

**STOCK MARKET PERCEPTIONS:  
THE INFLUENCE OF CEOS ACHIEVEMENT MOTIVATION  
ON DECISION MAKING PROCESSES**

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## **Abstract**

In this study I show that high levels of the need for achievement motivation of CEOs of publicly traded companies in the New York Stock Exchange alter market perceptions of buyers and sellers influencing favorable decisions to purchase stock and thereby driving the price upwards. To evaluate CEO motivation levels, content analysis of Letter to Shareholder statements found in Corporate Annual Reports was performed. The need for achievement motivation was tested against the influence of current stock prices, investment analyst ratings, and competing forms of motivation, which include the need for affiliation motivation and the need for power motivation, in order to determine its validity in predicting stock price movement. The findings have implications for stock market participants, securities researchers, and CEOs of publicly traded companies.

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## Introduction

*“Well, remember that what an ideology is, is a conceptual framework with the way people deal with reality. Everyone has one. You have to -- to exist, you need an ideology. The question is whether it is accurate or not.”*

– Alan Greenspan, 13<sup>th</sup> Federal Reserve Chairman

In markets, in general, the decision to buy or sell is rooted in the perceptions of the person engaging in the transaction (De Bondt & Thaler, 1995). In the stock market, buyers and sellers of shares in companies are making a decision based on their perceptions of many cues and signals all of which are indirect indicators of the future value of the stock price of a particular company. These indicators or cues include elements such as previous financial performance of the company or the opinions of experts and analysts. Even the perceptions of whether other buyers are inclined to buy or sell influence the perceptions of potential stock buyers. Therefore the stock price is a composite indicator of the influences of all of these cues in the aggregated perceptions of potential buyers and sellers.

Motivational needs or motives of influential officials in companies may well be another signal to potential stock buyers. This may be the case because needs or motives, the precursors of motivation (Atkinson, 1958), describe a propensity to behave in a particular manner (McClelland, 1985). Certain types of behaviors and therefore certain types of motivations by a prominent leader of an organization may trigger favorable or unfavorable perceptions of that company which may influence a buyer or seller in their decision to purchase stock in that company. Lewis (2000) indicates that people tend to change their perceptions of leaders based on their behaviors. Seeming though an individual's behavior is predicated by their motivation, perhaps a stock buyer or seller's perception can change based on differing motives or needs expressed by a high-ranking official in a company. Furthermore, Meindl, Ehrlich, and Dukerich (1985) found that individuals are likely to credit corporate success or failure to the leaders of a

company. Therefore, if a particular motive or need of an influential official in a company consistently promotes corporate success (failure), then it is likely to alter the buyer or seller's perception of the company and likelihood of purchasing the stock in a positive (negative) way. Prior research performed by McClelland *et al.* (1961; 1969; 1985) suggests that stock buyer's perceptions of the motives of influential officials in companies such as the Chief Executive Officer (CEO) or a member of the Board of Directors might actually influence stock price.

Consider the need for achievement motivation ( $n$  Ach) of leaders in corporate and economic settings. McClelland (1969) characterizes individuals with high  $n$  Ach as "successful, rationalizing, and business entrepreneurs." They set moderately difficult goals, rely on concrete feedback, assume personal responsibility, and show more initiative and willingness to explore alternatives (McClelland, 1969). They are dedicated to the pursuit of excellence (McClelland, 1969) rather than gaining status (Atkinson & Reitman, 1956) and choose to work with experts over friends (French, 1956). Individuals with high  $n$  Ach are more concerned with achieving success than avoiding failure (Atkinson, 1966), are more realistic when approaching a given situation, and select conditions in which they have control opposed to luck (McClelland, 1969). High  $n$  Ach individuals choose to maximize their interests over the long run, have a greater future time perspective, and are sensitive to changes in economic activities (McClelland, 1969). In the corporate world, these characteristics are extremely well suited to high praise, as well as, increased corporate performance.

