into restructuring the corporation. In the 1980s, this pressure most often took the form of hostile takeover threats.

Then, there are actually three conditions for corporate restructuring in the free cash flow hypothesis: (1) existence of free cash flow to create a potential agency problem, (2) ineffective corporate governance which allows management to become entrenched and agency costs to arise, and (3) threat of takeover to motivate management to initiate restructuring.

The objective of this study is to test the free cash flow hypothesis explanation of corporate restructuring. There have been other tests of the free cash flow hypothesis, but none seem to separate the issues of (1) the presence of free cash flow from (2) what constrains management's use of free cash flow (i.e., governance) and (3) why management suddenly decides to restructure (e.g., threat of takeover). The value of this study is that it explicitly recognizes corporate governance and separates governance and takeover threat from indicators of free cash flow. The free cash flow model of restructuring is developed in the following section. The free cash flow hypothesis is used to define restructuring events and identify key indicators of free cash flow. Agency theory is used to identify what governance structures are important in controlling agency costs.

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[2] Note, this does not mean to imply that free cash flow is the only possible manifestation of potential agency problems. However, it is a necessary condition to infer agency costs in the free cash flow hypothesis.

Next the data, measures, and methods for testing the model are outlined. The research design takes advantage of the change in the market for corporate control in the early 1980s. The lowering of the barriers to takeover becomes the treatment in this quasi-experiment. Results and conclusions are discussed in the final sections of the paper.

DETERMINANTS OF CORPORATE RESTRUCTURING

Managers have personal incentives (e.g., minimize risk, increase income and power) to diversify the corporate business portfolio and to grow the firm beyond the point that optimizes shareholder value (Jensen and Meckling, 1976; Amihud and Lev, 1981; Murphy, 1985). In particular, the choice between retaining or distributing earnings creates a major conflict between managers and shareholders. Retention of excess cash flow allows managers to avoid monitoring by the financial market and to invest in expansion, diversification, and organizational slack which yield below market returns. Competition in the product market would normally preclude such inefficiencies and waste of resources. However, firms with free cash flow are by definition earning returns in excess of their opportunity costs. Returns above opportunity cost can arise from economic rents (e.g., monopolistic and oligopolistic markets) or quasi-rents (e.g., pursuit of harvest strategies in a declining market). Thus, the disciplinary forces of the capital and product market are often weak in firms that generate significant free cash flows.

Free cash flow

Free cash flow cannot be observed directly. Instead, limited profitable investment opportunities; substantial, stable cash flow; low financial leverage; and high levels of diversification are identified as indicators of free cash flow (Jensen, 1986). Each of these factors is discusssed below.

Investment opportunity

Firms are most likely to have limited investment opportunities if they are in mature and declining industries. Quasi-rents (i.e., free cash flow) arise from low reinvestment requirements and net

consumption of capital assets. Note, however, the firm's investment opportunity set does not necessarily coincide with industry growth potential. Although the firm's opportunity set is influenced by market conditions, the firm's ability to extract economic rents from the market is a function of its competitive advantage. Thus, it is the individual firm's investment opportunity set, not the industry average, that is an indicator of free cash flow.

Operating cash flow

The fungibility of excess cash flow provides the opportunity for agency costs to arise. High levels of cash flow from operations allow management to avoid monitoring by the capital market. A self-serving management might divert cash flow to pursue diversification (i.e., reduce unsystematic risk) and fund unprofitable growth (i.e., increase size of the firm to increase personal income and status) at the expense of shareholder value.

Financial leverage

Management has incentives to minimize the bankruptcy risks of the firm. Thus, free cash flow may be diverted to lower financial leverage of the firm. In addition, management may choose to avoid the disciplinary effect of the capital market by financing unprofitable projects internally with retained earnings. This, too, has the effect of reducing leverage.

Diversification

Managers with few growth opportunities in their core business may continue growing the firm through diversification. However, the further a firm is diversified from its core business the more likely its diversification program produces low returns (Chatterjee and Wernerfelt, 1991). Value of the firm is maximized at the point where the marginal return of additional diversification is zero. According to the free cash flow hypothesis, self-serving managers of firms with free cash flow continue diversification beyond the optimal point; thus, destroying shareholder value.

Corporate governance

Over the years, researchers have investigated institutional arrangements that mitigate the poten-

tial manager–stockholder conflict and have attempted to understand why these arrangements vary from firm to firm.[3] Among the mechanisms that moderate this conflict are the power of outside directors on the board of directors, management compensation which aligns managerial interests with shareholders', concentration of equity ownership in the hands of activist outside investors, and the managerial labor market.

Board of directors

Generally, ownership of a firm's stock is diffuse and investors do not take direct interest in controlling the management of any individual firm. The board of directors is the body designated for this function. The board of directors is composed of inside directors (i.e., current and former members of the top management team) and outside directors. Outside directors serve the role of professional referees who oversee and monitor top management (Fama, 1980).

If outside directors represent shareholder's interests; the greater the proportion of outside directors, the more effective the board in monitoring and limiting of managerial opportunism (Fama and Jensen, 1983). However, behavioral theorists argue that board decisions are outcomes of an influence process managed by CEOs, who dominate the board and proxy machinery and thereby ensure their continued rule.[4] Since the independence of outside directors and the strength of their commitment to shareholder interests is questionable (Herman, 1981; Mace, 1971), attributes of outside directors in addition to numerical superiority are necessary to determine their power.

Management compensation

Executive compensation is another governance mechanism for influencing management behavior. A common prescription is to award top management restricted stock (i.e., shares in the firm contingent upon some specified level of company

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[3] See, among others, Alchian and Demsetz (1972), Jensen and Meckling (1976), Fama (1980), Demsetz (1983), Fama and Jensen (1983), and Demsetz and Lehn (1985).
[4] See among others, Herman, 1981; Pfeffer and Salancik, 1978; Pfeffer, 1972; and Thompson, 1967.

performance) and stock options so that management has a vested interest in raising the price of company shares. If the wealth of the management team is closely linked to the wealth of shareholders; *ceteris paribus*, top management is more likely to act in the mutual interests of the shareholders (Demsetz, 1983). Thus, stock ownership and stock-based compensation serve to align interests of managers and shareholders.

Note, however, the effect of stock-based incentives is nonlinear due to risk-bearing differences between outside investors and top management. An outside investor can hold a diversified portfolio. However, to the degree that the personal wealth of top management is tied to one corporation, they are bearing unsystematic risk if the firm is not diversified. Thus, when the wealth of the management team is closely linked to the value of an undiversified firm, they have incentives to diversify the firm in an attempt to diversify their own investment portfolio.

