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CLAREMONT McKENNA COLLEGE

**THE IMPACT OF PRIOR PERFORMANCE ON LEADERSHIP APPOINTMENT IN A
MERGER OF EQUALS**

SUBMITTED TO

PROFESSOR ANANDA GANGULY

AND

PROFESSOR SERKAN OZBEKLIK

AND

DEAN GREGORY HESS

BY

DAVID ALESSANDRO ANDREOTTI HIRSCH

FOR

SENIOR THESIS

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Abstract

Leadership appointment during mergers has a logical and established precedent when there is a clear target and acquirer. However, in the extraordinary case of Merger Of Equals (MOEs) – where this is relatively equal ownership, board representation, earnings contribution etc - this process is much less defined and can often have serious consequences on the merger, both in closing negotiations as well as post-merger performance. Intuition assumes the better performing CEO should and will be appointed. In practice, however, that is often not the case. It is arguable that performance can be defined through objective means (financially & operationally), yet CEO appointment usually is resolved through political negotiations and financial concessions.

Building upon previous studies of mergers and employing public information and reported financial data in multivariate statistical analyses, this study examines two research questions pertinent to MOE leadership appointment. First – is prior performance of merger CEOs a significant predictor for leadership selection in MOEs, and second - what metrics of past performance by merger CEOs, if any, are significantly correlated with short-term financial and operational success of the merged company? Determining whether or not a relationship exists between past performance and leadership selection, as well as post-merger success can have significant influence on the leadership appointment process for Mergers of Equals.

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I. Introduction

For the past century, mergers and acquisitions (M&As) have played an important role in the corporate development of some of the world's largest companies. Industry leaders across the Global Fortune 500 – AT&T, J.P. Morgan, General Electric - can attribute their spot on the list to a long history of M&As. In 2007 alone, 46,701 M&A transactions were completed for an aggregate value of \$4.3 trillion (Ernst & Young, 2012). For perspective, that is approximately thirty percent of the United States Gross Domestic Product during that same year.

As the amount and scale of mergers continues to increase, merger transactions are dramatically influencing not only the trajectory of specific companies, but entire industries. In addition, relevant literature on the topic has shown that most of these industry-shaping mergers end up in failure (Allred, 2005). Given the increasingly intertwined nature of the world economy, these outcomes often have reverberating consequences across the globe. While explanation of merger failure is often hard to distinguish among various internal and external factors, one aspect of the merger process that is undoubtedly critical is the actual implementation (Allred, 2005). Recent literature has shown that the method of leadership selection during mergers has a significant effect on the integration process. This involves appointments determining overall corporate governance, the top management team, and particularly the Chief Executive Officer (CEO) (Harding, 2004).

Given the importance of the leadership appointment process, one would think decisions involving CEO appointment would follow a set of industry-accepted practices.

This is usually true. Typical mergers - where a clear target and acquirer are established through relative differences in size and operations - settle these particular pre-merger negotiations through a reliance on historical precedents and generally accepted corporate practice (Ocasio, 1999). Regarding management and corporate structure, the target manager often loses his position and the board is largely composed of acquirer appointees (Harris, 1994). Similar precedents are followed regarding company headquarters and name. This widely held-to model is undisputed in practicality; the company with distinctly more contribution to a firm's assets, earnings, and market value has justifiable leverage in retaining their executive in a merger. Thus, in most cases it appears as though the corporate governance structure is easily determined. However, for a small portion of the merger market, the process is not so clear.

In this report, I look at a particularly relevant form of merger case study as it pertains to leadership appointment, known as Merger of Equals (MOEs). MOEs have seen substantial growth in activity in volume and magnitude over the past fifteen years. Headline transactions of this form include: United and Continental Airlines, Sprint and Nextel, J.P. Morgan Chase and Bank One, and AOL and Time Warner. These particular mergers are generally defined by combinations between two firms that are equivalent in size and influence, leading to reasonably equal ownership and board representation. Along with those negotiations, intangible issues related to the location of company headquarters and the company's name are also determined in pre-merger deliberations (Wulf, 2004).

Lacking historical precedent, natural intuition assumes the better performing leadership should and will be appointed; most employment decisions heavily weight one's previous achievements in the selection process. However that may not be the case during intensely complex MOE negotiations. In addition, there is little literature involving leadership appointment specific to MOEs. Although significant research exists pertaining to incentive structures, CEO ability and performance, and the leadership appointment process with *typical* mergers, there is very little in regards to MOEs. The few examples found involved assessing the effects of specific forms of leadership succession on MOE performance, and the conflict between a CEO's quest "for power over premium" (Wulf, 2004).

As previously described, the leadership selection process is dramatically different, far more ambiguous, and much less researched when involving the relatively recent phenomena of MOEs. Literature and case studies relevant to CEO appointment in MOEs allude to a process resolved more through political negotiations and financial concessions than evaluation of merits (Wulf, 2004). Two recent large scale mergers help to highlight this issue.

On July 2, 2012 at 4:30 pm Duke Energy approved the acquisition of Progress Energy, appointing Bill Johnson – CEO of Progress – as CEO of what is now the largest utility company in the United States. Less than two hours later the newly combined board voted to fire Bill Johnson as CEO and replace him with Jim Rodgers – Former CEO of Duke and assumed Chairman of the combined company. Prior to this announcement, Rodgers described the rationale behind Johnson's appointment as CEO as purely based

on finances; “I effectively gave up the CEO job to pay a lower premium. I thought it was better for our shareholders” (Barrett, 2012). This insinuates the determinant in leadership appointment was political negotiation to enhance certain investors’ immediate returns, not objective evaluation of each candidate’s business merit or ability to achieve projected synergies from the combination. Shortly after re-taking the CEO position, Rodgers emphasized Johnson’s historical record of poor performance as the main criteria behind his removal (Barrett, 2012). These before and after rationales present two vastly different forms of leadership appointment: one based purely on politics, the other on performance.

On September 10, 2012 commodities trading & mining company Glencore International revised its takeover bid of mining giant Xstrata in hopes of keeping their \$30 billion merger agreement alive. Glencore’s board sweetened seemingly subjective aspects by increasing its premium paid to Xstrata. However, other conditions assumed to be objectively determined were completely reversed (Guthrie, 2012). In the original merger announcement, Glencore’s board had come to the deliberate conclusion that Xstrata’s CEO was best fit to lead the soon-to-be combined company. Now, in the newly revised offer, the Glencore board had a sudden change-of-mind in requiring that their own CEO would now lead the company. Was this a legitimate change of heart or another example of the merger leadership appointment succumbing to politics and financial concessions?

Given the ambiguity of the leadership appointment process, and its effect on merger outcomes, more research into this subject matter is required. This study examines

two unaddressed research questions and presents hypotheses pertinent to MOE leadership appointment:

- Is prior performance of merger CEOs a significant predictor for leadership selection in MOEs?

(Hypothesis: Prior performance of merger CEOs *is not* a significant predictor for leadership selection in MOEs.)

- What measures of prior performance by merger CEOs, if any, are significantly correlated with short-term financial and operational success of the merged company?

(Hypothesis: Better prior performance by merger CEOs will be significantly correlated with short-term success of the merged company.)

First, it is important to empirically establish whether or not objective measures of past performance are or are not heavily weighted in the leadership selection process for MOEs. I find that past performance is not a significant consideration in this process. Once that has been determined, I investigate whether or not merged companies with better performing CEOs appointed do materially better than those with worse performers in the C-suite. I show that there is largely not a significant difference in performance, although some outcomes do show this to be the case. Other characteristics of leadership appointment and corporate governance are also investigated, including Chairman appointments and headquarters locations. These examinations yield similar results. The results can be partially explained by the dynamics particular to the study. Nonetheless,

these findings yield a variety of important implications for leadership selection across all forms of mergers.

The paper is organized as follows. Section II presents further analysis of topics involving mergers and leadership appointment based on the previous literature. The data are discussed in Section III. The methodology and results are described and analyzed in Section IV, while conclusions are discussed in Section V. Section VI presents limitations, Section VII lists references cited and consulted, and Section VIII contains abstract figures and tables.