Kock (1965) shows that high  $n$  Ach effects business expansion positively particularly in the number of employees, gross value of output, turnover, and gross investment in the company. Andrews (1967) studied the growth of two firms in Mexico City and found that the executives of the firm that grew more rapidly had significantly higher  $n$  Ach levels. Wainer and Rubin (1969)

found that a sample of technology companies in Boston led by individuals with high *n* Ach had growth rates 250% higher than companies led by individuals with only moderate *n* Ach.

Experimentally, McClelland (1969) found that by training businessmen from India in *n* Ach lead to significant increased changes in the levels of hours worked, the attempts, success, and failure of starting a new business, capital invested into the company, and gross income.

Perhaps one of the most effective ways for a CEO to positively shape perceptions of buyers and sellers of stock given the encouraging evidence on *n* Ach and subsequent corporate outcomes is to provide a statement highlighting some of the company's results and current outlook. Arrow (1982) explains that perceptions can be changed based on a particular frame of reference (McNeill, Pauker, Sox, & Tversky, 1981).

An appropriate document to use would be the annual Letter to the Shareholder statement (LTSs) published in a publicly traded company's Annual Report. Not only does this statement provide shareholders with the CEOs strategic outlook, but it also serves as a proxy of the CEOs motives. By performing content analysis described by Winter (1987), one can accurately measure motive levels. This method of assessing CEO motives follows the work done Diaz (1982) and Chusmir and Azevedo (1992), the only other instances of using LTSs to measure CEO motives.

In fact, only Chusmir and Azevedo (1992) have investigated CEO motives and stock price. They acquired *n* Ach motive scores from LTSs for 50 of the largest US industrial firms in 1988. Unfortunately, this method of collecting a sample embeds a bias that weakens the generalizability of their study, because they omitted small companies. Chusmir and Azevedo (1992) then correlated their 1988 *n* Ach motive scores with the percentage change of the stock price for each company. According to their results, they were unable to find any sort of statistical

correlation between  $n$  Ach and stock price percentage change. However, this was merely based on a zero order correlation for a single year of data. While Chusmir and Azevedo's (1992) study certainly builds on the motivational literature in the context of corporate performance, the question of  $n$  Ach and stock price return is still for the most part unresolved and unclear. One study on LTSs that examined a single year of corporate and market performance that failed to elicit a correlation can hardly seem adequate. What is needed in order to fully assess the relationship between CEO motives and stock price is a better study.

The current study goes above and beyond what has been previously done in the realm of CEO motives and stock price. For instance, the sample of companies used in this study is far more comprehensive than those used in the past. It was randomly selected and includes companies of all different sizes from a variety of industries. In this study, I also rule out reverse causation by predicting for later stock prices using earlier motives. This study also looks at several years of data on CEO motives and stock price instead of just a single case. Finally, this study also rules out competing hypotheses by introducing regression analysis. Clearly, this study is much more complete in its attempt to test the basic hypothesis that:

*A CEO's need for achievement motivation is a signal to stock buyers that influences their decision to purchase stock in that company which is then reflected in the company's stock price in the subsequent year.*

## **Method**

To conduct this study a sample of companies was randomly selected from the New York Stock Exchange (NYSE). The NYSE was selected due to its extreme diversity and breadth of companies from various different sectors of the economy. One of the defining components of this study was to study the impact of CEO motive levels across all industry sectors. The NYSE is

home to over 2,000 publicly traded companies. These companies include those from all 10 sectors of the Global Industry Classification Standard (GICS). Aside from various industries, the NYSE also has companies of varying sizes (as small as those with a market capitalization of less than \$10 million and as large as \$100 billion). The NYSE is a comprehensive index that houses companies of all different sizes from all different industries that make up the United States economy, and due to its diversity, it appeared to be the most appropriate place to draw a sample for the study of need for achievement motivation on stock performance.