Also, we would expect an interaction between the board of directors and management compensation. As the power of outside directors increases, the aligning effect of management compensation is enhanced. If the actual level of compensation differs from optimal, the board serves to constrain management behavior. This relationship is shown in Figure 1. Previous studies (e.g., Kosnik, 1989; Singh, 1990) add credence to this argument.

Concentration of equity ownership

Although it is generally assumed that ownership is diffuse and owners do not take a direct interest in controlling management, there are instances where ownership of the firm is concentrated. Concentration of stock among a few outsiders give them significant voting power to limit management discretion and eliminate inefficiencies (Hill and Snell, 1989).

Ownership concentration may limit management discretion, but the role of major shareholders is ambiguous and varies across companies (Herman, 1981; Mintz and Schwartz, 1985). Institutions have become the largest ownership category in large corporations (Jensen and Warner, 1989), but the role of institutional investors is not always clear. Herman (1981) argues that institutional investors are generally passive; and Mintz and Schwartz (1985) state that for institutional owners, 'stock dumping rather than activism' is the more typical mode of influence.[5] Thus, the effect of ownership depends upon the concentration of voting stock and the degree of activism of the major shareholders.

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[5] Recent actions by major institutional investors indicate a greater interest in monitoring and controlling management actions. However, this movement occurred after the period investigated in this study.
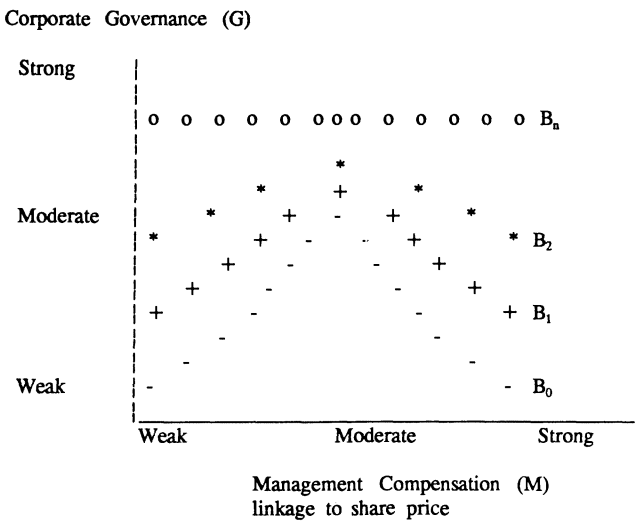

Figure 1. Effect of the interaction of board power (B) and management compensation (M) on corporate governance (G) where $B_0 < B_1 < B_2 < ... < B_n$

Managerial labor market

The labor market for management is posited as another disciplinary device (Fama, 1980). The concept is: (1) there is competition, both internal and external to the firm, for management positions, and (2) the labor market places a higher value on the human capital of managers who maximize shareholder wealth. Self-serving managers not only are valued less; but also, are threatened with loss of their jobs.

However, the disciplinary effect of labor market is compromised if management becomes entrenched. Entrenched management is able to break the linkage with the competitive labor market, compensating themselves out of proportion to their performance while preserving their jobs. Additionally, to the degree that the manager's human capital is idiosyncratic (i.e., firm specific), it has lower value in the external labor market.

Interaction between free cash flow and governance

Free cash flow is not determined strictly by the absolute levels of operating cash flow, diversification, and financial leverage. Instead, agency costs are the result of deviations from optimal levels of diversification, leverage, and cash flow. Optimal levels are firm specific and are difficult to determine directly. However, we do know that these indicators of free cash flow should approach an optimum as corporate governance becomes stronger. Thus, the model of restructuring includes free cash flow–governance interaction terms. For a given value of a free cash flow variable, agency costs, and thus, the likelihood of restructuring, increases with decreasing governance.

Note, corporate governance plays a dual role in corporate restructuring: (1) it has a *prior* effect on past decisions affecting cash flow, diversification and leverage; and (2) a *current* effect on future actions by management resulting in asset divestments, stock repurchases, and changes in diversification and leverage.

Takeover threat

The ultimate device for controlling agency costs is the market for corporate control, that is

hostile takeovers (Jensen and Meckling, 1976; Fama, 1980). Takeover threat is influenced by: (1) the ability of management to resist takeover which in turn is a decreasing function of the power of outside board members; and (2) the gap between potential and actual value of the firm which is an increasing function of agency costs.

If agency costs are significant, threat of takeover is expected to trigger restructuring. Recovery of agency costs are not the only reason for takeovers. Takeover can also be motivated by, among other reasons, market power, economies of scale and scope, acquisition of scarce or underpriced resources, and potential cost advantages from synergies. In an attempt to separate out agency costs motivations for takeover from other motivations, interaction terms for investment opportunity, operating cash flow, diversification level, financial leverage, and board power are included in the model. As board power decreases, management is more likely to be entrenched and able to resist takeover. Increasing levels of diversification and cash flow are expected to raise the likelihood of restructuring due to takeover threats, while decreasing values of leverage and investment opportunity are expected to do the same (i.e., raise likelihood of restructuring due to takeover threat).

Corporate restructuring

Corporate restructuring can be represented as a system of simultaneous equations with corporate governance exogenous to the system and free cash flow and takeover threat endogenous to the system. Corporate governance is a function of governance mechanisms, such as the board of directors, management compensation, equity structure, and the managerial labor market. Free cash flow is a function of investment opportunity, operating cash flow, diversification, financial leverage, and corporate governance. Threat of takeover is a function of the attractiveness of the takeover target and the ability of management to defend against takeover attempts. Takeover attractiveness is a function of accumulated agency costs which depends on free cash flow and governance. And ability of management to defend against takeover is a function of corporate governance.

RESEARCH DESIGN

This study investigates the corporate restructuring activity of very large corporations during the 1982–87 time period. In the early 1980s, there was a significant change in the market for corporate control. In particular, several factors converged in the early 1980s which facilitated takeovers of very large corporations which were previously insulated from takeover by their large size. These factors include: (1) reduced antitrust enforcement allowing pursuit of horizontal integration strategies (Coffee, 1988); (2) Supreme Court decisions invalidating antitakeover laws, albeit temporary (Roe, 1993); (3) availability of new global sources of investment capital resulting from deregulation of financial services (Walter, 1988); and (4) takeover technology, such as junk bonds, supplemented by an increasingly sophisticated supply of legal and financial advisors (Jensen, 1988). Thus, very large corporations with weak governance structures were exposed for the first time in the early 1980s to the disciplinary force of the takeover market.