II. Literature Review

Merger rationale often involves the ability of companies to realize strategic advantages in the form of revenue and/or cost synergies and achieve growth that is either too complex or costly to achieve organically. In addition to the common designations of acquirer and target, merger participants take one of two forms: strategic partners - two similar or complementary companies that combine to achieve operational advantages, and financial sponsors - private equity investment firms that use sophisticated capital raises known as leveraged buyouts to acquire companies. Financial sponsors are expected to create value for their investments through both capital markets and operational expertise. Mergers are also characterized in two different forms: horizontal mergers – involving companies that combine within similar industries with the intention of achieving economies of scale, and vertical mergers – involving companies that combine within distinct industries with the intention of obtaining economies of scope.

Merger Failure & CEO Importance

Despite the apparent advantages of mergers, various studies demonstrate that mergers are more prone to failure than success. Prevailing literature, until recently, pointed to economic rationales as the main driver for merger failure (Allred, 2005). Economic rationales include a failure to realize announced or assumed synergies as well as incompatible internal processes (i.e. systems, facilities, technologies etc). Synergies come in the form of projected cost savings and revenue supplementations. Examples of common cost savings include consolidation of similar business segments and accounts as well as better terms with suppliers due to economies of scale. Typical revenue additions arise from the ability to bundle and cross-sell products to a larger customer base, both in geography and demographics. Failure to achieve these economic goals can result from both internal factors (i.e. ineffective strategy, products, human capital) and external factors (i.e. disrupted industry, macroeconomic shock, extraordinary event).

Economic grounds are easiest to distinguish, quantify and understand as explanations behind merger failures. It is indisputable that an inability to achieve projected cost and revenue synergies is a common occurrence in M&As; a McKinsey study finds that seventy percent of mergers do not meet revenue synergies while forty percent are unable to achieve cost synergies (Frieswick, 2005). However, recent literature on merger failure and CEO influence indicate that economic rationales fail to paint the whole story, or even most of it (Heijltjes and Allred, 2005).

Integration, in the physical and social sense, is pointed to as critically important in determining the fate of mergers (Heijltjes and Allred, 2005). A merger that is well-integrated in both senses exhibits the following characteristics: smooth transitions of

internal processes, efficient and prudent consolidations of leadership and business segments, shared interest in firm objectives, universal understanding and knowledge of core competencies, etc. If this occurs the company can more effectively focus on and realize business objectives. A merger's benefits quickly come to light by way of additional resources and larger scale. A firm that struggles in demonstrating the previously described characteristics of successful merger integration finds itself dealing with more conflicts than it can handle, and is often unable to successfully execute business strategies.

During the particularly sensitive time of merger integration and more generally, empirical studies have demonstrated that leaders can indeed have an impact on firm performance. Successful socio-physical integration, along with the retention of high-ability leadership, has been shown to play crucial roles in determining the success, or lack thereof for M&A transactions (Harding, 2004). Given that management teams have departed at rates between 50-75% within five years of the merger the selection of top management during the leadership appointment process is quite important (Siehl, 1990 and Lehn, 2006).

Leadership Appointment in Typical Mergers

The ideal situation for any merger is to have the best management team retained, carry out a smooth integration, and eventually achieve superior performance. However that is very often not the basis for leadership appointment. Ocasio (1999) finds that boards of directors rely on pre-established rules and precedents when selecting CEOs, not evaluations of merit. These rules include both formal and informal rules. In addition, Ocasio's (1999) results indicate that boards stick to these practices, regardless of whether

a CEO's recent performance has been noticeably strong or weak. So what are these rules most boards adhere to?

Harris (1994) finds that this method of selection includes the precedent that an acquired firm's CEO often loses his title following the transaction. It is also shown that the target CEO is often willing to forgo premium to shareholders due to weak bargaining power and fear of job loss, reducing shareholder value in the process. This notion is also supported by literature regarding conflicts arising from management entrenchment and private benefits of control (Wulf, 2003).

Outside of target management incentives to retain their titles following a merger, it has been documented that the premium paid to target, board composition, company name, headquarters, and executive compensation are also major tangible factors surrounding leadership appointment in typical mergers (Spatt, 2012). Other studies involving literature related to human capital theory look at the role of firm and industry specific human capital in the leadership appointment process. Bucholtz (2003) observes how CEO departure is associated with various human capital characteristics. Results indicate that while age and industry relatedness have an effect on CEO departure, there is no significant association found between tenure and departure (Bucholtz, 2003). All of these studies help illustrate the complex incentive structures and different characteristics evaluated during the leadership appointment process in a conventional merger.

Merger of Equals – Compelling Case Study

The already established model of leadership selection as it pertains to traditional mergers involves a process in which the acquiring company has significant leverage

during negotiations, thus most leadership positions are retained by the purchasing firm. In a Merger of Equals leverage from size, earnings contribution, and corporate governance structure does not exist. According to Security Data Corporation (SDC), a global M&A database, MOEs are classified according to a specific set of characteristics. This includes four major attributes: (i) the target and acquirer in a stock swap transaction must have approximately the same market capitalization; (ii) there will be equal representation from both companies on the board of directors of the new company; (iii) the ownership of the new entity will be owned roughly 50/50 by the majority and minority shareholders, and (iv) the merger is announced as a merger of equals.

In a Merger of Equals, all of the previously described forms of leverage and typical methods for selection are controlled for. This is what makes the transaction a particularly compelling case study for observing what effect, if any, prior performance has on: predicting leadership selection (e.g. whether a good performing CEO is appointed during an MOE), and the overall success of the merger (especially the integration phase).

Effect of Leadership on Performance

A question related to the main research questions addressed in this report is whether or not leaders can or do tangibly affect firm performance. If a CEO led a company that had better returns on assets or the markets favored, did that result from a difference in circumstance or personal ability? If more “able” leadership takes the helm of a newly formed MOE, can or will they actually create better operating performance or returns for shareholders?

Current literature is divided on the issue. Studies usually relate to one of two forms of thought. One is based in the thinking that environmental forces are too prevalent and effectual, making it impossible to distinguish one's situation from their personal decisions (Heijltjes and Rowe, 2005). Proponents of this perspective point to a variety of empirical studies that are unable to find significant association between performance variability and factors typically attributed to CEO decision-making (Rowe, 2005).

The other school of thought emphasizes the importance and magnitude of strategic *choices* made by personnel in leadership positions. It is argued that by virtue of being in the position to make decisions that significantly alter business operations (i.e. product choice, geographic emphasis, marketing methods, personnel adjustments etc.), a CEO can and does influence firm performance. Empirical support is mixed, however, leading to the need for an additional study on the issue, from a distinct perspective (Child, 1972).

III. Data

Sample Selection

My sample is a collection of Merger of Equal transactions obtained from a J.P. Morgan Investment Bank database, which identified and aggregated MOEs from the databases of SDC and Dealogic. I begin with all mergers with announcement dates between January 1, 1995 and December 31, 2011. The sample comprises acquisitions in which the following criteria are met: (i) both firms are publicly traded and listed in SDC and Dealogic databases as well on the Center for Research in Security Prices (CRSP) database; (ii) the merger is not classified as a share repurchase, a self-tender, or a sale of

minority interest; (iii) the type of merger is classified as either a stock swap or a tender offer transaction; and (iv) the merger conforms to the SDC's defining characteristics for a Merger of Equals. These criteria yield a sample of nearly 60 observations, which are shown in Table 1. Information regarding transaction value, leadership appointment, headquarters location, ownership and board composition along with other pre-merger negotiations was obtained from public information and the aforementioned databases.

Observed Time Period

My study observes company performance during time periods leading into and after merger announcements. As mentioned previously, CEO replacement occurs often. In MOEs especially, two-year succession plans for rotating CEO and Chairman positions between the two merger CEOs are often negotiated (Spatt, 2012). In order to ensure that company performance aligns with the tenure of the examined CEOs, a time period of two years is observed in both instances.

Another important aspect of mergers to account for was the period of time from merger announcement to completion. While the newly appointed CEO is typically publicized in the announcement press release, he or she does not assume their new role until the merger officially concludes. Research finds the average time to completion in mergers is nearly seven months (Malmendier, 2012). In order to account for the completion periods with respect to the transactions in my sample, this report measured post-merger performance for the two year period beginning eight months after the announcement date.