From the NYSE I randomly selected 100 companies. The sample size is significant for several reasons. First, I assume that the size of the relationship that I anticipate between CEO motivation levels in LTSs and stock performance is a medium-size effect. A medium-sized effect is defined by a Pearson product-moment correlation coefficient ( $r$ ) of 0.30. I then decide upon a statistical power, which is the likelihood that I would see a statistically significant result if one does indeed exist. In this case, I choose to set the power at 85%. According to Cohen & Cohen's (1983) table, "Minimum Number of Cases Needed to Detect  $r$  by  $t$  Test at  $\alpha = .05$ ," the intersection of a medium-sized effect ( $r = 0.30$ ) and a statistical power of 85% requires a sample size of a minimum of 96. Note that a sample of 96 companies is the absolute minimum amount that can be used in order to find statistically significant relationships given the nature of this study. With this in mind, gathering a slightly larger sample was both feasible and easy to accomplish and therefore I decided to increase the sample size to 100. Table 1 contains corporate characteristics of the sampled companies.

**TABLE 1**  
**SAMPLED COMPANY CHARACTERISTICS (2007 DATA)**

|                          | <b>MEAN</b>   | <b>S.D.</b> |
|--------------------------|---|-------------|
| <b>SIZE (Employees)</b>  | 17304   | 35744       |
| <b>SALES (Millions)</b>  | 9121.68   | 24656       |
| <b>PROFIT (Millions)</b> | 732.26  | 2620.05     |
| <b>ASSETS (Millions)</b> | 39071.62  | 188993.2    |
| <b>ROE (Percent)</b>     | 11.25   | 20.54       |
| <b>SHARE PRICE</b>       | 42.55   | 24.40       |
| <b>INDUSTRIES</b>        | Aerospace & Defense, Alcoholic Beverages and Tobacco, Banking, Chemicals, Computers: Commercial Services, Computers: Hardware, Electric Utilities, Environmental & Waste Management, Financial Services: Diversified, Food and Nonalcoholic Beverages, Health Care: Managed Care, Health Care: Product and Supplies, Homebuilding, Household Durables, Household Nondurables, Industrial Machinery, Insurance: Property – Casualty, Investment Services, Lodging & Gaming, Metals: Industrials, Movies and Home Entertainment, Natural Gas: Distribution, Oil & Gas: Equipment and Services, Oil & Gas: Production and Marketing, Real Estate Investment Trusts, Retailing: General, Semiconductors, Specialty Retail, Telecommunications: Wireless, Textiles, Apparel & Luxury Goods, Transportation: Commercial |             |

The time frame for this study includes the stock performance and the LTSs published in annual reports from years 2004, 2005, and 2006. This encompasses a total of 300 firm-years worth of CEO motive and financial data. There are several reasons why this time frame was chosen. First, the market performance of the US economy from 2004 through 2006 showed continued, constant, and gradual growth. This is well evidenced by the performance of the United States' three major stock market indexes, the Dow Jones Industrial Average, the S&P 500, and the NASDAQ. Over the time span being studied, these three indexes achieved a compound annual growth rate of 7.19% and climbed by approximately 32% a year on average. From at least January 2004 until November 2007, the US economy was not afflicted by any recessions or undue economic stresses that may alter the results significantly. This time frame is also critical in understanding the nature of this study. Having the opportunity to look at several years of CEO motive data compared to stock price data allows one to study the changes that can occur over a given time frame. Comparing how these elements change over time is truly at the heart of this study. Furthermore, the time frame selected adequately measures enough data to

compare the findings of this study to findings of previous studies on stock performance and motivation levels contained within the LTSs, specifically, Chusmir & Azevedo (1992).

