

# **Ownership Structure and Golden Parachutes: Evidence of Credible Commitment or Incentive Alignment?**

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## **Ownership Structure and Golden Parachutes: Evidence of Credible Commitment or Incentive Alignment?**

Using a sample of S & P 500 firms, we find that golden parachutes are associated with concentrated external ownership, less concentrated internal ownership, and non-Delaware incorporation. The presence of internal ownership concentration reduces the incidence of golden parachutes on the order of 50%, while the presence of external ownership concentration results in a negligible effect on their occurrence. We find little support that concentrated external owners use golden parachutes as credible commitment devices. The general multivariate results support the incentive alignment hypothesis, and reaffirm the view that golden parachutes are a mechanism used to align managerial and shareholder interests when there is a separation between ownership and control.

## **1. Introduction:**

The separation of ownership and control in the modern U.S. corporation has been the subject of many academic studies and much public interest. Beginning with the classic work of Berle and Means, *The Modern Corporation and Private Property*, many have questioned the implication of the separation of ownership and control. Jensen and Meckling (1976), highlight the agency problems that can arise when the firm's ownership structure is shifted from insiders to outsiders. For example, the interests of management and shareholders may diverge when a takeover bid is offered for control of the firm. This problem can become perverse when management does not share in the benefit that a change in control may bring to a target firm's shareholders. In light of this possible divergence of interest, compensation contracts that align the interest of management and shareholders enhance shareholder value. Golden parachute contracts serve this purpose because they provide exit compensation to executive management that is contingent upon a change in control of the firm.

In this work, we explore two theories that have been developed to explain the existence of golden parachute contracts. First, we explore the possibility that golden parachutes are an incentive alignment device used by shareholders to ensure managerial alignment during a change in control (Jensen 1988, Lambert and Larcker 1985, and Harris 1990). Managements of firms that become takeover targets are faced with an explicit loss of compensation. As a result, shareholders have an interest in aligning the objectives of management with those of the shareholders, and since golden parachutes constitute sizable cash-based compensation that is payable upon a change in control of the firm, they partially alleviate the salary loss in the event of a takeover. However, as internal ownership becomes more concentrated, an increasing share of the firm's residual income accrues to insiders. This leads to an increased managerial propensity to make choices that maximize

shareholder value (i.e., shareholder value becomes an increasing component of total managerial compensation). As a result, internal ownership concentration decreases the alignment value of golden parachutes.

Second, we investigate the credible commitment hypothesis (Falaschetti 2002), which conjectures that golden parachutes are a signaling device used by concentrated external owners to signal their reluctance to act opportunistically against the atomistic shareholders. The credible commitment hypothesis posits that golden parachutes are a result of concentrated external ownership.

We present evidence that clearly rejects the credible commitment hypothesis while supporting the incentive alignment hypothesis. Both our univariate and multivariate results indicate that concentrated external ownership is a second order effect, and that the primary determinant of golden parachutes is the internal ownership structure of the firm. The results are robust across our multivariate and univariate frameworks, and across variation in the definition of internal and external ownership concentration.

Both theories, credible commitment and incentive alignment, find their roots in the separation of ownership and control, however each theory takes a unique path in explaining the existence of golden parachutes. This research differentiates the two hypotheses and proceeds as follows: In section 2, we review the relevant literature on the credible commitment and incentive alignment theories. In section 3, we develop the formal hypotheses that are tested in section 4. In section 5, we present and discuss the evidence that golden parachutes are a decreasing function of insider ownership, and we conclude the work in Section 6.

## **2.1 Incentive Alignment:**

If a firm's ownership structure is relatively diffuse, individual shareholders have little ability to encourage management to accept a takeover bid. As a result, a diffused ownership structure increases the probability of successful managerial resistance to takeover bids that enhance shareholder value (Shleifer and Vishny 1997). Without exit compensation, management may choose to fight or resist a takeover bid, and this managerial resistance could lead to a depletion of valuable corporate resources. One course of action that shareholders can take to reduce the probability of managerial resistance to a change in control is by instituting managerial compensation contracts that result in payoffs to management during a change in control. Lambert and Larcker (1985) evaluate this possibility by examining the abnormal returns around the announcement of golden parachute agreements. They find that the institution of golden parachute agreements increases shareholder value as reflected by positive and significant abnormal returns accrued to the instituting firm.

Because shareholders of takeover targets enjoy positive abnormal returns that range on average between 10% to 40%, depending on type of merger and time period considered (Bradley, Desai, Kim (1988), Schwert (1996), Maqueira, Megginson, and Nail (1998)), alignment of managerial and shareholder interests is value enhancing. Under the incentive alignment framework, Narayanan and Sundaram (1998) investigate golden parachute adoptions in the light of managerial incentives to produce poor financial performance. Narayanan and Sundaram examine operating, financial, stock price performance and corporate control activities after the adoption of the parachute payment, in an effort to gauge managerial propensity to engage in activities that weaken the firm. They find that, contrary to the predictions of incentive alignment hypothesis, golden parachutes actually improve management's performance.