Performance Measurement

In this study, I identify and measure a firm's operational performance as well as abnormal stock returns. Operational performance can be identified through analysis of a company's financial statements, specifically through a metric known as Return on Assets (ROA). This generally accepted indicator of business performance measures how much income a company can derive for each dollar of assets. Historical income statement (net income) and balance sheet (assets) line items for each merger company were retrieved from Wharton Research Data Services. I compute ROA by dividing the net income a company achieved during a specific time period by the firm's stated assets.

Net income before extraordinary items was also used to calculate an ROA metric that adjusts for one-time occurrences that materially affect business performance. While this metric helps depict normalized earnings, it may allow for a greater degree of earnings management on what is "extraordinary" (Shuto). Along with this, the ROA of a company was also adjusted for the specific industry in which it operates. This was calculated by taking the difference of the firm's ROA and the average ROA of the company's Standard Industrial Classification (SIC) code peers. That is:

$$AbnormalROA_t = FirmROA_t - IndustryROA_t$$

where t is the observed time period.

For companies whose equity is traded on public exchanges, the valuation of their shares takes into account the market's view of the firm's business prospects. Abnormal stock returns (alpha) measure how much value a company has returned to shareholders for a specific period of time, controlling for market dynamics. Monthly share price

returns for each security as well as the S&P 500 index (market proxy) were collected from CRSP. The market model method was used to calculate the abnormal returns for each observed time period. This approach is outlined as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$$

This method entails having R_{it} serve as the holding period return of the individual security during time period t , where time period t is either the two years leading into merger announcement or after merger close. α_i and β_i represent the parameters of the market model, while ε_{it} symbolizes the error term in the model. The error term is the difference between the expected return and the required return of the security as dictated by the risks inherent in the market (i.e. the abnormal return). This error term (alpha) quantifies the portion of the change in the security's return not attributable to changes in the market. On that basis, this study uses the alpha term as the financial business performance metric.

IV. Models & Results

Leadership Selection Prediction Model – Probit

The first research question this study attempts to address is whether prior performance is a predictor for leadership selection in Mergers of Equals. That is, if a CEO had performed well as indicated by the business performance metrics described previously, are they more likely to be appointed CEO of the newly formed company? This was tested using a Probit model of the following form:

$$SelectedDV = \alpha + \beta_1 * X + \beta_2 * Y + \beta_3 * (XY) + FirmSize + \varepsilon$$

where the dependent variable, *SelectedDV*, is a binary variable representing whether or not a CEO of an MOE participant company is appointed CEO of the newly merged company. X includes variables (binary or continuous) related to operating performance, Y includes variables (binary or continuous) related to financial performance, XY represents any interaction terms between operating and financial performance variables, and FirmSize controls for firm size.

Altogether, five variant models of the Probit form were created. They all offer slightly different examinations of the likelihood of CEO appointment given: (i) absolute values of ROA and alpha; (ii) whether a CEO performed better *relative* to his merger counterpart in ROA or alpha (binary variable); (iii) the relative performance of a CEO, adjusting for income before extraordinary items; (iv) the relative performance of a CEO, accounting for the magnitude of performance difference (continuous variable); and (v) the relative performance of a CEO, accounting for magnitude and adjusting for income before extraordinary items.

Figure 2 shows the results of these regressions. Although the coefficients - across nearly every model - have a positive sign (indicating an increasing likelihood of selection), none of them are significant. The marginal effects output of these models can be seen in Tables 6-10. The standard errors are within a reasonable realm to indicate that better performance metrics are suggestive of an increased likelihood of selection. However, given the small sample size and lack of significance at any sensible level, no concrete economic significance can be drawn.

Another important finding to note, outside of the Probit regression, is the distribution of MOE transactions that selected the worse or better performer (i.e. how many of the transactions in the sample appointed the “better performer” vs. the “worse performer”). For both operations and financial performance, only 54% of the transactions appointed the better relative performer.¹ When accounting for income before extraordinary items in ROA, that percentage drops to 51%.

These results, for the most part, add further validation to existing literature and this study’s hypothesis regarding leadership appointment in MOEs. Given that MOEs have no clear target and acquirer, the selection process is much less defined, and these results indicate that prior performance does not play a significant role.

Post Acquisition Performance Model - OLS

The second and primary question this report makes an effort to address is whether prior performance *should* be a primary consideration in the selection process. That is, do MOEs that appoint “better performing” CEOs - as indicated by the previously described performance metrics - materially outperform MOEs with “worse performing” CEOs? This was tested using an Ordinary Least Squares model of the following form:

$$PostMergerPerformance = \alpha + \beta_1 * X + \beta_2 * Y + \beta_3 * (XY) + FirmSize + \varepsilon$$

where the dependent variable, PostMergerPerformance, is either a post-merger operating (ROA) or financial (alpha) performance metric. X includes variables (binary or continuous) related to operating performance, Y includes variables (binary or continuous)

¹ While the proportion of transactions that selected the better performer for ROA and alpha were the same, the specific transactions that appointed either a better performing operational or financial CEO differed significantly.

related to financial performance, XY represents any interaction terms between operating and financial performance variables, and $FirmSize$ controls for firm size. Similar to the Probit predictive model, multiple variants of this model were run to provide an exhaustive perspective on the effect past performance of a CEO had on post-merger success.

The dependent variables for each model, respectively, include: (i) post-merger ROA; (ii) post-merger ROA, adjusted for income before extraordinary items; (iii) industry adjusted post-merger ROA; (iv) industry adjusted post-merger ROA, adjusting for income before extraordinary items; and (v) alpha. These dependent variables are used for the binary and continuous independent variable models, resulting in ten different variants of the original form.

The independent variables comprise of: (i-ii) binary variables for whether the merger appointed a better performing operating or financial CEO, respectively; (iii) a binary interaction term indicating if the merger appointed a CEO that was better performing in both metrics; (iv) a continuous variable controlling for firm size; (v-vi) continuous variables reflecting the magnitude of difference between the better performing operating and financial CEOs, respectively; and (vii) a continuous interaction term reflecting the magnitude of difference in performance for CEOs that were better performing in both metrics.

Figure 1 shows the results of these regressions. There are several results worth noting. Firstly, none of the binary models have coefficients of significance. This can be explained by the nature of the transaction – a Merger of Equals. All of these mergers

were horizontal (i.e. within the same industry), and many of the merger companies had very similar performance metrics leading into the announcement date. Since these models used binary variables, merger transactions that appointed a CEO that materially outperformed his counterpart would have as much influence in the regression as one that only marginally outperformed.

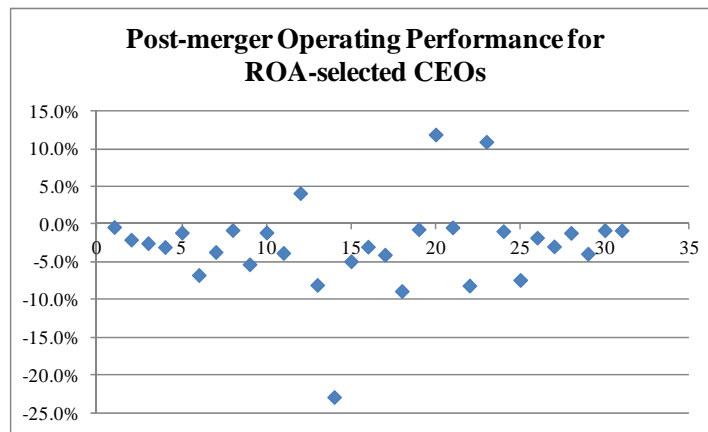
The continuous variable models produced several coefficients of significance. The coefficient for relative financial performance of a CEO, adjusting for magnitude, had a particularly interesting trend throughout models 6-9. It begins in model 6 as significant at the 5% significance level, but negatively correlated with post-merger operating performance. The value of -0.429 implied that an MOE with a better performing financial CEO appointed, adjusting for magnitude, performed nearly one half a percentage point worse in operations post-merger than an MOE that appointed a worse performer financially. That output is not encouraging or supportive of the study's hypothesis.