The sample of 100 companies was also randomly selected. A random selection removes any researcher bias and also provides the study with a rich diversity of companies. In order to do this, a complete listing of all the publicly traded companies on the NYSE as of September 3<sup>rd</sup>, 2008 was retrieved from the EODData Database. The sample was then run through a statistical analysis program, SAS, using the random column shuffle sorting technique. This technique effectively gave our list of NYSE traded stocks a random order by assigning each company a random number between one and the maximum value in the list. After the companies were randomly sorted there were several exclusions that were made in determining the 100 company sample.

Companies that were not based in the United States were excluded from the study due concerns over language usage and translation. If companies did not publish annual reports with LTSs, they were also excluded. If a company had a change in the C-level executive or member of the Board of Directors who signed off on the LTSs over the time frame being studied, those companies were also excluded. This was crucial in order for the study to maintain a consistent voice. If companies had contradictory or conclusively irreconcilable data that was either found or unavailable through the Bloomberg Financial Database, they were also excluded. If LTSs were less than five sentences long for any of the years in this study's time frame or if any of the companies were delisted from the NYSE prior to December 31<sup>st</sup>, 2008, they were excluded from the study.

Once I selected all of the companies and excluded those with the criteria above I then began to collect the LTSs. Letters were either accessed online from the company’s website or were requested directly from the company and received in hardcopy.

In order to code for CEO motive levels, the method developed by Winter in his “Introduction to Scoring Motive Imagery in Running Text” was used (1987). Table 2 provides definitions and rating methods. The CEO motivation that was coded for included *n* Ach, *n* Aff, and *n* Pow.

| <b>MOTIVE IMAGERY TYPE</b>  | <b>GRADING CRITERIA</b>  |
|-----------------------------|--|
| <b>ACHIEVEMENT</b>          | <ol style="list-style-type: none"> <li>1. Words that positively evaluate performances</li> <li>2. Goals or performances described in ways that suggest positive evaluation</li> <li>3. Winning or competing successfully with others</li> <li>4. Failure, doing badly, or other lack of excellence</li> <li>5. Unique accomplishments</li> </ol>   |
| <b>AFFILIATION-INTIMACY</b> | <ol style="list-style-type: none"> <li>1. Positive, friendly, or intimate feelings toward other persons</li> <li>2. Sadness or other negative feeling about separation</li> <li>3. Affiliative, companionate activities</li> <li>4. Friendly nurturant acts</li> </ol>   |
| <b>POWER</b>                | <ol style="list-style-type: none"> <li>1. Strong, forceful actions that inherently have impact on others</li> <li>2. Control or regulation</li> <li>3. Attempts to influence</li> <li>4. Giving help, advice, or support that is not explicitly solicited</li> <li>5. Impressing others or the world at large</li> <li>6. Any action by one person or organization that rouses a strong (positive or negative) emotional reaction in another person or organization</li> </ol> |

Winter’s (1987) scoring system was slightly modified for this study. Every sentence was coded for CEO motivation. Therefore, each sentence required a determination to be made on whether it was *n* Ach, *n* Aff, and *n* Pow. Each sentence could be coded for more than one motive, a maximum of three, but no less than one. In addition to scoring for *n* Ach, *n* Aff, and *n* Pow, each time a motive was assigned to a sentence the relative strength of the motive was also evaluated by assigning a score based on a developed 1 (low) to 5 (high) scale. Criteria were established using examples of sentences from LTSs of companies that were not directly included

in the study. The relative strength scoring criteria only defined motivational imagery that was very low or a relative strength that was very high. Table 3 outlines the grading criteria for determining the relative strength of three studied motives.