## 2.2 Credible Commitment:

When a firm's ownership structure consists of concentrated and diffuse owners and in the absence of safeguards, concentrated owners can expropriate wealth from the atomistic claim holders. One manner in which this inferior outcome can be overcome is through the concentrated external owners' use of 'hand-tying' commitments. These commitments signal the increased cost of a concentrated owner's opportunistic action. Shleifer and Vishny (1997) explain: "A ... problem is that the large investors represent their own interests, which need not coincide with the interests of other investors in the firm, or with the interests of the employees and managers." Shleifer and Vishny argue that ex-post it would be difficult for a large concentrated external owner to commit himself to not extract rents from the firm. However, Falaschetti (2002) argues that golden parachutes agreements play this role as increased incidence of these contracts can be explained by the presence of external monitors, mainly blockholders of the firm. He conjectures that because blockholders provide a monitoring service, and because they possess the ability to expropriate wealth from the firm, they must be constrained from acting opportunistically. Hence, golden parachute agreements act as hand-tying arrangements. Falaschetti states "if external owners produce monitoring services, then their capacity to produce such services must be offset by formal institutions that constrain them from acting opportunistically." He further argues that "To avoid this inferior equilibrium, the external agent has an incentive to constrain itself by 'pre-committing' to an optimal plan. Hence, whether external agents produce monitoring or budget-breaking services, credible commitments against opportunistic action are necessary to preclude team production systems from settling on inferior equilibria." Thus, to avoid the perception of wealth expropriation, concentrated external shareholders may choose to use golden parachutes as a signal of restraint.

### **3. Hypothesis Development:**

#### **Hypothesis 1 (Incentive Alignment)**

As discussed in section 2.1, the incentive alignment hypothesis posits that golden parachutes are a device used by shareholders to align managerial interests during a takeover bid. However, as managerial ownership concentration increases, so does the cost of expropriating wealth from shareholders (Jensen 1986), because an increasing component of wealth accrues to the concentrated equity owner. Consequently, under the incentive alignment hypothesis, golden parachute incidence is a decreasing function of inside management ownership. Under this framework, concentrated external ownership increases the incidence of golden parachutes. As an external agent's ownership becomes more concentrated, the cost of instituting a golden parachute agreement decreases. The benefit that accrues to the external agent from the acceptance of a takeover bid increases. These external forces moderately increase the incidence of golden parachutes. *Hence, the incentive alignment hypothesis conjectures that managerial ownership has the primary influence on the incidence of golden parachutes, while concentrated external ownership is conjectured to have a weaker second order effect.*

#### **Hypothesis 2 (Credible Commitment)**

According to Falaschetti (2002), external blockholders use golden parachutes to constrain themselves from engaging in opportunistic behavior. External blockholder's ability to expropriate wealth from the firm's atomistic equity holders increases as the blockholder's ownership increases. The opportunity for expropriation increases the value of "hand tying" contracts such as golden parachutes, and golden parachute incidence should be increasing in external ownership concentration. On the other hand, golden parachute occurrence is partially mitigated by

concentrated managerial ownership. Concentrated managerial ownership decreases the concentrated external owners' ability to opportunistically act in their own self-interest. *The credible commitment hypothesis posits the concentrated external ownership structure as the primary determinant of golden parachutes, while managerial ownership is assumed to exhibit a weaker second order effect.*

Both models suggest the same signs on the ownership concentration coefficients, but each model produces a distinctly different prediction regarding the magnitude of each factor's effect on the incidence of golden parachutes. The incentive alignment hypothesis suggests that the marginal effect of management concentration will be greater than the marginal effect of concentrated outside ownership. While the credible commitment hypotheses suggests that the primary cause of golden parachutes are concentrated outside equity holders. Thus, concentrated outside ownership should produce the strongest marginal effect. In the next section we develop the logistic regression model that is used to examine the two hypotheses.

#### **4. Data and Empirical Methodology:**

To test the central hypotheses, we use the firms included in the S & P 500 index on June 30, 2002. We list the firms in alphabetical order and take every other firm and search its proxy statement on the SEC's *Edgar* online database to determine if the firm has a golden parachute agreement with the CEO. In addition, we collect all firm level internal ownership information and state of incorporation from the proxy statements. We collect the percentage of each external blockholders' ownership and the number of external blockholders from Thomson Financial's *Global Disclosure*. Finally, we collect firm level control variables, which include the firm's total assets (*Assets*), capital expenditures (*CapExp*), price earnings ratio (*P/E*), and the Standardized



Industrial Code (*SIC*), from the COMPUSTAT database. Because three of the original firms did not have information on *Edgar*, the final sample includes 247 firms. In the next section, we discuss the empirical methodology and discuss variables employed to test the central hypotheses in more detail.

#### **4.1 Dependent Variable:**

Under the Securities Act of 1934 corporations are required to disclose any “golden parachute” agreement with their senior executives. We employ a binary variable to indicate the presence of a golden parachute agreement with the firm’s chief executive officer. This variable takes the value of unity if the firm’s proxy statement includes a golden parachute arrangement with the CEO, and zero otherwise. We use the operational definition of Wade, O’Relly and Chandratat (1990), where golden parachutes are defined as contractual agreements that provide payment to the CEO upon a change of control of the firm. We count any monetary payments that are associated with a change in control of the firm, which includes voluntary and involuntary changes of control. We do not include accelerated options vesting because this represents a benefit often granted to all employees, and not solely senior management.