This change in the takeover market is the treatment in this quasi-experiment. In other words, it is assumed that: (1) Since very large corporations were insulated from takeover threat, they were likely to have accumulated significant agency costs. (2) Threat of takeover triggered restructuring in corporations with high agency costs.

Further, the research design assumes governance (excluding the takeover market) is stable over time. Thus, governance structure, as of the beginning of the study period, reflects past governance structures and conditions management's actions during the study period. Indicators of free cash flow also are characterized at the beginning of the study period. Since restructuring strategies evolve over time, restructuring activities were summed over the study period. The 1982–87 time period was chosen because it coincided with the change in the takeover market and allowed adequate time for strategic changes to be implemented.

Sample selection and data sources

The sample is comprised of all companies (excluding financial institutions and utilities) with total revenues of $5 billion or greater listed in the *Business Week* 1982 Corporate Scoreboard. The Corporate Scoreboard was chosen because it includes a wide range of both service and manufacturing industries. Eighty-six companies met these criteria. Sixteen companies were dropped from the sample due to missing data (4), takeovers (7), leverage buyouts (3), or liquidation (2). Missing data for the dependent variable further reduces the sample for stock repurchases ($n=56$) and asset divestment ($n=45$).

Data on stock repurchases, financial leverage, and asset sales came from Compustat, and was cross validated using individual companies' annual reports and 10-K statements. Data on board composition, management compensation, and equity structure came from company proxy statements. Data on business diversification came from company annual reports and 10-K statements, supplemented by Moody's manuals where necessary. Takeover threats were tracked using the *Wall Street Journal* index.

Dependent and independent variables

Each variable is defined in Table 1 and discussed below.

Financial restructuring

Financial restructuring involves debt recapitalization in which proceeds are distributed to shareholders through stock repurchases, resulting in increased financial leverage. Thus, it is measured as the joint product of stock repurchases and increased leverage. Debt is excluded from the definition, since it is issued for purposes other than restructuring (e.g., expansion projects, acquisitions). The dependent variables include stock repurchase, increased leverage, and financial restructuring, with financial restructuring providing the strongest test of the free cash flow hypothesis.

Portfolio restructuring

Portfolio restructuring involves refocusing on the core business of the firm with divestment of unrelated businesses and possibly horizontal integration through selective acquisition of businesses related to the core business. Asset

Table 1. Definition of variable measurements

Variable	Definition/measurement
Stock repurchases	Total purchases of preferred and common stock during 1982–87, divided by book value of total equity at fiscal year end 1981.
Increased leverage	Financial leverage at year end 1987 less financial leverage at year end 1981. (See definition of financial leverage below).
Financial restucturing	Stock repurchases times increased leverage (See definitions above).
Asset divestments	Total sales of property, plant and equipment (PPE) during 1982–87, divided by net PPE at fiscal year end 1981.
Decreased diversification	Diversification level at year end 1981 less diversification level at year end 1987. (See definition of diversification level below).
Portfolio restructuring	Asset divestments times decreased diversification (See definitions above).
Investment opportunity	Tobin's q, as of year end 1981, defined as market value of stock plus debt divided by replacement value of total assets.
Operating cash flow	EBITDA/TA where EBITDA is earnings before interest, taxes, depreciation and amortization and TA is book value of total assets, as of year end 1981.
Diversification level	$\Sigma d_{i,h}P_i$ where $d_{i,h}$ is the distance of industry i from the firm's largest business (h) and P_i is fraction of the firm's sales in industry i. Value of $d_{i,h}$ equals 0 of i and h have same 4-digit SIC code, 1 if they have same 3-digit SIC code, and so on.
Financial leverage	Ratio of debt to equity, where debt is the sum of short-term debt, current portion of long-term debt, and long-term debt; and equity is total shareholders equity. All values are book value as of year end.
Outside directors' power	(Ratio of number of outside directors to inside directors) times (Ratio of average tenure of outside directors to inside directors). Inside directors are current or former officers of the firm.
Management equity interest	Ratio of value of stock and stock equivalent of options held by top managers divided by their combined salaries and cash bonuses. Top managers are directors whose compensation is reported in the 1982 proxy statement.
Takeover threat	Dummy variable = 1 if firm directly threatened by takeover during 1982–87. Direct threat is defined as tender offer reported in the *Wall Street Journal*.

divestment and decreasing diversity are the distinguishing features of portfolio restructuring. Single measures of portfolio restructuring, such as asset divestment and decreased diversity are tested, but such measures may be poor at differentiating restructuring from clean-up activities associated with large acquisitions and from normal growth differentials among business segments. To provide a stronger test of the free cash flow hypothesis, portfolio restructuring is defined as the joint product of asset divestment and decreased diversity.

Investment opportunity

Tobin's q, measured as the ratio of the firm's market value to replacement value, is used as an indicator of investment opportunity.[6] Tobin's

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[6] There are potential statistical and conceptual problems with using market value of the firm. First, market value is correlated with the other indicators of free cash flow, in particular financial leverage and cash flow from operations. Second, market evaluation of the firm includes the markets' assessment of the firm's governance. However, with book value substituted for market value, the results are substantially the same as when using market value.

q increases as investment opportunities improve. Firms with q ratios below one have marginal investment projects with negative net present value (Lang and Litzenberger, 1989).[7] Thus, values less than one indicate that the firm's investment opportunities return less than the opportunity cost of investment, while values greater than one indicate value-maximizing behavior.

Using average Tobin's q as an indicator of investment opportunity does have some potential problems. First, if the firm has different types of investment opportunities, *average* Tobin's q less than one is not a sufficient condition for negative return projects. Note, however, that 'different types of investment projects' implies that the firm is diversified. And diversification is an indicator of free cash flow. Second, firms with average Tobin's q greater than one may have limited investment opportunities, but the effect of negative net present value investments is overwhelmed by the q value for the existing capital stock. Third, if the market value of the firm includes a takeover premium, the firm could have a q ratio greater than one even though marginal investments under current management have a negative net present value. Thus, Tobin's q could overstate investment opportunities. Finally, estimates of Tobin's q are based on a reported replacement costs which may differ from true economic opportunity cost.

However, Tobin's q is finding increasing application in industrial organization research. It is a more appealing measure than accounting returns. By incorporating a capital measure of firm rents, q implicitly uses the risk-adjusted discount rate, imputes equilibrium returns, and minimizes distortion due to tax laws and accounting conventions (Wernerfelt and Montgomery, 1988).