However, once income is adjusted for extraordinary items in calculating post-merger operating performance, the coefficient loses significance. Furthermore, when post-merger performance is additionally adjusted for industry it regains significance at the 1% significance level with a positive correlation, and becomes *even more* positive when accounting for extraordinary items. In model 9, the coefficient can be interpreted as saying that an MOE with a better performing financial CEO appointed performs over one half of a percentage point better operationally post-merger than an MOE that appointed a worse performer financially. Within context, that is a pretty compelling relationship. Especially in low-margin industries, this implies that appointing CEOs the market had

viewed favorably leading into the merger can add over one half a percentage point of income for every dollar of assets. That can often be the difference between merger failure and success.

A couple of other significant coefficients, both positive and negative, are worth noting. These relationships are noteworthy not because of their importance to answering the research question, but rather what they imply about this study's limitations. In models 8 and 9, the coefficient in front of the variable for operating performance, adjusting for magnitude, is statistically significant at the 5% significance level and negatively correlated with post-merger industry adjusted operating performance. The size of the coefficient implies that an MOE with a better performing operational CEO appointed would perform over one percentage point worse operationally post-merger than an MOE that appointed a worse performer operationally. That is a serious relationship that would provide strong evidence against this study's hypothesis.

However, further investigation shows that this coefficient is largely the result of the small sample size. Looking at the distribution of post-merger operating performance



(see graph) for MOEs that appointed the better performing operational CEO identifies a significant outlier affecting the results – one transaction ended up doing terribly (-20%+ ROA post-merger) and negatively skewed the coefficients. Once the outlier is removed, those coefficients lose significance and change sign.

A similar reason explains the coefficient in front of the interaction variable for better relative operating and financial performance, adjusting for magnitude, in model 10. This coefficient is positively correlated with post-merger financial performance and significant at the 1% significance level. The size of this coefficient implies that an MOE in which a better performing operating and financial CEO is appointed, adjusting for magnitude, will outperform an MOE with a worse performer in both categories by nearly 18% in stock returns post-merger. However, less than five observations were included in this variable, with 3 performing exceptionally well, leading to a positive skew for the coefficient. Again, this leads back to the small sample size unduly affecting significance in the models.

The performance model yielded some results of significance in line with this study's hypothesis. This was particularly evident in the correlation between appointing better performing financial CEOs and post-merger operational success. Overall, though, the small sample size played a large role in skewing many seemingly significant economic relationships in the models.

Box Score Model – OLS

My data also included information pertaining to which merger company had their Chairman selected and where the newly merged company would have their headquarters

located. The Chairman of the Board can also have significant influence on company performance, as he or she determines high-level business strategy and serves to ensure the CEO is meeting various performance requirements. Headquarters location is intended to serve as a proxy for additional members of the management team; the proxy assumes that a larger portion of the management team will be retained at the location where the new headquarters is located.

Building upon the previous model, this study created a Box Score for leadership that incorporates this information pertaining to appointed leadership. This Box Score is intended to represent how much “leadership DNA” is transferred from the better performing company to the newly formed MOE. Three points were assigned if the CEO was retained, two for the Chairman, and one point for the headquarters location. This was tested using an OLS model of the following form:

$$PostMergerPerformance = \alpha + \beta_1 * BoxScore_{Alpha} + \beta_2 * BoxScore_{ROA} + FirmSize + \varepsilon$$

where the dependent variable, *PostMergerPerformance*, is either a post-merger operating (ROA) or financial (alpha) performance metric. *BoxScore_{Alpha}* and *BoxScore_{ROA}* represent the aggregate Box Score of an MOE transaction according to whether the CEO, Chairman, and headquarters location from the better performing financial or operational company were retained.

Figure 3 displays the results of these different regressions. The coefficients have mixed signs, large standard errors, and lack significance. These outputs indicate that these “leadership DNA” factors, taken as a whole, have little relationship with post-merger financial or operational returns. While it would have added additional support to this study’s hypothesis about past

performance if a relationship existed, the outcome is not surprising. This is primarily due to the subjectivity of the Box Score ratings. While there may be general agreement as to the rank of control over operations a CEO, Chairman, and headquarters location has, it is not possible to clearly distinguish the proportion or interrelationships between those variables. The degree to which a CEO, either coupled with the same Chairman or not, in the same headquarters or not, can influence operations is very situational. Applying a universal rating system to these different leadership functions is interesting, but highly subjective and likely inaccurate.

Going forward, this type of evaluation could be vastly improved with further research on the extent to which board members, particularly chairman, influence operating performance. Studies that investigate the power dynamic between CEOs and Board Chairmen, as well as the incentive structures for being appointed to each position during MOE negotiations, would be particularly helpful. Establishing whether or not a relationship exists between headquarters location and percentages of the executive team retained would help determine the strength of headquarters as a management retention proxy. All of these taken together could severely reduce the subjectivity of this analysis and potentially yield significant findings.

V. Conclusions

Mergers of Equals are transactions that, by definition, do not have a defined target and acquiring firm. The absence of these roles largely eliminates the possibility of conforming to commonly held practices for leadership appointment in merger negotiations. In this paper, I investigate the impact past CEO performance has on this process. Firstly, I evaluate whether prior performance of merger CEOs is a significant predictor for leadership selection. I find that, although the relationship is suggestive, there

is no significant correlation between a track record of performance and being selected as CEO in the leadership appointment process.

This is a direct confirmation of my first hypothesis, and adds an important contribution to existing literature regarding MOE leadership appointment. If further research were to confirm this hypothesis, it would become general knowledge that CEO appointment was not decided on typical evaluations of merit. This could influence merger negotiations going forward, as boards (and shareholders) could be forced to more empirically justify why a certain CEO candidate was deemed the most appropriate. This would especially be the case when one company was objectively performing worse heading into the merger.

Secondly, I assess what measures of prior performance by merger CEOs, if any, are significantly correlated with short-term financial and operational success of the merged company. Appointed CEOs who exhibit better abnormal stock returns leading into the merger add over half a percentage point to ROA in the two years post-merger close. This model's partial confirmation of my second hypothesis has significant relevance; half a percentage point of operating performance can often be the difference between merger failure and success. Other relationships that appear to be significant are clouded by skewness resulting from the small sample size of this study.

Considered as a whole, these findings do not constitute strong evidence for prior performance having an impact on the leadership selection process in MOEs. However, taken separately and within the context of this study's hypotheses, they suggest that prior performance should be weighed more heavily than it currently is when selecting

leadership. This paper presents literature and its own study demonstrating that historical track records do not play a role in whether CEOs are selected during MOE negotiations. In addition, the post-merger model yields results both suggestive and significant in favor of better performing appointed CEOs being associated with enhanced post-merger performance.

VI. Limitations

Two limitations moderated the implications of this study's results – the time periods observed and the size of the data sample. Given the high-turnover rate of CEOs, it was difficult to observe longer time frames pre and post merger. However, it is also difficult for a CEO to fully execute corporate strategy during a 24-month period, especially when integration issues dominate the first months of a newly formed merger. Also, any new changes a CEO makes that are intended to have longer-term consequences may not be fully realized by the market during this period. Thus, it may be more appropriate to view this study as an evaluation of how better performing CEOs handle the post-merger integration process, rather than success more broadly. Also, as described in the results section, the small sample size allowed for outliers to have a disproportionate impact on the significance of certain coefficients.

If MOEs continue on the pace set over the last fifteen years, future research on this topic will have the benefit of additional transactions to add to the sample size. It may also be helpful to relax some of the defining characteristics of MOEs, as that would add considerable size to the data sample. Given a larger data size, future studies would be able to analyze transactions in which appointed CEOs stayed on for longer periods of

time. This would allow for observation of CEO influence on phases of the merger beyond the integration process.