#### **4.2 External Ownership Concentration:**

##### *Outsideblock*

*Outsideblock* proxies the external ownership concentration of the firm, and is employed in Models 1, 1.1, and 1.2. *Outsideblock* is a binary variable that takes the value of one when the firm has at least one external 5% owner in Models 1 and 1.1 and takes the value of one when there is at least one 10% external owner in Model 1.2, and zero otherwise. Under the incentive alignment

hypothesis, the parameter estimate on *Outsideblock* should be positive and significant. The same result is expected under the credible commitment hypothesis. However, the incentive alignment hypothesis holds external ownership concentration as a secondary effect, while the incentive alignment hypothesis posits external ownership concentration as the *raison d'être* of golden parachutes.

#### *Allblock*

*Allblock* represents the total number of external 5% owners of the firm in Models 2 and 2.1 and the number of 10% owners in Model 2.2, and is used to measure the effect that the number of external blockholders have on a firm's inclination to institute a golden parachute. If concentrated ownership is associated with golden parachutes, this variable should capture the aggregate influence. A positive coefficient estimate is expected under the credible commitment hypothesis. The incentive alignment hypothesis also posits a positive coefficient estimate on *Allblock* since an increase in the number of blockholder would lead to an increased cost of takeover bid rejection. As the number of blockholders increases, the individual cost that each concentrated outside holder shares in instituting a golden parachute decreases (i.e, free-rider costs decrease (Shleifer and Vishny 1997)), and the cost that each would share in management's non-acceptance of a takeover bid increases. It is possible that the benefit of external shareholder concentration increases or decreases as the number of blockholders increases. To control for any second order effects, we include the number of blockholders squared, *Allblock*<sup>2</sup>. Neither hypothesis conjectures a sign for the coefficient estimate on *Allblock*<sup>2</sup>.

#### *Herfindahl*

*Herfindahl* is the Herfindahl-Hirschman Index measure of concentration among the ownership of the 5 largest external owners of the firm. *Herfindahl* is defined as:

$$Herfindahl = \sum_{i=1}^5 (S_i * 100)^2, \quad (1)$$

where  $S_i$  represents the percentage owned by shareholder  $i$ . *Herfindahl* is included to control for the effects that concentration among the external owners may have on the incidence of golden parachute agreements with a firm's CEO. We take the natural log of the Herfindahl Index to obtain *LnHerfindahl*, which we use in the final estimation. The credible commitment hypothesis suggests a positive parameter estimate on *LnHerfindahl*. As individual external agents' ownership becomes more concentrated relative to other external concentrated owners, so does their ability to engage in unbridled wealth expropriation. For example, higher Herfindahl scores indicate higher ownership concentration and the greater the ability of the external agent to engage in wealth expropriation, the greater the benefit associated with the use of "hand-tying" contracts. On the other hand, the incentive alignment hypothesis predicts a negative and significant coefficient estimate on *LnHerfindahl*, because the concentration among five largest external owners should decrease the value associated with the institution of golden parachutes. As power is concentrated in a single large external blockholder, the ability of this blockholder to influence managerial decisions and exert influence over the board of director's decisions increases.

#### *Totalinst*

*LnTotalinst* represents the natural log of the total number of financial institutions that hold the firm's equity. If financial institutions are more likely to represent concentrated ownership, this variable will measure the direct impact this ownership exerts on the likelihood that a firm will institute a golden parachute agreement. Again both hypotheses suggest the same sign on the

parameter estimate. However, if the effect that concentrated ownership exerts on the firm dissipates after the 5% ownership level is surpassed, it is unlikely that the number of institutions will affect that probability of a firm instituting a golden parachute agreement. We include this variable to control for any residual effect.

#### **4.3 Executive Ownership:**

##### *InsideBlock*

*InsideBlock* measures the concentration of inside ownership among the firms in our sample. This binary variable takes the value of one when the firm's executive management own 5% or more of the firm's outstanding equity in Models 1, and 2, and takes the value of one when the firm's executive management own owns 10% or more in Models 1.1, 1.2, 2.1 and 2.2, and zero otherwise. The incentive alignment hypothesis predicts a negative and significant coefficient estimate on *InsideBlock*. Under the incentive alignment hypothesis the primary theoretical reason for the existence of golden parachute agreements is decreased levels of managerial alignment. Under the credible commitment hypothesis, increased managerial ownership would increase management's ability to restrain external agent's wealth expropriation. As explained in section 2.1, the marginal effect of *InsideBlock* relative to that of external ownership concentration, is projected to be lower under the credible commitment hypothesis. The incentive alignment hypothesis suggests inside ownership will have a larger marginal effect, while external ownership concentration will have a lower marginal effect.

#### **4.4 Control Variables:**

We employ a binary variable, *Delaware*, in the specification to capture legal differences that exist between anti-takeover measures in Delaware and the other states. Subramanian (2001)

explains that U.S. corporations are governed by their state of incorporation, and this governance is irrespective of their state of headquarters or where they conduct their business. More than 50% of the publicly traded firms in the United States are incorporated in Delaware and 58% of Fortune 500 firms are incorporated in that state (Delaware Division of Corporations (2003)) and in this sample 57% are incorporated in Delaware. Delaware has instituted legislation that makes hostile takeovers more difficult. Delaware's anti-takeover statutes lend target firms more leeway in resisting takeover attempts. This protection has been studied by Daines (2001), who provides evidence that firms who are incorporated in Delaware have higher Tobin's Q than firms who are not. In addition, Small, Kwag and Li (2005) find that state level governance protections may serve as substitutes for firm level governance provisions.