Cash flow

Earnings before interest, taxes, depreciation, and amortization divided by the book value of total assets is used to measure cash flow. Measuring cash flow relative to total assets is a commonly used measure of cash flow. Use of total assets

instead of market value avoids unnecessary correlation with Tobin's q, the measure for investment opportunity.

Financial leverage

Financial leverage is measured as the ratio of debt to equity, both measured as book values. Debt-to-equity was chosen over other measures of leverage (e.g., debt/total assets) because it is unaffected by changes in working capital and other liabilities. Book values, instead of market values, were chosen to avoid correlation with Tobin's q.

Diversification

Following Caves *et al.* (1980), diversification (DW) is a sales weighted index based on SIC code of the firm's core business and distance (as measured by SIC code) of other businesses in the firm:

$$DW = \sum d_{i,h} P_i$$

where $d_{i,h}$ is distance of industry i from the firm's largest business (h) and P_i is fraction of the firm's sales in industry i. Value of $d_{i,h}$ equals 0 if i and h have same 4-digit SIC code, 1 if they have same 3-digit SIC code, and so on. Other continuous measures of diversification (e.g., entropy and Herfindahl measures) have been used in the literature, but as Caves, *et al.* and others (Montgomery, 1982; Palepu, 1985) have shown, all of these are highly correlated and lead to similar results.

Board of directors

Power of the outside directors is characterized as the joint product of the ratio of outside to inside directors and the ratio of average tenure of outside and inside directors. The ratio of outsiders to insiders captures the relative voting power of outsiders and insiders, while the tenure ratio reflects the relative independence of outsiders.

The ratio of outside directors to inside directors is a common measure of board influence (e.g., Kosnik, 1989; Hill and Snell, 1988). However, this assumes outside directors are independent of management and represent shareholder interests.

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[7] See Gibbs (1992) for a more complete explanation of the rationale for using Tobin's q as an indicator of investment opportunities.

Since the independence of outside directors and the strength of their commitment to shareholder interests is questionable, tenure on the board is used as an attribute of outside directors which are likely to determine their power and commitment.

The length of an individual's tenure contributes to the person, job-specific knowledge and a growing commitment to the organization (Kosnik, 1989). Additionally, Alderfer (1986) found that CEOs influence increases with the CEO's tenure because their boards were likely to have experienced turnover. Thus, average tenure of outside directors relative to inside directors is an indicator of outside directors' influence (Singh and Harianto, 1989).

The tenure ratio used here is an improvement over the ratio of CEO tenure to outsiders' tenure because it moderates the influence of the CEO. Typically, the CEO is the longest tenured insider on the board. However, if the CEO is brought in from the outside, the CEO's tenure would seriously understate top management power. At the other extreme, the management team is not necessarily monolithic. The CEO is dependent on cooperation of the top management team (Quinn, 1980). Since these managers tend to be younger than the CEO, they are expected to constrain personal end-game strategies by the CEO which would limit their future possibilities or decreases their marketability (Fama, 1980). Thus, the CEO's behavior may be limited to the degree that these managers are present on the board. Use of average insider tenure rather than CEO tenure reflects this effect.

Top management

Top management's equity interests are used to measure alignment of management's interests with the shareholders. It is measured as the ratio of the value of stock and stock equivalents of options held by top managers divided by their combined annual compensation. Top managers are defined as inside directors whose compensation is reported in the 1982 proxy statement. This measure approximates the wealth effect from appreciation in the firm's stock price.

Management's equity interests are typically measured as the percentage of common voting stock held/controlled by management (e.g., Finkelstein and Hambrick, 1989; Hill and Snell, 1989). Although this measure may be a good indicator of the degree of control exercised by management, it does not measure the extent to which managers directly bear the wealth consequences of their decisions. Kosnik (1989) proposes an approximation of this variable, the ratio of the value of stock owned by the top management divided by their combined total compensation. This measure improves on Kosnik's by including stock options held by management.[8]

Market for corporate control

Takeover threat is measured as a dichotomous variable equal to 1 if a company is directly threatened with takeover and 0 otherwise. Firms that are taken over during the study period drop out of the sample. Takeover rumors and perceived threats are not counted because they are speculative and, as such, are open to measurement error. Actual tender offers are a more credible measure of direct threat.

Model specification and analytical tests

The following equation is tested:[9]

$$R = r\{o(-); c(+); cT(+); d(+); dT(+); l(-); lT(-);$$
$$b(-); bT(-); bc(-); bd(-); bl(-);$$
$$m(-); mc(-); md(-); ml(-);$$
$$m^2(+); m^2c(+); m^2d(+); m^2l(+);$$
$$mb(-); mbc(-); mbd(-); mbl(-);$$
$$T(?)\}$$

where R is the restructuring event or outcome, o is investment opportunity, c is operating cash flow, d is diversification level, l is financial leverage, b is board power, m is management equity, and T is takeover threat. The signs in parentheses are the expected signs of the coefficients. The model is tested for fit (*F*-statistic) and explanatory power (adjusted R^2). Coefficients of the independent variables are tested for statistical significance (*t*-statistic) and sign (actual compared to predicted).

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[8] Options are valued using the Black and Scholes valuation model (see Brealey and Meyers (1981: 438–444).
[9] Ownership concentration and managerial labor market were omitted from the model due to measurement problems and sample size.

Recall, corporate restructuring is actually a simultaneous equation system. To determine the relative importance of free cash flow, corporate governance, and takeover threat on restructuring a simple analysis of variance is used allowing us to treat free cash flow and takeover threat as exogenous variables. Following the method presented by Kmenta (1971) and utilized by Wernerfelt and Montgomery (1988), and Hansen and Wernerfelt (1989), interfirm variance in restructuring activity was decomposed into free cash flow, corporate governance, and takeover threat. We start with the complete model and use *F*-tests to determine if there are significant differences when one or two of the variable groups is dropped.

RESULTS

The means, standard deviations, maximum and minimum values, and Pearson product–moment correlations among the dependent and explanatory variables are shown in Table 2.

Results of the regression analyses for financial restucturing ($p < 0.00$) and changes in financial leverage ($p < 0.00$) and diversification ($p = 0.03$) are shown in Table 3. The regressions for stock repurchases ($p = 0.86$), asset divestment ($p = 0.19$), and portfolio restructuring ($p = 0.15$) are not shown because the model fit is not significant.