VII. References

- Agrawal, Anup, and Ralph Walking. "Executive Careers and Compensation Surrounding Takeover Bids." *The Journal of Finance* 49.3 (1994): 985+. Print.
- Allred, Brent, Kimberly B. Boal, and Holstein K. William. "Corporations as Stepfamilies: A New Metaphor for Explaining the Fate of Merged and Acquired Companies." *Academy of Management* 19.3 (2005): 23-37. JSTOR. Web. 17 Apr. 2013.
- Andrade, Gregor, Mark Mitchell, and Erik Stafford. "New Evidence and Perspectives on Mergers." *The Journal of Economic Perspectives* 15.2 (2001): 103+. Print.
- Avery, Christopher, Judith A. Chevalier, and Scott Schaefer. "Why Do Managers Undertake Acquisitions? An Analysis of Internal and External Rewards for Acquisitiveness." *Oxford University Press* (n.d.): n. pag. Print.
- Balmaceda, Felipe. "Mergers and CEO Power." *Journal of Institutional and Theoretical Economics JITE* 165.3 (2009): 454-86. Print.
- Bargeron, Leonce L. "Do Target CEOs Sell out Their Shareholders to Keep Their Job in a Merger?" *Pitt Business*. N.p., n.d. Web. 27 Mar. 2013.
- Barrett, Paul M. "Jim Rogers, the CEO Who Wouldn't Leave." *Businessweek.com*. Businessweek, 20 Sept. 2012. Web. 29 Sept. 2012.
- Beniesh, M. D., C. D. Marshall, and J. Yang. "Why Do CEOs Survive Corporate Storms? Collusive Directors, Costly Replacement, and Legal Jeopardy." (2011): n. pag. Print.
- Biggs, Errol. "CEO Succession Planning: An Emerging Challenge for Boards of Directors." *The Academy of Management Executive* 18.1 (2004): 105+. *Academy of Management*. Web. 26 Sept. 2012.
- Buchholtz, Ann K., Barbara A. Ribbens, and Irene T. Houle. "The Role of Human Capital in Postacquisition Ceo Departure." *The Academy of Management Journal* 46.4 (2003): 506+. Print.

- Cannella, Albert A., and Donald C. Hambrick. "Effects of Executive Departures on the Performance of Acquired Firms." *Strategic Management Journal* 14.S1 (1993): 137-52. Print.
- Capron, Laurence, and Nathalie Pistre. "When Do Acquirers Earn Abnormal Returns?" *Strategic Management Journal* 23.9 (2002): 781-94. Print.
- Carapeto, Maria, Scott Moeller, and Anna Faelten. "What Should I Do Next? CEO Succession and Subsequent M&A Strategy." *Mergers and Acquisitions Research Centre* (2010): n. pag. Print.
- Chang, Yuk Ying, Sudipto Dasgupta, and Giles Hilary. "Informs Online." *CEO Ability, Pay, and Firm Performance*. Management Science, 1 Oct. 2010. Web. 27 Mar. 2013.
- Cheng, Faye. "Leadership Succession in a Merger of Equals." *Wharton Research Scholars* (n.d.): n. pag. *Department of Management at the Wharton School*. Web. Mar. 2012.
- Child, J. (1972), Organizational structure, environment, and performance: the role of strategic choice, *Sociology*, 6, 1-22.
- Choi, Yoon K. "The Choice of Organizational Form: The Case of Post-Merger Managerial Incentive Structure." *Financial Management* 22.4 (1993): 69. Print.
- Datta, Deepak K., George E. Pinches, and V. K. Narayanan. "Factors Influencing Wealth Creation from Mergers and Acquisitions: A Meta-analysis." *Strategic Management Journal* 13.1 (1992): 67-84. Print.
- Ellis, M.E. "Corporate Governance and Merger Activity in the United States: Making Sense of the 1980s and 1990s." *CFA Digest* 31.4 (2001): 42-44. Print.
- Ernst & Young. Mergers & Acquisitions. 2012 Global M&A Values Half That of 2007's Boom; 2013 to See Strategic, Bolt-on Deals. www.ey.com. Ernst & Young, 12 Dec. 2012. Web. 16 Apr. 2013.
- Frieswick, K. 2005. Fools Gold. *CFO*, February 2005: 27. Print.
- Guthrie, Jonathan. "Glencore/Xstrata: Two's Company." *Financial Times* 1 Oct. 2012: 1+. Print.

- Harding, David, and Sam Rovit. *Mastering the Merger: Four Critical Decisions That Make or Break the Deal*. Boston, MA: Harvard Business School, 2004. Print.
- Harford, Jarrad, and Kai Li. "Decoupling CEO Wealth and Firm Performance: The Case of Acquiring CEOs." *The Journal of Finance* 62.2 (2007): 917-49. Print.
- Harris, Ellie G. "Why One Firm Is the Target and the Other the Bidder in Single-Bidder, Synergistic Takeovers." *The Journal of Business* 67.2 (1994): 263. Print.
- Hartzell, J. C. "What's In It for Me? CEOs Whose Firms Are Acquired." *Review of Financial Studies* 17.1 (2003): 37-61. Print.
- Heijltjes, Marielle G. and Hanneke S. ter Velde. "Leadership in a post-merger context: The importance of people skills over politics." Maastricht University.
- Hermalin, Benjamin E., and Michael S. Weisbach. "Endogenously Chosen Boards of Directors and Their Monitoring of the." *The American Economic Review* 88.1 (1998): 96+. Print.
- Jemison, David B., and Sim B. Sitkin. "Corporate Acquisitions: A Process Perspective." *The Academy of Management Review* 11.1 (1986): 145+. Print.
- Jenter, Dirk, and Katharina Lewellen. "CEO Preferences and Acquisitions." *NBER*. Research Paper Series, Stanford Graduate School of Business, Dec. 2011. Web. 27 Mar. 2013.
- Kayakiran, Firat. "Glaserberg Moves to Sideline Xstrata CEO After Raising Offer." *Bloomberg Businessweek* 8 Sept. 2012: 1+. Print.
- Krug, Jeffrey A., and W. Harvey Hegarty. "Postacquisition Turnover among U.S. Top Management Teams: An Analysis of the Effects of Foreign vs. Domestic Acquisitions of U.S. Targets." *Strategic Management Journal* 18.8 (1997): 667-75. Print.
- Lehn, Kenneth M., and Mengxin Zhao. "CEO Turnover after Acquisitions: Are Bad Bidders Fired?" *The Journal of Finance* 61.4 (2006): 1759-811. Print.
- "Leonce Barger." *Pitt Business*. N.p., n.d. Web. 27 Mar. 2013.

- Malmendier, Ulrik, Enrico Moretti, and Florian S. Peters. "Winning by Losing: Evidence on the Long-Run Effects of Mergers." *National Bureau of Economic Research W.p.* (2012): n. pag. Print.
- Martin, Kenneth J., and John J. McConnell. "Corporate Performance, Corporate Takeovers, and Management Turnover." *The Journal of Finance* 46.2 (1991): 671+. Print.
- Masulis, Ronald W., Cong Wang, and Fei Xie. "Corporate Governance and Acquirer Returns." *The Journal of Finance* 62.4 (2007): 1851-889. Print.
- Nicholson, Chris V., and Jacqueline Simmons. "Xstrata Holders Ponder Unprecedented Choices in Deal Vote." *Bloomberg Businessweek* 5 Oct. 2012: 1-4. Print.
- Ocasio, William. "Institutionalized Action and Corporate Governance: The Reliance on Rules of CEO Succession." *Administrative Science Quarterly* 44.2 (1999): 384+. Print.
- Rosen, Richard J. "Merger Momentum and Investor Sentiment: The Stock Market Reaction to Merger Announcements*." *The Journal of Business* 79.2 (2006): 987-1017. Print.
- Rowe, W.G., Cannella, A.A., Rankin, D., and Gorman, D. (2005), "Leader succession and organizational performance: integrating the common-sense, ritual scapegoating, and vicious-circle succession theories," *The Leadership Quarterly*, 16, 197-291.
- Schmidt, Dennis R., and Karen L. Fowler. "Post-acquisition Financial Performance and Executive Compensation." *Strategic Management Journal* 11.7 (1990): 559-69. Print.
- Shleifer, Andrei, and Robert W. Vishny. "Value Maximization and the Acquisition Process." *The Journal of Economic Perspectives* 2.1 (1988): 7+. Print.
- Shuto, Akinobu. "Executive Compensation and Earnings Management: Empirical Evidence from Japan." Senshu University - Faculty of Commerce (n.d.): 1-46. SSRN. Web. 23 Apr. 2013.
- Siehl, Caren, Dayle Smith, and Ann Omura. "After the Meger: Should Executives Stay or Go?" *The Executive* 4.1 (1990): 50+. *Academy of Management*. Web. 15 Nov. 2012.