The variable *Delaware* takes the value of one if the firm is incorporated in Delaware and zero otherwise. If the incentive hypothesis is correct the coefficient estimate on *Delaware* should be negative and significant. That is, if firms incorporated in Delaware enjoy more protection from hostile takeover bids, the value of aligning the interest of management and shareholders during a takeover attempt decreases, and consequently, the probability of their occurrence should decrease. The coefficient estimate on *Delaware* should not be significant if golden parachutes are used as a device to constrain blockholders from expropriating wealth from minority shareholders. Delaware's antitakeover statutes should not affect the ability of blockholders to extract wealth.

The natural log of the firm's capital expenditures, *LnCapExp*, is included in the estimation to account for differences in the valuation of compensation schemes among firms with large capital outlays (Knoeber 1986). Firms with large capital outlays, particularly outlays that have a lag between investment and fruition, will view the use of golden parachutes as a useful binding tool. The natural log of the book value of the firm's assets, *LnAssets*, is included to capture the

impact that variations in firm size may have on the incidence of a golden parachute agreements (Schwartz 1982). We include seven vectors of binary variables in the regression specification to capture the variability in industry tendencies to institute golden parachutes. To proxy for industry effects we assign a binary variable corresponding to the first digit of the standardized industrial code (SIC), for each firm in the sample. In addition, we include the natural log of the price-earnings ratio,  $\text{Ln}(P/E)$ , of each firm to control for the effect that market valuation might have on the incidences of golden parachutes. Schwartz (1982) argues that firms with larger P/E ratios are less likely to become takeover targets. This variable is constructed by averaging the yearly price-earnings ratio of the firm for the previous ten years. If the firm did not have data for the full 10 years, we use the available length of data in the COMPUSTAT database to compute this variable.

#### 4.5. Model:

Our logistic model is similar to the model employed in Falaschetti (2002). We specify the logistic regression model<sup>2</sup> as:

$$\text{prob}(\text{Parachute} = 1) = \left( \frac{e^I}{1 + e^I} \right), \quad (2)$$

$$\begin{aligned} \text{where, } I = & \beta_0 + \beta_1 \text{LnHerfindahl}_i + \beta_2 \text{LnTotalInst}_i + \beta_3 \text{Delaware}_i + \beta_4 \text{LnAssets}_i \\ & + \beta_5 \text{LnCapExp}_i + \beta_6 \text{Ln}(P/E)_i + \sum_{j=7}^n \beta_j X_j + \sum_{x=n+1}^{n+7} \beta_x \text{SIC}_i + e_i \end{aligned} \quad (3)$$

The dependent variable *Parachute* takes the value of one when the firm has a golden parachute agreement with the CEO, and zero otherwise. *LnHerfindahl* is the natural log of the Herfindahl Index measure of concentration among the largest 5 external shareholders, *LnTotalInst* is the natural log of the total number of institutional owners of the firm's equity, *Delaware* is a binary

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<sup>2</sup> We also estimate the specification using a probit model. The inferences that can be drawn regarding the credible commitment and incentive alignment hypotheses are unchanged.

variable that takes the value of one when the firm is incorporated in Delaware,  $LnAssets$  is the natural log of the book value of the firm's assets,  $LnCapExp$  is the natural log of the firm's capital expenditures of the firm,  $Ln(P/E)$  is the natural log of the firm's P/E ratio averaged over the previous ten years, and  $\mathbf{X}$  is a vector of ownership concentration proxies.  $\mathbf{X}$  includes the following variables: *InsideBlock* is a binary variable that takes the value of one when the firm's insiders own 5% or more of the firm's outstanding equity in Models 1 and 2, and when the firm's insiders own 10% or more of the firm's outstanding equity in Models 1.1, 1.2, 2.1 and 2.2, *AllBlock* represents the total number of 5% external blockholders in Models 2 and 2.1 and the total number of 10% external blockholders in model 2.2, *AllBlock2* represents the total number of external blockholders squared, *OutsideBlock* is a binary variable that takes the value of one when there is the presence of at least one external 5% blockholder in Model 1, 1.1, and one when there is the presence of at least one external 10% blockholder in Model 1.2. *SIC* is a vector of binary variables that capture industry effects. For brevity, the *SIC* coefficient estimates are not included in Table III. We report White (1980) heteroskedasticity consistent standard errors.

## 5. Univariate Analysis:

(Table I Here)

Table I contains the univariate characteristics of our sample. The average firm in our sample has approximately \$30 Billion in assets and spends \$900 million annually on capital expenditures. In one out of every five firms, insiders own at least 5% of the common stock. While almost 3 of 4 firms have one external investor that owns at least 5% of the company, on average, there are 1.6 external owners of a 5% block of company stock, with one company that has over 35% of its common stock owned by 7 external blockholders. 57% of the firms are

incorporated in Delaware and 72% of the firms in our sample have a golden parachute agreement with their CEOs. The average firm has 434 institutional investors, with the minimum number of institutional investors being 69 and 1 firm with over 1,300. The average Herfindahl Index measure indicates an ownership structure that is relatively diffuse; however the index measure alone does not distinguish between internal or external ownership concentration. The average sample firm is large and has a concentrated ownership structure, has at least one external owner that controls 5% of the company, has a large number of institutional investors (434), is incorporated in Delaware and has a golden parachute agreement in place.