Free cash flow

Investment opportunity, as measured by Tobin's q, is negatively related to restructuring in each of the regressions. As indicated by the takeover interaction term, the impact of investment opportunity is tripled for firms receiving takeover threats. However, the relationship of investment opportunity with restructuring is significant only for changes in diversification.

Operating cash flow and its takeover interaction are significant and positive in both financial restructuring and changes in leverage regressions. As indicated by the coefficient of the takeover interaction, the impact of cash flow is tripled for firms receiving takeover threats. Although the cash flow and takeover interaction coefficients are positive for changes in diversification, they are not significant.

Initial level of diversification is positively related to restructuring in all three regressions and is significant for changes in leverage and diversification. Results for the takeover interaction are mixed. The interaction term is positive for changes in diversification, as predicted. But it is negative for financial restructuring and changes in leverage.

Contrary to the free cash flow hypothesis, initial financial leverage has a positive relationship with restructuring in each of the regressions. The same is true for the takeover interaction as well. However, only the coefficients in the change in diversification regression are significant.

Corporate governance

Recall, corporate governance has a dual effect on corporate restructuring. The prior effect is captured by the governance interactions with the free cash flow variables, while the current effect is represented by the governance terms and their interaction with takeover threat. Each of these effects is discussed below.

The predicted effect of prior board power is supported by the results. The relationship of prior board power to each of the free cash flow variables is negative. The coefficients are significant for cash flow in the financial leverage regression, leverage in all three regressions, and initial diversification in the diversification regression. This negative effect reduces the impact of free cash flow on restructuring. In other words, firms with strong boards are less likely to restructure, or at least, restructure less. The prior effect of management equity is consistent with agency theory predictions also. However, the coefficients are significant only for initial diversification and leverage in the diversification regression.

Current board power and/or its takeover interaction is significant in each of the regressions. However, the results are mixed. As predicted, the relationship is negative for the takeover interaction term for financial restructuring and changes in leverage. In other words, firms facing threat of takeover are less likely to need restructuring financially if the board is strong. But, contrary to theory, the relationship is positive for the direct effect and the takeover interaction for changes in diversification. Similar to board power, the current effect of management

Table 2.   Descriptive statistics and Pearson product moment correlations ($n = 70$)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
N	56	56	70	45	45	70	70	70	70	70	70	70	70
Mean	0.07	0.33	0.21	0.03	0.20	0.11	1.30	0.99	0.58	0.20	1.87	7.38	0.23
S.D.	0.37	0.38	0.74	0.09	0.21	0.45	0.63	0.53	0.49	0.07	2.63	13.00	0.42
Maximum	1.61	1.86	2.77	0.36	0.85	1.08	2.86	4.27	2.93	0.40	19.42	61.24	1.00
Minimum	-1.61	0.00	-2.37	-0.15	0.00	-1.42	0.00	0.41	0.04	0.06	0.09	0.26	0.00
1. Financial restructuring	1												
2. Stock repurchases	0.18	1											
3. Increased leverage	0.81	0.01	1										
4. Portfolio restructuring	0.35	-0.04	0.36	1									
5. Asset divestments	-0.35	0.29	-0.16	0.04	1								
6. Decreased diversification	0.30	0.17	-0.22	0.79	-0.05	1							
7. Initial diversification	0.30	0.08	0.30	0.36	-0.30	-0.37	1						
8. Investment opportunity	-0.02	-0.08	-0.10	0.28	-0.03	0.19	0.03	1					
9. Initial leverage	-0.54	0.03	-0.56	-0.29	0.31	0.05	-0.24	0.20	1				
10. Operating cash flow	0.29	0.12	0.31	0.00	-0.09	0.03	0.35	0.39	-0.39	1			
11. Power of outside directors	-0.03	0.23	-0.34	-0.00	0.20	-0.06	-0.24	0.01	0.50	-0.20	1		
12. Management equity interest	-0.00	0.02	-0.04	-0.14	-0.11	0.02	0.00	0.52	-0.15	0.14	-0.09	1	
13. Takeover threat	0.23	-0.06	0.28	0.14	-0.17	-0.11	0.11	-0.11	-0.06	-0.03	-0.07	-0.01	1

$p < 0.10$ for $r > 0.20$, $p < 0.05$ for $r > 0.24$, $p < 0.01$ for $r > 0.32$

Table 3. Results of regression analyses of corporate restructuring (Note: *t*-statistics are given in parentheses)

	Predicted sign	Financial restructuring	Increased leverage	Decreased diversity
Constant	?	−1.00 (−1.65)	−1.13 (−1.22)	−0.92 (−1.43)
Oppy	−	−0.11 (−0.71)	−0.32 (−1.03)	−0.66** (−3.06)
Cash Flow	+	2.95† (1.50)	4.82† (1.39)	1.18 (0.49)
Diversif.	+	0.30 (1.09)	0.51† (1.42)	0.65** (2.59)
Leverage	−	0.30 (0.73)	0.03 (0.06)	0.62* (1.74)
Board power	−	0.57 (1.24)	0.61* (1.73)	0.41† (1.68)
× Cash Flow	−	−1.24 (−1.12)	−1.70† (−1.45)	−0.06 (−0.08)
× Diversif.	−	−0.12 (−0.71)	−0.12 (−0.80)	−0.23* (−2.21)
× Leverage	−	−0.27** (−2.87)	−0.20* (−1.91)	−0.13* (−1.82)
Mgt Equity	−	0.10 (0.65)	0.26 (1.29)	0.40** (2.89)
× Cash Flow	−	−0.30 (−0.91)	−0.69 (−1.17)	−0.27 (−0.67)
× Diversif.	−	−0.02 (−0.17)	−0.10 (−0.84)	−0.15* (−1.93)
× Leverage	−	−0.02 (−0.32)	−0.02 (−0.19)	−0.17* (−2.25)
Mgt Eq Sq	+	0.003 (0.48)	−0.004 (−1.15)	−0.01** (−2.96)
× Cash Flow	+	−0.0002 (−0.01)	0.01 (0.23)	−0.001 (−0.09)
× Diversif.	+	−0.002 (−0.31)	0.003 (0.54)	0.004 (1.15)
× Leverage	+	−0.002 (−0.58)	−0.001 (−0.23)	0.003 (1.26)
Mgt Equity × Bd Power	−	−0.08 (−0.49)	−0.04 (−0.36)	−0.11† (−1.47)
× Cash Flow	−	0.18 (0.54)	0.12 (0.41)	0.02 (0.11)
× Diversif.	−	0.01 (0.22)	0.002 (0.04)	0.08* (2.14)
× Leverage	−	0.05 (0.93)	0.03 (0.69)	0.01 (0.23)
T/O Threat	?	−0.06 (−0.08)	−0.32 (−0.24)	−3.22* (−3.43)
× Oppy	−	−0.25 (−0.73)	−0.68 (−1.14)	−1.34** (−3.22)
× Cash Flow	+	7.22** (3.08)	9.84** (2.45)	0.50 (0.18)
× Diversif.	+	−0.51† (−1.59)	−0.15 (−0.31)	0.62* (1.92)
× Leverage	−	0.12 (0.29)	−0.47 (−0.64)	1.13* (2.22)
× Bd Power	−	−0.19† (−1.56)	−0.02 (−0.11)	0.37** (2.60)
R^2		0.738	0.638	0.536
R^2 (adj)		0.503	0.419	0.255
d.f.		29	29	43
F-statistic		3.14	2.91	1.91
P		0.00	0.00	0.03