- Spatt, Robert E., and Ariana S. Cooper. Social Issues in Selected Recent Mergers and Acquisitions Transactions. Simpson Thacher & Bartlett LLP, 19 Jan. 2012. Web. 30 July 2012.
- Stulz, Rene M., Ralph A. Walking, and Moon H. Song. "The Distribution of Target Ownership and the Division of Gains in Successful Takeovers." *The Journal of Finance* 45.3 (1989): 817+. Print.
- Walsh, James P., and John W. Ellwood. "Mergers, Acquisitions, and the Pruning of Managerial Deadwood." *Strategic Management Journal* 12.3 (1991): 201-17. Print.
- Wang, Cong, and Fei Xie. "Corporate Governance Transfer and Synergistic Gains from Mergers and Acquisitions." *Corporate Governance Transfer And... Preview & Related Info*. The Review of Financial Studies, 22 Feb. 2009. Web. 27 Mar. 2013.
- Wulf, J. "Do CEOs in Mergers Trade Power for Premium? Evidence from "Mergers of Equals"" *Journal of Law, Economics, and Organization* 20.1 (2004): 60-101. Print.

Figure 1
Post-Acquisition Performance Model

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---------------|-----------------------------|---------------------------------|---------------------------|-------------------------------|-------------------------------|-----------------------------|-------------------------------|---------------------------------|-------------------------------------|-------------------------------|
| FPCEODv | PAROA (0.010) (0.022) | PAROA_BEI (0.011) (0.021) | IAROA 0.029 (0.021) | IAROA_BEI 0.029 (0.023) | Paalpha (0.003) (0.012) | PAROA (0.000) (0.000) | PAROA_BEI 0.000 (0.000) | IAROA 9.90e-07*** (0.000) | IAROA_BEI 9.55e-07*** (0.000) | Paalpha (0.000) (0.000) |
| OPCEODv | 0.007 (0.022) | 0.007 (0.021) | 0.008 (0.021) | 0.008 (0.023) | (0.016) (0.012) | (0.403) (0.398) | (0.190) (0.190) | -1.119*** (0.298) | -1.155*** (0.319) | (0.185) (0.185) |
| FPOPCCEODv | (0.039) (0.030) | (0.035) (0.029) | (0.048) (0.029) | (0.044) (0.031) | 0.014 (0.016) | 9.537 (11.600) | 11.170 (11.460) | (4.111) (8.580) | (2.481) (9.184) | 17.80*** (5.307) |
| newcofirmsize | 7.70e-07* (0.000) | 0.000 (0.000) | 7.52e-07* (0.000) | 0.000 (0.000) | (0.000) (0.000) | (0.000) (0.000) | (0.000) (0.000) | (0.000) (0.000) | (0.000) (0.000) | (0.000) (0.000) |
| FPCEODif | | | | | | -0.429*** (0.190) | (0.279) (0.188) | 0.374*** (0.141) | 0.525*** (0.151) | 0.001 (0.087) |
| OPCEODif | | | | | | (0.154) (0.403) | (0.190) (0.398) | -1.119*** (0.298) | -1.155*** (0.319) | (0.195) (0.185) |
| FPOPCCEODif | | | | | | 9.537 (11.600) | 11.170 (11.460) | (4.111) (8.580) | (2.481) (9.184) | 17.80*** (5.307) |
| Constant | (0.011) (0.016) | (0.009) (0.016) | -0.0316*** (0.015) | -0.0299* (0.017) | 0.010 (0.008) | -0.0222*** (0.009) | -0.0201*** (0.009) | -0.0275*** (0.007) | -0.0255*** (0.007) | 0.006 (0.004) |
| Observations | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 |
| R-squared | 0.16 | 0.15 | 0.13 | 0.10 | 0.05 | 0.14 | 0.10 | 0.47 | 0.47 | 0.23 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

VIII: Appendix

Notes: **Independent variable definitions:** FPCEODv - binary variable for the better performing CEO, financially (i.e. alpha); OPCEODv - binary variable for the better performing CEO, operationally (Return on Assets); FPOPCCEODv - binary interaction variable for better performing CEO, financially *and* operationally; newcofirmsize - new company firm size; FPCEODif - continuous variable for better performing CEO, financially and accounting for magnitude; OPCEODif - continuous variable for better performing CEO, operationally and accounting for magnitude; FPOPCCEODif - continuous interaction variable for better performing CEO, financially *and* operationally while adjusting for magnitude. **Dependent variable definitions:** PAROA - post-merger Return on Assets (ROA); PAROA_BEI - post-merger ROA, adjusting income for extraordinary items; IAROA - Industry Adjusted ROA; IAROA_BEI - Industry Adjusted ROA, adjusting income for extraordinary items

Figure 2

Probit Model Output

| EQUATION | VARIABLES | (1) | (2) | (3) | (4) | (5) |
|------------------------|----------------------|------------|------------|------------|------------|------------|
| | | SelectedDV | SelectedDV | SelectedDV | SelectedDV | SelectedDV |
| SelectedDV | PPROA | (0.483) | | | | |
| | | (5.405) | | | | |
| | PPAlpha | 1.993 | | | | |
| | | (3.400) | | | | |
| | PPROA_PPAlpha | 44.030 | | | | |
| | | (97.520) | | | | |
| | FirmSize | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| | | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| | RPROAdv | | 0.265 | | | |
| | | | (0.331) | | | |
| | RPAIphadv | | 0.263 | 0.282 | | |
| | | | (0.331) | (0.330) | | |
| | RPROAdv_RPAIphadv | | (0.109) | | | |
| | | | (0.468) | | | |
| | RPROAdv_IBE | | | 0.091 | | |
| | | | | (0.330) | | |
| | RPROAdvIBE_RPAIphadv | | | (0.113) | | |
| | | | (0.468) | | | |
| RPROAdif | | | | 3.755 | | |
| | | | | (4.496) | | |
| RPAIphadif | | | | 2.159 | 2.024 | |
| | | | | (3.045) | (3.033) | |
| RPROAdif_RPAIphadif | | | | 1.301 | | |
| | | | | (127.600) | | |
| RPROAdif_IBE | | | | | 1.818 | |
| | | | | | (4.507) | |
| RPROAdifIBE_RPAIphadif | | | | | (0.485) | |
| | | | | | (123.200) | |
| Constant | | (0.021) | (0.243) | (0.163) | 0.014 | 0.013 |
| | | (0.157) | (0.237) | (0.235) | (0.138) | (0.138) |
| Observations | | 118 | 118 | 118 | 118 | 118 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: PPROA - continuous variable for the prior ROA of a CEO; PPROA_PPAlpha - continuous interaction variable for prior ROA *and* alpha of a CEO; **Binary variables:** RPROAdv - relative CEO ROA; RPAIphadv - relative CEO alpha; RPROAdv_RPAIphadv - interaction variable for relative CEO ROA *and* alpha; RPROAdv_IBE - relative CEO ROA, adjusting for extraordinary items (EI); RPROAdvIBE_RPAIphadv - interaction variable for relative CEO ROA *and* alpha; **Continuous Variables:** RPROAdif - relative CEO ROA, accounting for magnitude; RPAIphadif - relative CEO alpha, accounting for magnitude; RPROAdif_RPAIphadif - interaction variable for relative CEO ROA *and* alpha, accounting for magnitude; RPROAdif_IBE - relative CEO ROA, accounting for magnitude *and* EI; RPROAdifIBE_RPAIphadif - interaction variable for relative CEO ROA *and* alpha, accounting for magnitude *and* EI