(Table II Here)

The incentive alignment hypothesis predicts a positive correlation between an insider's ownership and their willingness to accept a takeover bid. When a managerial ownership block is present, the incidence of golden parachutes will be low, and in the absence of a managerial block, the incidence of golden parachutes will be high. Also, under the incentive alignment hypothesis, the incidence of golden parachutes is moderately increasing in the concentration of external ownership. As an external agent's ownership becomes more concentrated, so does the cost of management's rejection of value increasing takeover bids. In this case, external blockholders would want to "align" the interests of management. This should result in an increased incidence of golden parachutes in firms with concentrated outside ownership.

The credible commitment hypothesis implies that as an external agent's ownership concentration increases, so does the occurrence of golden parachutes. As external agents become better able to expropriate atomistic shareholder wealth, so should the incidence of constraining devices such as golden parachutes. However, the credible commitment hypothesis also predicts that the occurrence of golden parachutes is decreasing in the concentration of management



ownership because management able to mitigate external shareholders' ability to expropriate wealth.

One method that we employ to distinguish between the two theories is to interpret the economic significance of variables that capture the internal and external ownership structure of the firm. *The incentive alignment hypothesis places more weight on managerial ownership concentration (i.e., the primary objective of golden parachutes is to align the interest of management and shareholders in the face of a take over bid). The credible commitment hypothesis holds that the primary explanation for the existence of golden parachutes is external ownership concentration.* In addition, as we discussed in section 4.3, the concentration of the external owners can be used to differentiate the two hypotheses. We discuss the results of our statistical analysis below.

### **5.1 Univariate Results:**

Panel A of Table II reports the univariate characteristics of firms across the four possible combinations of block ownership when block ownership is defined as the presence of at least one entity that owns more than 5% of the firm's equity. Panel B of Table II contains the results when block ownership is characterized as ownership at the 10% level. The four quadrants contain measures of the percentage of firms that have golden parachute agreements with their CEOs across each of the four specified ownership characteristics, high and low managerial ownership concentration and high and low outside ownership concentration.

As seen in Panel A, when managerial ownership concentration is present, the incidence of golden parachutes decreases from 89.9% to 46.5% in firms that have external ownership concentration, and from 73.5% to 43.7% in firms that do not have external ownership concentration. That is to say, the presence of an inside blockholder almost halves the incidence of

golden parachutes, irrespective of the presence of an outside ownership block. When external ownership concentration is combined with insider ownership, as opposed to insider ownership without an external block, the occurrence of golden parachutes modestly increases 2.8%, from 43.7% to 46.5%. More telling is the fact that 74% of the firms with no external or internal block present have golden parachutes, which only increases by 16.3% for the firms that have external ownership concentration when no managerial ownership concentration is present. The inferences that can be drawn from the univariate analysis are unchanged when block ownership is redefined as a 10% ownership level. These results are presented in Panel B of Table II. When we examine block ownership at the 10% level, the analysis again indicates that the primary determinant of golden parachute occurrence is the absence of managerial ownership concentration and not the presence of external ownership concentration.

The univariate results overwhelmingly support the incentive alignment hypothesis, because the presence of an inside blockholder decreases the incidence of golden parachutes on the order of 50%, when considering block ownership at 10% level, and at least 29% when considering block ownership at 5% level. Likewise, there is little univariate evidence to support the credible commitment hypothesis, or more specifically, that external block ownership is the primary determinant of golden parachute occurrence. Because we are unable to control for the mitigating factors in the univariate analysis, we also estimate a multivariate specification and we discuss the results of that analysis below.

## **5.2 Multivariate Analysis:**

(Tables III and IV Here)

We estimate two primary multivariate specifications, each with three variations, to distinguish between the incentive alignment hypothesis and the credible commitment hypothesis. In Models 1, 1.1, and 1.2, we estimate the effect of external ownership concentration using the binary variable *Outsideblock*. In Models 2, 2.1, and 2.2, we use the variable *Allblock* and *Allblock*<sup>2</sup> to capture the first and the second order effects that the number of external blockholders has on the incidence of golden parachute agreements. In all specifications we use the binary variable *Insideblock* to capture insider ownership concentration.

We estimate three variations of each distinct specification by perturbing the ownership concentration variables *Insideblock*, *Outsideblock*, and *Allblock*. In Models 1 and 2, *Insideblock* measures the insider ownership concentration at the 5% or greater level, and at the 10% or greater level in Models 1.1, 1.2, 2.1, and 2.2. Likewise, *Outsideblock* measures the ownership concentration at the 5% or greater level in Models 1 and 1.1, and at the 10% ownership level in Model 1.2. Finally, *Allblock* represents the number of 5% or greater external owners in Models 2 and 2.1, and the number of 10% owners in Model 2.2. The parameter estimates from the multivariate logistic regression specifications are included in Table III, and the marginal effects of the ownership concentration variables are reported in Table IV.

The managerial ownership concentration is expected to decrease the occurrence of golden parachute arrangements under both hypotheses, but the magnitude of the expected decrease differs between the two theories. The incentive alignment hypothesis predicts a larger change in golden parachute occurrence given an increase in management ownership. Under the credible commitment framework, concentrated managerial ownership exerts a constraining force on external blockholders, and this force results in a lower occurrence of golden parachutes. However, under the credible commitment framework internal ownership concentration is a second order

effect. As can be seen in Table III, the coefficient estimate on *Insideblock* is negative and significant at the 1% level in all specifications. The marginal effect of *Insideblock*, as presented in Table IV, ranges from -.313 in Model 2 to -.341 in Model 1.1. Note in all specifications the marginal effect of *Insideblock* is larger than the marginal effect of the external ownership concentration variables. Both the significance level and the marginal effect of the coefficient support the incentive alignment hypothesis.