†$p < 0.10$, *$p < 0.05$, **$p < 0.01$ based on one-tail test except for coefficients without predicted signs.

equity is positive rather than negative. Note, however, only the coefficients for initial diversification and leverage for changes in diversification are significant. Thus, the results are not as well supported for the prior effect of management equity.

The curvilinear relationship hypothesized for management equity is supported for changes in diversification, for both prior and current effects. And although the coefficients do not reach significance ($p > 0.10$), the curvilinear relationship is also indicated for changes in leverage.

Management–board interaction is not supported. The interaction is significant only in the diversification regression as a prior effect with initial diversification (with the opposite sign from prediction) and as a current effect (with the sign inconsistent with board and other management terms). Elsewhere, the effect of the management–board interest is not significant.

Takeover threat

We have already seen the interaction of takeover threat with the free cash flow variables. In general, the effects of free cash flow are accentuated in firms threatened with takeover, indicating the presence of agency costs. Note that the takeover threat variable has a negative relationship with restructuring in all three regressions; and it is significant for changes in diversification. This result is difficult to interpret. In effect, it means that the intercept term is lower for firms threatened by takeover. But we have no *a priori* expectation concerning the intercept.

Relative importance of free cash flow, governance and takeover threat

Results of the least squares estimation of the full model and restricted models are summarized in Table 4 for the regression which is significant.

Decomposition of variances indicates that, in each of the regressions, restructuring is equally explained by free cash flow, governance, and takeover threat. In particular, the interaction of governance and takeover threat with free cash flow supports the major premise of this study. That is, restructuring is a function of free cash flow in the presence of weak governance when triggered by takeover threat.

DISCUSSION AND CONCLUSIONS

This study tests Jensen's free cash flow hypothesis and agency theory prescriptions for corporate governance applied to corporate restructuring. The primary hypothesis is that three conditions lead to corporate restructuring: (1) the presence of free cash flow, (2) ineffective corporate governance, and (3) threat of takeover.

First, as predicted, the sample companies, on average, repurchased a large portion of their outstanding stock (33 percent of total equity); made significant asset divestments (21% of net PP&E); increased their leverage by 35 percent and decreased their overall diversification level during the study period (refer to Table 2). Given the broad cross-section of industries in the sample, this supports (but does not confirm) the assumption that very large firms had accumulated significant agency costs. Also note, portfolio restructuring is correlated with increased leverage and financial restructuring. This plus the strong correlation between stock repurchases and asset divestments add credence to the free cash flow hypothesis' story of restructuring.

Financial restructuring

Overall, the results provide some support for the free cash flow hypothesis of financial restructuring. The measures of financial restructuring tested were stock repurchases, change in leverage, and 'financial restructuring' defined as the cross product of the preceding measures. Recall the 'financial restructuring' measure provides the strongest test of the free cash flow hypothesis. The model fit both financial restructuring and change in leverage, explaining 40–50 percent of the variance, but did not explain stock repurchases.

Indicators of free cash flow (i.e., investment opportunity, operating cash flow, diversification level, financial leverage) account for at least half the variance in financial restructuring explained by the model. Cash flow appears to be the major driving force. And as predicted, takeover threat amplifies the effect of cash flow. However, no relationship was found with investment opportunity and initial financial leverage.

The role of initial diversification level is unclear. Although diversification level has a positive relationship with increases in leverage, we fail to find a relationship with the stronger

Table 4. Estimated variance decomposition

	Financial restructuring	Increased leverage	Decreased diversity
Free cash flow (FCF)*	37	40	19
Corporate governance (GOV)			
Current effect*	2	13	5 (ns)
Prior effect***	22	9 (ns)	12 (ns)
Takeover threat (THR)			
Direct effect*	5	8	1 (ns)
Interaction effect***	10	12	17
Multicollinearity			
FCF-GOV	0	−13	0
FCF-THR	−1	−3	−1
GOV-THR	−1	−2	0
Adjustment†	*−24*	*−22*	*−28*
Full Model**	50	42	25

NOTE: 'ns' indicates that the effect is not significant compared to the null model.
†$(R^2 - adj.R^2)$ for full model, *R^2 of the effect, **adjusted R^2 of the full model, ***incremental R^2 of interactions in full model.

measure, 'financial restructuring.' And contrary to the theory, diversification level appears to have a dampening effect on financial restructuring in firms threatened by takeover. This may be explained, in part, by defensive tactics of takeover targets. Highly diversified firms may sell off attractive assets as a takeover defense. Less diversified firms can not use such a tactic and rely on financial restructuring to make themselves less attractive as a takeover target.

Corporate governance, especially power of outside directors, account for approximately one-third of the variance explained by the model. The impact of governance is primarily through departures from optimal levels of leverage and cash flow going into the study period, as indicated both by the interaction with power of outside directors and by the variance explained by prior effects of governance. This supports the assumption of accumulated agency costs at the start of the study period. However, the positive relationship with outside directors' power indicates that the optimal level increased for financial leverage during the study period. This seems reasonable considering the falling interest rates and changes in the tax laws during the study period. In such a situation, firms with strong governance would be expected to increase their leverage accordingly, even though it is in manage-

ment's interest to minimize leverage. From the foregoing, we can conclude that financial restructuring is motivated both by agency costs and by changes in the optimal level of financial leverage. The power of outside directors appears to mitigate manager–shareholder conflict, but no relationship is found between management equity interests and financial restructuring activities.