Figure 3

Box Score Model Output

| VARIABLES | (1) | (2) | (3) | (4) |
|----------------|---------|----------|---------|-----------|
| | PAROA | PAAAlpha | IAROA | IAROA_IBE |
| BoxScore_Alpha | (0.008) | (0.001) | 0.002 | 0.002 |
| | (0.005) | (0.002) | (0.005) | (0.005) |
| BoxScore_ROA | 0.001 | (0.004) | (0.003) | (0.003) |
| | (0.005) | (0.002) | (0.005) | (0.005) |
| newcofirmsize | 0.000 | (0.000) | 0.000 | 0.000 |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Constant | (0.004) | 0.017 | (0.022) | (0.020) |
| | (0.020) | (0.010) | (0.019) | (0.020) |
| Observations | 59 | 59 | 59 | 59 |
| R-squared | 0.09 | 0.05 | 0.05 | 0.04 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: PAROA - post acquisition Return on Assets; PAAAlpha - post acquisition alpha; IAROA - Industry Adjusted ROA; IAROA_IBE - Industry Adjusted ROA, adjusting for extraordinary items

Table 1

| Transaction List | | | | | | |
|------------------------------|------------------------------|--------------------------------|-----------|-------|--------|-------|
| Merger Companies | | | | | | |
| New Company Name | Majority Shareholder | Minority Shareholder | Ann. Date | CEO | Charmn | Hqtrs |
| HollyFrontier Corp. | Holly Corp | Frontier Oil Corp | 02/22/11 | Min | Maj | Maj |
| BBCN | Nara Bancorp Inc | Center Financial Corp | 12/09/10 | Maj | Maj | Maj |
| Northeast Utilities | Northeast Utilities | NSTAR Inc | 10/18/10 | Min | Min | Joint |
| United Continental Holdings | United Airlines | Continental Airlines | 05/03/10 | Min | Maj | Maj |
| GenOn Energy | Mirant Corp | RRI Energy Inc | 04/11/10 | Maj | Maj | Min |
| Macrovision Solutions Corp. | Macrovision Corp | Gemstar-TV Guide Intl Inc | 12/07/07 | Maj | Maj | Maj |
| Transocean Inc | TransOcean Inc | GlobalSantaFe Corp | 07/23/07 | Maj | Min | Joint |
| NewBridge Bancorp | LSB Bancshares | FNB Financial Services | 02/26/07 | Min | Maj | Min |
| Exterran Holdings Inc. | Hanover Compressor Co | Universal Compression Holdings | 02/05/07 | Maj | Maj | Joint |
| AbitibiBowater | Bowater Inc | Abitibi-Consolidated Inc | 01/29/07 | Min | Min | Min |
| CVS Caremark Corporation | CVS Corp | Caremark Rx Inc | 11/01/06 | Maj | Min | Maj |
| First Busey | First Busey | Main Street Trust | 09/20/06 | Maj | Maj | Maj |
| Centrue Financial Corp | UnionBancorp | Centrue Financial | 06/30/06 | Min | Maj | Min |
| Alcatel-Lucent | Alcatel SA | Lucent Technologies | 03/24/06 | Min | Maj | Maj |
| Entegris | Entegris | Mykrolis | 03/21/05 | Min | Maj | Min |
| Sprint Nextel | Sprint | Nextel | 12/15/04 | Min | Min | Min |
| National Oilwell Varco, Inc. | National-Oilwell Inc | Varco International | 08/12/04 | Maj | Min | Joint |
| Belden CDT Inc | Belden Inc | Cable Design Technologies Corp | 02/04/04 | Maj | Min | Maj |
| Regions Financial Corp. | Regions Financial | Union Planters Corp. | 01/23/04 | Maj | Maj | Maj |
| JPMorgan Chase | JPMorgan Chase | Bank One | 01/14/04 | Maj | Maj | Maj |
| Enterprise Products Partners | Enterprise Products Partners | GulfTerra Energy Partners | 12/15/03 | Maj | Maj | Joint |
| SumTotal Systems | click2learn.com inc | Docent Inc | 10/20/03 | Maj | Min | Min |
| Biogen IDEC | IDEC Pharmaceuticals | Biogen | 06/20/03 | Min | Maj | Min |
| Sports Authority Inc | Gart Sports Co | Sports Authority Inc | 02/19/03 | Min | Min | Maj |
| Avanex | Avanex | Oplink | 03/19/02 | Maj | Joint | Maj |
| Identix | Identix | Visionics | 02/22/02 | Maj | Maj | Min |
| Proxim Corp | Western Multiplex | Proxim Inc | 01/17/02 | Min | Maj | Min |
| RCP Cruise Lines | P&O Princess Cruises | Royal Caribbean Cruises | 11/20/01 | Maj | Min | - |
| ConocoPhillips | Phillips Petroleum | Conoco | 11/18/01 | Maj | Min | Min |
| GlobeSpan Virata | GlobeSpan | Virata | 10/01/01 | Maj | Min | Maj |
| Unizan Financial Corp | BancFirst Ohio Corp | UNB Corp Canton | 09/06/01 | Min | Maj | Min |
| MeadWestvaco | Mead | Westvaco | 08/29/01 | Min | Maj | Min |
| Business Bancorp | Business Bancorp CA | MCB Financial Corp CA | 08/16/01 | Maj | Min | Min |
| Pride International, Inc | Pride International | Marine Drilling | 05/23/01 | Maj | Maj | Maj |
| AmeriSource-Bergen Corp | AmeriSource Health Corp | Bergen Brunswick Corp | 03/16/01 | Maj | Min | Maj |
| Openwave | Phone.com | Software.com | 08/09/00 | Min | Maj | Maj |
| National Commerce Bancorp. | National Commerce Bancorp | CCB Financial | 03/20/00 | Min | Maj | Maj |
| Avocent Corp. | Apex | Cybox Computer Products | 03/08/00 | Min | Min | Maj |
| NetIQ | NetIQ | Mission Critical Software | 02/25/00 | Maj | Min | Maj |
| Glaxo SmithKline | Glaxo Wellcome | SmithKline Beecham | 01/17/00 | Min | Maj | Joint |
| Pharmacia Corp. | Monsanto | Pharmacia & Upjohn | 12/20/99 | Min | Maj | Min |
| Vodafone AirTouch Plc | Vodafone | AirTouch | 01/15/99 | Maj | Min | Maj |
| Egghead | Onsale | Egghead | 07/14/99 | Maj | Min | Maj |
| Vectren Corp. | Sigcorp Inc | Indiana Energy | 06/11/99 | Min | Min | Maj |
| AstraZeneca | Zeneca | Astra | 12/09/98 | Maj | Min | Maj |
| Verizon | Bell Atlantic | GTE | 07/28/98 | Joint | Min | Maj |
| Wells Fargo & Co. | Wells Fargo | Norwest | 06/08/98 | Min | Min | Maj |
| Sierra Pacific Resources | Nevada Power | Sierra Pacific Resources | 04/30/98 | Maj | Maj | Min |
| Banc One Corp. | Banc One | First Chicago | 04/13/98 | Maj | Min | Min |
| Citigroup Inc. | Travelers Group | Citicorp | 04/06/98 | Joint | Joint | Min |
| TransCanada, Nova | TransCanada | Nova | 01/26/98 | Min | Min | Min |
| Ocean Energy Inc | Ocean Energy | United Meridian | 12/23/97 | Maj | Min | Min |
| Promus Hotel Corporation | Promus Hotel | Doubletree | 09/02/97 | Maj | Maj | Maj |
| R&B Falcon Corp. | Falcon Drilling | Reading & Bates | 07/10/97 | Maj | Min | Joint |
| Cendant Corp | CUC International | HFS | 05/27/97 | Min | Maj | Joint |
| Morgan Stanley Dean Witter | Dean Witter - Discover | Morgan Stanley Group | 02/05/97 | Maj | Maj | Joint |
| Bell Atlantic | Bell Atlantic | NYNEX | 04/22/96 | Maj | Maj | Min |
| Pharmacia & Upjohn | Upjohn | Pharmacia | 08/21/95 | Maj | Min | Min |
| First Chicago NBD Corp. | NDB Bancorp | First Chicago | 07/12/95 | Min | Maj | Min |