External ownership concentration is hypothesized to have a minor impact on the incidence of golden parachutes under the incentive alignment hypothesis, while under the credible commitment hypothesis the marginal effects of the external ownership variables are expected to be the primary contributor to the occurrence of golden parachutes. In Model 1 the coefficient estimate of *OutsideBlock* is significant at the 10% level, but the coefficient estimates on *OutsideBlock* in Models 1.1 and 1.2 are insignificant. Even when *OutsideBlock* is specified at the 10% or greater external ownership, the coefficient estimate on the variables remains insignificant. Under the credible commitment hypothesis, as external ownership increases, the “hand-tying” benefits of the golden parachutes also increase. Thus, the non-significant parameter estimate on the *OutsideBlock*, when it is specified at the 10% level, suggests that golden parachute occurrence is not a product of credible commitment. In addition, the marginal effects of the *Outsideblock* range from .146 in Model 1 to .028 in Model 1.2. At best the external ownership concentration has half the impact of internal ownership concentration.

We proxy for external ownership concentration by the using the number of external blockholders, *Allblock*, in Models 2, 2.1, and 2.2. The coefficient estimate on this variable is negative and significant when we specify *Allblock* at the 5% external ownership level, but when we specify it at the 10% ownership level the coefficient estimate is no longer significant at the

10% significance level. In addition, the marginal effects range from -.197 in Model 2 to .01 in Model 2.2. Again, the coefficient estimates and marginal effects on *Allblock* support the incentive alignment hypothesis.

As discussed in section 4.3, firms incorporated in Delaware benefit from the protection of anti-takeover statutes, and the existence of these statutes decreases the probability of a firm facing a takeover bid. In all model specifications contained in Table III, the coefficient estimates on *Delaware* are negative and significant. If golden parachutes are a result of incentive alignment, their occurrence should be a decreasing function of Delaware incorporation. As the probability of a takeover decreases, so does the benefit of managerial/shareholder alignment in the face of a takeover bid. If golden parachutes are a result of credible commitment, Delaware's antitakeover statutes should not affect the ability or willingness of the firm's external blockholders to extract wealth from the atomistic shareholders. If the credible commitment hypothesis is correct, the coefficient estimate on *Delaware* should not be statistically significant. On the other hand, if the incentive alignment hypothesis is correct, the parameter estimate on *Delaware* should be negative and significant. This result is inconsistent with the credible commitment hypothesis, and the negative coefficient estimates provide evidence for the incentive alignment hypothesis.

The coefficient estimates on *LnHerfindahl* and *LnTotalInst* provide no support for either hypothesis. In all specifications, the coefficient estimate on *LnHerfindahl* and *LnTotalInst* are insignificant. However, the coefficient estimates on the internal and external ownership concentration proxies lend credence to the incentive alignment hypothesis. In both the univariate and the multivariate specifications, inside ownership the dominant contributor to the absence of golden parachutes. The presence of an external blockholder is a second order contributor to the presence of golden parachutes.

## **6. Conclusion:**

In this study we evaluate two distinctly different theories that have been used to explain the existence of golden parachute agreements. First, we examine the possibility that concentrated external agents use golden parachutes as a device to curtail opportunistic wealth expropriation. If the incentive for wealth expropriation is increased when external ownership is concentrated, external agents have the incentive to use ‘hand-tying’ devices to increase the cost of acting opportunistically (Falaschetti, 2002). Second, we evaluate the possibility that golden parachutes are used as a device to align the interests of shareholders and management during a change in control of the firm (Jensen 1988, Lambert and Larcker 1985, and Harris 1990). The incentive for managerial resistance exists when management faces the termination of their compensation contracts upon a change in control of the firm. Golden parachutes could act as transitional compensation during this change and would, *ceteris paribus*, decrease the propensity of management’s resistance to a take over bid.

We examine each theory through an empirical analysis of the ownership structure of the firm, and we place special emphasis on the economic significance of internal versus external ownership concentration. We present strong empirical support for the incentive alignment hypothesis. We find that the incidence of golden parachutes significantly decreases with the presence of concentrated internal ownership, while there is little evidence that external ownership structure significantly produces increased incidence of golden parachute agreements.

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**Table 1**  
**Univariate Characteristics**

Table 1 contains the descriptive statistics of the variables used in model. *Parachute* takes the value of one when the firm has a golden parachute agreement with the CEO, and zero otherwise, *InsideBlock* is a binary variable that takes the value of one when the firm's insiders own more than 5% (10%) of the firm's outstanding equity, *OutsideBlock* is a binary variable that takes the value of one when there is the presence of at least one external 5% (10%) blockholder, *AllBlock* represents the total number of 5% (10%) external blockholders, *AllBlock2* represents the total number of 5% (10%) external blockholders squared, *Herfindahl* is the Herfindahl Index measure of concentration among the largest five external shareholders, *TotalInst* represents the total number of institutional owners of the firm's equity, *Delaware* takes the value of one when the firm is incorporated in Delaware, *P/E* is the average price earnings ratio of the firm for the preceding 10 years, *Assets* is the book value of the firm's assets in millions, *CapExp* measures the capital expenditures of the firm in millions, and *SIC<sub>n</sub>* is a vector of binary variables that capture industry effects.