Although results for financial restructuring are consistent with the free cash flow hypothesis, the relationship could be simply due to the mechanical relationship between cash flow and increased leverage. Buying back stock is almost always going to result in increased leverage. Further, the greater the leverage originally, the less likely it is to increase, if only because of contractual arrangements. And the greater the operating cash flow, the greater the debt that can be serviced. In other words, one will get the predicted relationship for the free cash flow variables independent of the underlying story.[10] Then the issue becomes what motivates stock repurchases—the model can not explain this. None of this, however, negates the significant effect found for power of outside directors as an

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[10] Thanks to an anonymous referee for this alternative explanation.

indicator of agency problems in firms that restructure financially.

Portfolio restructuring

The results for portfolio restructuring also provide some support for the free cash flow hypothesis. Similar to financial restructuring, portfolio restructuring is measured by asset divestments, change in diversification, and 'portfolio restructuring' defined as the cross product of the preceding measures. The model fit changes in diversification, explaining 25 percent of the variance, but asset divestments and 'portfolio restructuring' are not explained by the agency cost model. The following discussion is thus limited to changes in diversification.

Indicators of free cash flow account for one-third of the variance in changes in diversification explained by the model. Change in diversification is related to investment opportunity, initial diversification, and financial leverage. Takeover threat acts to amplify the effect of the free cash flow variables, except for cash flow. Interestingly, cash flow appears to have no impact on changes in diversification—no relationship is found with cash flow or its interaction with governance and takeover threat.

As predicted, refocusing (i.e., decreases in diversification) increases with initial diversification and decreases with investment opportunity; but contrary to the model, refocusing increases with initial financial leverage. Returning to the free cash flow hypothesis, financial restructuring is expected to precipitate portfolio restructuring. One possible explanation is that firms with high initial leverage are less able to support additional debt service from financial restructuring which in turn intensifies refocusing.

Corporate governance, both outside directors and management equity interests, account for approximately one-third of the variance explained by the model.[11] The impact of governance is

primarily through departures from optimal levels of leverage and diversification at the beginning of the study period, as indicated by the interaction with outside directors and management equity interests. This supports the assumption of accumulated agency costs. However, as in financial restructuring, the positive relationship with outside directors' power and management equity interest indicates refocusing strategies occurred in companies with strong governance. This implies that the optimal level of diversification decreased during the study period. This may be explained, in part, by changes external to the firm, such as, reduced enforcement of antitrust regulations favoring horizontal integration strategies over diversification. Also, return to the business core was prompted by industrywide changes. For example, the drop in oil prices in 1984 forced retrenchment in the petroleum companies; and deregulation of the airline industry resulted in heightened competition and eventually consolidation of airline companies. If self-serving managers prefer diversification, firms with strong governance would be expected to be more responsive to such changes.

Thus, we can conclude that portfolio restructuring is motivated both by agency costs and by changes in the optimal level of diversification. And that the power of outside directors and management equity interests mitigate manager–shareholder conflict.

CONCLUSION

The relationship of investment opportunity, cash flow, and diversification to restructuring is consistent with prior research in financial economics (see Lang and Litzenberger, 1989; Lehn and Poulsen, 1989) and on the resource theory of the firm (see Wernerfelt and Montgomery, 1988; Chatterjee and Wernerfelt, 1991). However, we fail to find a relationship of financial leverage to financial restructuring and to changes in leverage, except as mediated by the board. And for changes in diversification, the relationship is the opposite of what was predicted by the free cash flow hypothesis. However, this finding is consistent with Chatterjee and Wernerfelt's (1991: 36) finding that 'unused debt capacity favors more unrelated diversification.'

Although agency problems and threat of

[11] Interestingly, in the decomposition of variances, governance (both prior and current) is not significant. This implies that agency problems may not have a significant role in changes in diversification. However, it is logical to assume that resource usage is influenced by governance structure. In fact, Chatterjee and Wernerfelt (1991) find that high performance firms conform to the resource-based theory, better than low performance firms. Since agency costs lower performance, it is reasonable to expect a relationship between governance and diversification profile.

takeover provide a partial explanation for restructuring, other factors also influenced restructuring as evidenced by the effect of current governance during the study period. This is not necessarily in conflict with the free cash flow hypothesis. But since firms with strong governance restructured, it does indicate that factors in addition to agency costs are driving restructuring.

The evidence for outside directors' power to monitor and control self-serving behavior is well-supported by the results. This is consistent with other research on influence of the board of directors on strategic decision making (e.g., Hill and Snell, 1988; Kosnik, 1989, Singh, 1990). The results also provide some support for the role of equity compensation for top management as a device to align management interests with shareholder interests. This, too, is consistent with prior research (e.g., Hill and Snell, 1988; Kosnik, 1989).

The curvilinear relationship of management equity interest receives weak support. Although the logic of the curvilinear relationship seems compelling, it may be that the counter-effect of risk-bearing differences between management and the outside investor holding a diversified portfolio is weak. Thus, rather than overwhelming the incentive effects of stock ownership by management as shown in Figure 1, the risk-bearing effect may simply dampen the incentive effect (i.e., the relationship is represented by left-hand portion of the curve and there is no optimal level of management equity interest). However, this implies a smaller coefficient, not lack of significance. Instead the problem may be one of measurement. The form of equity interest, especially stock options vs. share ownership, would differ in their risk-bearing effect. Options have no initial cost and no downside risk. In other words, they have the incentive effects of stock ownership without the associated risks. Thus, to the degree management equity interests are represented by stock options, the curvilinear relationship is weaker. The measure used in this study does not separate stock ownership from stock options which may account for the lack of significance. Obviously, the influence of management equity interest is more complex than represented by this simple model and is an area for further research.

The argument for interaction of outside directors' power with management equity interest

seems compelling and previous studies (e.g., Kosnik, 1989; Singh, 1990) add credence to the argument. Unfortunately, it was not supported by the results. In general, the coefficient was not significant. And when the interaction coefficient was significant, the sign was not consistent with the signs for the management and board coefficients. One possible explanation comes from Kosnik's (1989: 145) findings that to determine the 'true motivational effect of outside directors . . . observations need to be restricted to situations involving acute conflict of interests between top management and shareholders.' Since the sample combines companies that restructure with those that do not, the effect of board–management interaction may be diluted. Another possible reason for the failure to find a relationship may be the board and management–board variables shared explained variance in the dependent variable.

Thus, findings of this study support agency conflicts as a partial explanation of corporate restructuring and confirm the importance of outside directors, stock-based management compensation, and an active, well-functioning market for corporate control in preventing and correcting agency problems.

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REFERENCES

Alchian, A. A. and H. Demsetz (1972). 'Production, information costs, and economic organization', *American Economic Review*, **62**, pp. 777–795.
Alderfer, C. P. (1986). 'The invisible director on

corporate boards', *Harvard Business Review*, **64**(6), pp. 38–50.