Table 2

Summary Statistics - Post-Merger Transactions

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|--------------|-----|-----------|-----------|---------|-----------|
| PAROA | 59 | (0.016) | 0.058 | (0.255) | 0.045 |
| IAROA | 59 | (0.019) | 0.054 | (0.229) | 0.153 |
| PAalpha | 59 | 0.004 | 0.028 | (0.086) | 0.083 |
| FPCEOdv | 59 | 0.544 | 0.503 | 0.000 | 1.000 |
| OPCEOdv | 59 | 0.544 | 0.503 | 0.000 | 1.000 |
| FPCEOdif | 59 | 0.002 | 0.039 | (0.131) | 0.191 |
| OPCEOdif | 59 | 0.002 | 0.026 | (0.135) | 0.077 |
| FPOPCEOdv | 59 | 0.316 | 0.469 | 0.000 | 1.000 |
| FPOPCEOdif | 59 | (0.000) | 0.001 | (0.006) | 0.002 |
| newcofirms~e | 59 | 11610.560 | 18329.530 | 30.360 | 75952.520 |

Table 3

Summary Statistics - Pre-Merger Transactions

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|--------------|-----|----------|-----------|---------|-----------|
| majorityfi~e | 59 | 6307.463 | 10060.210 | 15.787 | 44811.990 |
| majorityal~a | 59 | 0.021 | 0.041 | (0.055) | 0.239 |
| majorityROA | 59 | 0.002 | 0.043 | (0.206) | 0.095 |
| majorityRO~I | 59 | 0.003 | 0.042 | (0.206) | 0.095 |
| minorityfi~e | 59 | 5303.095 | 8340.180 | 14.573 | 36279.100 |
| minorityal~a | 59 | 0.021 | 0.034 | (0.038) | 0.154 |
| minorityROA | 59 | 0.001 | 0.028 | (0.096) | 0.046 |
| minorityRO~I | 59 | 0.002 | 0.027 | (0.096) | 0.046 |

Table 4

Summary Statistics - Box Score Analysis

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|--------------|-----|-----------|-----------|---------|-----------|
| PAROA | 59 | (0.016) | 0.058 | (0.255) | 0.045 |
| PAAalpha | 59 | 0.004 | 0.028 | (0.086) | 0.083 |
| IAROA | 59 | (0.019) | 0.054 | (0.229) | 0.153 |
| IAROA_IBE | 59 | (0.017) | 0.058 | (0.229) | 0.193 |
| BoxScore_A~a | 59 | 2.797 | 1.551 | 0.000 | 6.000 |
| BoxScore_ROA | 59 | 3.034 | 1.629 | 0.000 | 6.000 |
| newcofirms~e | 59 | 11610.560 | 18329.530 | 30.360 | 75952.520 |

Table 5

| Summary Statistics - CEO Selection Predictor (Probit Model) | | | | | |
|---|-----|----------|-----------|---------|-----------|
| Variable | Obs | Mean | Std. Dev. | Min | Max |
| SelectedDV | 118 | 0.479 | 0.501 | 0.000 | 1.000 |
| FirmSize | 118 | 5805.279 | 9222.164 | 14.573 | 44811.990 |
| PPROA | 118 | 0.002 | 0.036 | (0.206) | 0.095 |
| PPAlpha | 118 | 0.021 | 0.038 | (0.055) | 0.239 |
| RPROAdv | 118 | 0.496 | 0.502 | 0.000 | 1.000 |
| RPAphadv | 118 | 0.496 | 0.502 | 0.000 | 1.000 |
| RPROAdv_IBE | 118 | 0.496 | 0.502 | 0.000 | 1.000 |
| RPROAdif | 118 | 0.000 | 0.026 | (0.135) | 0.135 |
| RPAphadif | 118 | (0.000) | 0.039 | (0.191) | 0.191 |
| RPROAdif_IBE | 118 | 0.000 | 0.026 | (0.131) | 0.131 |

Table 6

| Marginal Effects - Model 1 | | | | | | | |
|----------------------------|---------|-----------|---------|-------|--------------|--------|----------|
| variable | dy/dx | Std. Err. | z | P>z | [95% C.I.] | X | |
| PPROA | (0.192) | 2.153 | (0.090) | 0.929 | (4.413) | 4.028 | 0.002 |
| PPAlpha | 0.794 | 1.355 | 0.590 | 0.558 | (1.861) | 3.449 | 0.021 |
| PPROA_~a | 17.539 | 38.848 | 0.450 | 0.652 | (58.603) | 93.680 | (0.000) |
| FirmSize | (0.000) | 0.000 | (0.760) | 0.444 | (0.000) | 0.000 | 5895.640 |

Marginal effects after probit
 $y = \Pr(\text{SelectedDV}) (\text{predict}, p)$
 $= .47848317$

Table 7

| Marginal Effects - Model 2 | | | | | | | |
|----------------------------|---------|-----------|---------|-------|--------------|-------|----------|
| variable | dy/dx | Std. Err. | z | P>z | [95% C.I.] | X | |
| RPROAdv* | 0.105 | 0.131 | 0.800 | 0.421 | (0.151) | 0.362 | 0.496 |
| RPAph~v* | 0.104 | 0.131 | 0.800 | 0.426 | (0.152) | 0.361 | 0.496 |
| RPROAd..* | (0.043) | 0.186 | (0.230) | 0.816 | (0.408) | 0.321 | 0.274 |
| FirmSize | (0.000) | 0.000 | (0.300) | 0.764 | (0.000) | 0.000 | 5409.800 |

Marginal effects after probit
 $y = \Pr(\text{SelectedDV}) (\text{predict}, p)$
 $= .48680522$

Table 8

Marginal Effects - Model 3

| variable | dy/dx | Std. Err. | z | P>z | [95% C.I.] | X | |
|-----------|---------|-----------|---------|-------|--------------|-------|----------|
| RP~v_IBE* | 0.036 | 0.132 | 0.280 | 0.782 | (0.221) | 0.294 | 0.496 |
| RPAIph~v* | 0.112 | 0.130 | 0.860 | 0.391 | (0.144) | 0.368 | 0.496 |
| R~IBE_~v* | (0.045) | 0.186 | (0.240) | 0.809 | (0.409) | 0.319 | 0.274 |
| FirmSize | (0.000) | 0.000 | (0.340) | 0.737 | (0.000) | 0.000 | 5409.800 |

Marginal effects after probit

y = Pr (SelectedDV) (predict, p)

= .48696294

Table 9

Marginal Effects - Model 4

| variable | dy/dx | Std. Err. | z | P>z | [95% C.I.] | X | |
|----------|---------|-----------|---------|-------|--------------|---------|----------|
| RPROAdif | 1.498 | 1.793 | 0.840 | 0.404 | (2.017) | 5.012 | 0.000 |
| RPAIph~f | 0.861 | 1.214 | 0.710 | 0.478 | (1.519) | 3.241 | (0.000) |
| RPROAd.. | 0.519 | 50.880 | 0.010 | 0.992 | (99.203) | 100.241 | (0.000) |
| FirmSize | (0.000) | 0.000 | (0.490) | 0.623 | (0.000) | 0.000 | 5520.030 |

Marginal effects after probit

y = Pr (SelectedDV) (predict, p)

= .49108904

Table 10

Marginal Effects - Model 5

| variable | dy/dx | Std. Err. | z | P>z | [95% C.I.] | X | |
|----------|---------|-----------|---------|-------|--------------|--------|----------|
| RP~f_IBE | 0.725 | 1.798 | 0.400 | 0.687 | (2.799) | 4.248 | 0.000 |
| RPAIph~f | 0.807 | 1.210 | 0.670 | 0.505 | (1.564) | 3.178 | (0.000) |
| R~IBE_~f | (0.193) | 49.131 | 0.000 | 0.997 | (96.488) | 96.101 | 0.000 |
| FirmSize | (0.000) | 0.000 | (0.470) | 0.635 | (0.000) | 0.000 | 5520.030 |

Marginal effects after probit

y = Pr (SelectedDV) (predict, p)

= .49113248