<b>Variable</b>	<b>Mean</b>	<b>Std Dev</b>	<b>Minimum</b>	<b>Maximum</b>
Parachute	.724	.447	0	1
InsideBlock (5% Level)	.303	.460	0	1
InsideBlock (10% Level)	.182	.386	0	1
OutsideBlock (5% Level)	.720	.449	0	1
OutsideBlock (10% Level)	.255	.436	0	1
AllBlock (5% Level)	1.58	1.28	0	7
AllBlock <sup>2</sup> (5% Level)	4.15	5.22	0	49
AllBlock (10% Level)	.376	.686	0	5
AllBlock <sup>2</sup> (10% Level)	.611	1.97	0	25
Herfindahl	203	322	7.92	2,394
TotalInst	434	223	69	1,334
Delaware	.570	.498	0	1
P/E	30	50	0.09	448
Assets	\$28,886	\$69,105	\$745	\$495,023
CapExp	\$901	\$1,832	0	\$15,520
SIC1	.056	.231	0	1
SIC2	.190	.393	0	1
SIC3	.238	.427	0	1
SIC4	.141	.349	0	1
SIC5	.093	.291	0	1
SIC6	.165	.372	0	1
SIC7	.093	.291	0	1
SIC8	.020	.141	0	1

**Table II**  
**Univariate Golden Parachute Analysis**

Panel A contains the mean value of the number of golden parachutes across the characteristics *InsideBlock* and *OutsideBlock*, when block ownership is defined at the 5% ownership level. *Outsideblock* is a binary variable that takes the value of unity when the firm has at least one external 5% owner, and zero otherwise. *InsideBlock* is a binary variable that takes the value of one when the firm's management own more than 5% of the firm's outstanding equity, and zero otherwise.

Panel B contains the mean value of the number of golden parachutes across the characteristics *InsideBlock* and *OutsideBlock*, when block ownership is defined at the 10% ownership level. *Outsideblock* is a binary variable that takes the value of unity when the firm has at least one external 10% owner, and zero otherwise. *InsideBlock* is a binary variable that takes the value of one when the firm's management own more than 10% of the firm's outstanding equity, and zero otherwise.

<b>Panel A</b>			
<i>Mean of Golden Parachute (Block defined as ownership &gt;5%)</i>	<b>Insider Block</b>	<b>No Inside Block</b>	<b>Difference</b>
<b>Outside Block</b>	.465	.899	.434*** (.060)
<b>No Outside Block</b>	.437	.735	.298** (.131)
<b>Difference</b>	.028 (.142)	.164* (.105)	
<b>Panel B</b>			
<i>Mean of Golden Parachute (Block defined as ownership &gt;10%)</i>	<b>Insider Block</b>	<b>No Inside Block</b>	<b>Difference</b>
<b>Outside Block</b>	.357	.857	.500*** (.117)
<b>No Outside Block</b>	.333	.803	.470*** (.082)
<b>Difference</b>	.024 (.157)	.054 (.063)	
Standard Errors Reported in Parentheses *** Denotes significance at the 1% level ** Denotes significance at the 5% level * Denotes significance at the 10% level			

**Table III**  
**Logistic Regression**

The dependent variable, *Parachute*, takes the value of one when the firm has a golden parachute agreement with the CEO, and zero otherwise, *InsideBlock* is a binary variable that takes the value of one when the firm's insiders own more than 5% of the firm's outstanding equity in Models 1 and 2, and in Models 1.1, 1.2, 2.1, and 2.2 10%, *OutsideBlock* is a binary variable that takes the value of one when there is the presence of at least one external 5% blockholder in Models 1, 1.1, 2, and 2.1 and 10% in Models 1.2 and 2.2, *AllBlock* represents the total number of 5% external blockholders in Models 2 and 2.1, and 10% in Model 2.2, *AllBlock2* represents the total number of 5% external blockholders squared in Models 2 and 2.1, and 10% in Model 2.2, *LnHerfindahl* is the natural log of the Herfindahl measure of concentration among the largest five external shareholders, *LnTotalInst* represents the natural log of the total number of institutional owners of the firm's equity, *Delaware* takes the value of one when the firm is incorporated in Delaware, *LnAssets* is the natural log book value of the firm's assets, *LnCapExp* is the natural log of the firm's capital expenditures, *ln(P/E)* is the natural log of the average price earnings ratio of the firm for the preceding 10 years. Also included in the specification, but not reported for brevity, is a vector of binary variables that capture industry effects.