| <b>TABLE 3</b>   |  |
|--|--|
| <b>CRITERIA FOR ASSIGNING RELATIVE STRENGTH OF MOTIVE IMAGERY STATEMENTS</b> |  |
| <b>MOTIVE IMAGERY TYPE</b>   | <b>EXAMPLE SENTENCES WITH RELATIVE SCORE</b>   |
| <b>ACHIEVEMENT</b>   | <p>5 - We harness technology to create business opportunities for our clients, drive improvements in our clients business operations, increase the responsiveness and performance of their IT and other functional organizations, enable clients to make smarter technology investments, and achieve measurable bottom-line results.</p> <p>5 - Our enterprise practice (defined as consumer packaged goods, retail and distribution, travel and entertainment, manufacturing, and logistics) increased an impressive 47% and our healthcare practice increased 18% on a year-over-year basis.</p> <p>5 - We increased our full-year pretax income by 35% and delivered EPS of \$0.33 per diluted share, up 57% from \$0.21 last fiscal year.</p> <p>1 - In the first half of the year, while operating in a healthy market environment, we generated 14% growth, in line with our target growth rate.</p> <p>1 - Consistent with larger market trends, our business slowed in the financial services and insurance sectors.</p> <p>1 - In doing so, we invariably tap the potential of both legacy and emerging technologies.</p> |
| <b>AFFILIATION-INTIMACY</b>  | <p>5 - We will maintain relationships with the best clients and continue to develop new relationships.</p> <p>5 - Our greatest asset is our people—exceptionally talented people—who deliver high-impact results to clients every day.</p> <p>5 - And we continue adding new clients, many by way of referrals and references from the clients who know us best</p> <p>1 - While expense reduction is top of mind, we also encourage our clients to look at an economic downturn as an opportunity</p> <p>1 - In March of 2008, we also completed a Dutch tender offer.</p> <p>1 - Our leading-edge insights will continue to spur innovation and create measurable impact for our clients.</p>  |
| <b>POWER</b>   | <p>5 - And we received the Workforce Chicago award, which annually recognizes three companies with exemplary employee learning and development practices; <i>Company X</i> was honored for its comprehensive and long-term commitment to maintaining and growing the skills and education of its workforce.</p> <p>5 -Crain's Chicago Business placed <i>Company X</i> fourth in its annual "Best Places to Work" report.</p> <p>5 -We have a strong firm with a healthy balance sheet, outstanding people, and an enviable track record of serving the world's leading companies.</p> <p>1 - At <i>Company X</i>, we believe that there is little that will improve society more than improving the practice of management.</p> <p>1 - Confidence in our business is reflected in our share repurchases in the open market, and our dividend payment.</p> <p>1 - We believe that there is no greater impact on management today, or none more likely in the foreseeable future, than the impact of technology.</p>  |

In order to ensure accurate scores for CEO motivation levels, LTSs were independently scored by two coders, or inter-raters. This provided an inter-rater reliability for the results of the

coding. Furthermore, to code the vast amount of material involved in this study and aware of the time and labor needed in assessing motivation levels by means of content analysis, five separate groups of inter-raters were used to code a portion of the sample. Each group was responsible for coding 20 of the 100 companies over the time span of the study.

All of the coders used in this study were University of Michigan students. Each group was randomly assigned their 20 companies. This was done by first assigning a number to each one of the inter-rater groups (1 through 5) and then giving each group every fifth company in the 100 company sample starting with their identifiable group number. For example, Group 1 received company numbers 1, 6, 11, etc. In total, each group was responsible for 60 LTSs. LTSs were organized into a booklet and each group of inter-raters received an identical booklet.

In order to ensure that the inter-raters were not biased, company names were deleted on all of the LTSs. This shielded the identity of the company from the inter-raters. Furthermore, the order of the LTSs in the booklet that the coders received was random so that coders would encounter different companies and different years as they worked through the booklets.

Prior to beginning coding on the documents used in the current study, inter-raters needed to achieve a minimum Pearson score ( $r > 0.80$ ) by performing similar coding tasks for purposes of this study on several practice LTSs. All groups practiced on a minimum of four LTSs before receiving their coding booklets. Group meetings were held amongst inter-raters in order to identify discrepancies in their coding behaviors to help their scores converge as best as possible. Coders of the same groups were encouraged to discuss how they arrived at various determinations for  $n$  Ach,  $n$  Aff, and  $n$  Pow.