Amihud, Y. and B. Lev (1981). 'Risk reduction as a managerial motive for conglomerate mergers', *Bell Journal of Economics*, **12**, pp. 605–617.

Brealey, R. and S. Meyers (1981). *Principles of Corporate Finance*. McGraw–Hill, New York.

Caves, R. E., M. E. Porter, A. M. Spence and J. T. Scott (1980). *Competition in the Open Economy*. Harvard University Press, Cambridge, MA.

Chatterjee, S. and B. Wernerfelt (1991). 'The link between resources and type of diversification: Theory and evidence', *Strategic Management Journal*, **12**, pp. 33–48.

Coffee, J. C., Jr. (1988). 'Shareholders versus managers: The strain in the corporate web'. In J. C. Coffee, Jr., L. Lowenstein, and S. Rose-Ackerman (eds.), *Knights, Raiders and Targets: The Impact of the Hostile Takeover*. Oxford University Press, New York.

Demsetz, H. (1983). 'The structure of ownership and the theory of the firm', *Journal of Law and Economics*, **26**, pp. 375–390.

Demsetz, H. and K. Lehn (1985). 'The structure of corporate ownership: Causes and consequences', *Journal of Political Economy*, **93**, pp. 1155–1177.

Fama, E. F. (1980). 'Agency problems and theory of the firm', *Journal of Political Economy*, **88**, pp. 288–307.

Fama, E. F. and M. C. Jensen (1983). 'Separation of ownership and control', *Journal of Law and Economics*, **26**, pp. 301–325.

Finkelstein, S. and D. C. Hambrick (1989). 'Chief executive compensation: A study of markets and political processes', *Strategic Management Journal*, **10**, pp. 121–134.

Gibbs, P. A. (1992). 'The role of corporate governance in corporate restructuring', Unpublished doctoral dissertation, Massachusetts Institute of Technology, Cambridge, MA.

Hansen, G. S. and B. Wernerfelt (1989). 'Determinants of firm performance: The relative importance of economic and organizational factors', *Strategic Management Journal*, **10**, pp. 399–411.

Herman, E. S. (1981). *Corporate Control, Corporate Power*. Cambridge University Press, New York.

Hill, C. W. L. and S. A. Snell (1988). 'External control, corporate strategy, and firm performance in research intensive industries', *Strategic Management Journal*, **9**, pp. 577–590.

Hill, C. W. L. and S. A. Snell (1989). 'Effects of ownership structure and control on corporate productivity', *Academy of Management Journal*, **32**, pp. 25–46.

Hoskisson, R. E. and T. A. Turk (1990). 'Corporate restructuring: Governance and control limits of the internal capital market', *Academy of Management Review*, **15**, pp. 459–477.

Jensen, M. C. (1986). 'Agency costs of free cash flow, corporate finance, and takeovers', *American Economic Review: Papers and Proceedings*, **76**, pp. 323–329.

Jensen, M. C. 'The takeover controversy: Analysis

and evidence'. In J. C. Coffee, Jr., L. Lowenstein, and S. Rose-Ackerman (eds.), *Knights, Raiders and Targets: The Impact of the Hostile Takeover*. Oxford University Press, New York, pp. 314–354.

Jensen, M. C. and W. H. Meckling (1976). Theory of the firm: Managerial behavior, agency cost, and ownership structure', *Journal of Financial Economics*, **3**, pp. 305–360.

Jensen, M. C. and J. B. Warner (1989). 'The distribution of power among corporate managers', *Journal of Financial Economics*, **20**, pp. 3–24.

Kmenta, J. (1971). *Elements of Econometrics*. Macmillan, New York.

Kosnik, R. D. (1989). 'Effects of board demography and directors' incentives on corporate greenmail decisions', *Academy of Management Journal*, **33**, pp. 129–150.

Lang, L. H. P. and R. Litzenberger (1989). 'Dividend announcements: Cash flow signalling versus free cash flow hypothesis', *Journal of Financial Economics*, **24**, 181–191.

Lehn, K. and A. Poulson (1989). 'Free cash flow and stockholder gains from successful tender offers', *Journal of Finance*, **44**, pp. 771–787.

Mace, M. L. (1971). *Directors: Myth and Reality*. Division of Research, Graduate School of Business Administration, Harvard University, Boston, MA.

Mintz, B. and M. Schwartz (1985). *The Power Structure of American Business*. University of Chicago Press, Chicago, IL.

Mitchell, M. L. and K. Lehn (1990). 'Do bad bidders become good targets?', *Journal of Political Economy*, **98**, pp. 327–398.

Montgomery, C. A. (1982). 'The measurement of firm diversification: Some new empirical evidence', *Academy of Management Journal*, **25**, pp. 299–307.

Murphy, K. J. (1985). 'Corporate performance and managerial remuneration: An empirical analysis', *Journal of Accounting and Economics*, **7**, pp. 11–42.

Palepu, K. (1985). 'Diversification strategy, profit performance, and the entropy measure', *Strategic Management Jounral*, **6**, pp. 239–255.

Pfeffer, J. (1972). 'Size and composition of boards of directors', *Administrative Science Quarterly*, **17**, pp. 218–228.

Pfeffer, J. and G. R. Salancik (1978). *The External Control of Organizations: A Resource Perspective*. Harper & Row, New York.

Quinn, J. B. (1980). *Strategies for Change: Logical Incrementalism*. Richard D. Irwin, Homewood, IL.

Roe, M. J. (1993). 'The politics of corporate governance'. In M. M. Blair (ed.), *Deal Decade: What Takeovers and Leveraged Buyouts Mean for Corporate Governance*. The Brookings Institution, Washington, DC, pp. 321–380.

Singh, H. (1990). 'Management buyouts: Distinguishing characteristics and operating changes prior to public offering', *Strategic Management Journal*, **1**, pp. 111–129.

Singh, H. and F. Harianto (1989). 'Management–board relationships, takeover risk, and the adoption of golden parachutes', *Academy of Management Journal*, **32**, pp. 7–24.

Thompson, J. D. (1967). *Organizations in Action.* McGraw–Hill, New York.

Walter, I. (1988). *Global Competition in Financial Services: Market Structure, Protection and Trade Liberalization.* Ballinger, Cambridge, MA.

Wernerfelt, B. and C. A. Montgomery (1988). 'Tobin's q and the importance of focus in firm behavior', *American Economic Review,* **78**, pp. 245–250.