Variable	Base Model	<u>Model 1</u>	<u>Model 1.1</u>	<u>Model 1.2</u>	<u>Model 2</u>	<u>Model 2.1</u>	<u>Model 2.2</u>
		Inside ≥ 5% Outside ≥ 5%	Inside ≥ 10% Outside ≥ 5%	Inside ≥ 10% Outside ≥ 10%	Inside ≥ 5% Allblock ≥ 5%	Inside ≥ 10% Allblock ≥ 5%	Inside ≥ 10% Allblock ≥ 10%
<b>C</b>	.995 (1.10)	4.40 (3.91)	2.06 (3.97)	2.18 (4.19)	5.45 (4.04)	2.72 (4.06)	1.22 (4.45)
<b>InsideBlock</b>		-2.12*** (.369)	-2.27*** (.444)	-2.29*** (.436)	-2.14*** (.373)	-2.24*** (.454)	-2.22*** (.440)
<b>OutsideBlock</b>		.980* (.571)	.633 (.535)	.191 (.563)			
<b>AllBlock</b>					1.35*** (.464)	1.02** (.433)	-.067 (.604)
<b>AllBlock<sup>2</sup></b>					-.232*** (.086)	-.183** (.082)	-.083 (.136)
<b>lnHerfindahl</b>		-.125 (.287)	.001 (.292)	.113 (.319)	-.401 (.346)	-.211 (.358)	.313 (.398)
<b>lnTotalInst</b>		-.287 (.608)	-.136 (.609)	-.219 (.616)	-.298 (.616)	-.116 (.619)	-.209 (.620)
<b>Delaware</b>	-.679** (.332)	-.641* (.375)	-.727** (.359)	-.690* (.365)	-.730* (.397)	-.806* (.396)	-.730** (.371)
<b>LnAssets</b>	.003 (.029)	-.005 (.030)	.009 (.003)	.009 (.034)	-.008 (.030)	.007 (.033)	.010 (.034)
<b>LnCapExp</b>	-.062 (.108)	-.048 (.116)	-.066 (.117)	-.091 (.118)	-.031 (.118)	-.049 (.117)	-.085 (.121)
<b>Ln(P/E)</b>	-.009 (.119)	.042 (.151)	-.019 (.144)	-.002 (.146)	.096 (.153)	.020 (.147)	.001 (.147)
<b>Log likelihood</b>	-132	-113	-114	-141	-110	-112	-141
<b>LR statistic</b>	17.53	56.77	54.24	52.55	61.50	57.65	53.3
<b>Akaike Criterion</b>	1.18	1.05	1.06	1.07	1.04	1.06	1.07
<b>Schwarz Criterion</b>	1.35	1.28	1.29	1.30	1.29	1.30	.132
<b>McFadden R-squared</b>	.062	.200	.191	.185	.217	.203	.188
<b>H-L Statistic</b>	7.79	5.07	10.26	10.42	8.90	14.88	5.25

Standard Errors Reported in Parentheses

\*\*\* Denotes significance at the 1% level

\*\* Denotes significance at the 5% level

\* Denotes significance at the 10% level

**Table IV**  
**Marginal Effects (Ownership Concentration)**

This table contains the marginal effects from the logistic specification included in Table IV. *InsideBlock* is a binary variable that takes the value of one when the firm's insiders own more than 5% of the firm's outstanding equity in Models 1 and 2, and in Models 1.1, 1.2, 2.1, and 10% in Model 2.2, *OutsideBlock* is a binary variable that takes the value of one when there is the presence of at least one external 5% blockholder in Models 1, 1.1, 2, and 2.1 and 10% in Models 1.2 and 2.2, *AllBlock* represents the total number of 5% external blockholders in Models 2 and 2.1, and 10% in Model 2.2, *AllBlock2* represents the total number of 5% external

<i>Marginal Effects</i>	<b>Model 1</b>	<b>Model 1.1</b>	<b>Model 1.2</b>	<b>Model 2</b>	<b>Model 2.1</b>	<b>Model 2.2</b>
<b>InsideBlock</b>	-.318	-.341	-.347	-.313	-.332	-.334
<b>OutsideBlock</b>	.146	.095	.028	-	-	-
<b>AllBlock</b>	-	-	-	.197	.152	.010
<b>AllBlock<sup>2</sup></b>	-	-	-	-.033	-.027	-.012

## Appendix A

### Variable Descriptions

Variable	Definition	Source
<b>Dependent Variable</b>		
Parachute	Parachute takes the value of one when the firm has a golden parachute agreement with the CEO, and zero otherwise	Proxy Statement
<b>Ownership Variables</b>		
InsideBlock	InsideBlock is a binary variable that takes the value of one when the firm's insiders own more than 5% (10%) of the firm's outstanding equity	Proxy Statement
AllBlock	AllBlock represents the total number of 5% (10%) external blockholders	Global Disclosure
AllBlock <sup>2</sup>	AllBlock <sup>2</sup> represents the total number of 5% (10%) external blockholders squared	Global Disclosure
OutsideBlock	OutsideBlock is a binary variable that takes the value of one when there is the presence of at least one external 5% (10%) blockholder	Global Disclosure
LnHerfindahl	LnHerfindahl is natural log of the Herfindahl measure of concentration among the largest five external shareholders	Author's Calculation using Disclosure
LnTotalInst	LnTotalinst represents the natural log of the total number of institutional owners of the firm's equity	Global Disclosure
<b>Control Variables</b>		
Delaware	Delaware takes the value of one when the firm is incorporated in Delaware	SEC Edgar Database
LnAssets	LnAssets is natural log of the book value of the firm's assets measured in millions	COMPUSTAT
LnCapExp	LnCapExp measures the natural log of the capital expenditures of the firm measured in millions	COMPUSTAT
Ln(P/E)	Ln(P/E) is natural log of the average price earnings ratio of the firm for the preceding 10 years	COMPUSTAT
SIC <sub>n</sub>	SIC <sub>n</sub> is a vector of binary variables that capture industry effects	COMPUSTAT