In order to organize data collection from the groups, each inter-rater group was assigned a day of the week in which they were responsible for delivering their coded LTSs. Coding

groups were advised to code a minimum of five LTSs per week and a maximum of ten. This limit was imposed to ensure quality of the coded documents. The coding groups completed their coding of all the LTSs in this study in approximately 60 days.

Once all the data was collected, reliability amongst raters was calculated using Pearson product-moment correlation coefficients. Reliability was determined based on all of the inter-raters' scores for the same company in the same year for each one of the three CEO motives.

Table 4 summarizes the reliabilities for the five groups.

**TABLE 4**  
**RATER CHARACTERISTICS BY GROUP**

|                | n Achievement |      |      | n Affiliation |      |      | n Power  |      |      |
|----------------|---------------|------|------|---------------|------|------|----------|------|------|
|                | <i>r</i>      | Mean | S.D. | <i>r</i>      | Mean | S.D. | <i>r</i> | Mean | S.D. |
| <b>GROUP 1</b> | 0.83          | 1.49 | 0.20 | 0.86          | 0.63 | 0.25 | 0.82     | 0.64 | 0.21 |
| <b>GROUP 2</b> | 0.91          | 1.64 | 0.26 | 0.92          | 1.07 | 0.22 | 0.80     | 0.80 | 0.21 |
| <b>GROUP 3</b> | 0.93          | 2.18 | 0.51 | 0.84          | 1.11 | 0.41 | 0.73     | 0.68 | 0.27 |
| <b>GROUP 4</b> | 0.89          | 2.16 | 0.33 | 0.79          | 0.54 | 0.22 | 0.82     | 0.52 | 0.22 |
| <b>GROUP 5</b> | 0.88          | 1.56 | 0.29 | 0.89          | 0.41 | 0.19 | 0.85     | 0.54 | 0.18 |
| <b>MEAN</b>    | 0.89          | 1.80 | 0.32 | 0.86          | 0.75 | 0.26 | 0.80     | 0.64 | 0.22 |
| <b>S.D.</b>    | 0.04          | 0.34 | 0.12 | 0.05          | 0.32 | 0.09 | 0.05     | 0.11 | 0.03 |

For *n* Ach, the five groups' Pearson product-moment correlation coefficient scores ranged between 0.83-0.93 with an average of 0.89. For *n* Aff, the five groups' scores ranged between 0.79-0.92 with an average of 0.86. Finally, for *n* Pow, the five groups' scores ranged between 0.73-0.85 with an average of 0.80. Based on these Pearson scores, I can determine that the motive imagery scores in this study are reliable.

## Measures

### *Dependent Variable*

The dependent variable was the dollar value of the company's stock on their fiscal year end date. Compared to the values of the Independent and control variables, the dependent variable is either one or two years forward in time, but never occurring simultaneously with the other variables. This is due to the fact that the dependent variable is a predictive value.

### *Independent Variable*

The independent variable was the *n Ach* level. The *n Ach* was calculated by adding the average sum of scores of the degree to which the *n Ach* was present based on a 1 (low) to 5 (high) scale for each LTSS. *N Ach* scores were then averaged between respective inter-raters. The *n Ach* scores were then normalized by dividing by the average number of sentences in each LTSS.

$$n\ ACH = \frac{\text{Average Sum of Inter - Raters}}{\text{Average Sentences of Inter - Raters}}$$

### *Control Variables*

Analyst forecast ratings (AnR) were a control variable used in this study. AnR were derived from the Bloomberg Financial Database which averages all analyst rating disclosures for a given company. The ratings are based on a 1 to 5 scale: 1 – Strong Sell, 2 – Sell, 3 – Hold, 4 – Buy, 5 – Strong Buy. In each year studied, there was an incomplete sample for AnR. This may have been the case because certain companies are simply not covered by investment banks or brokerage firms and therefore an analyst does not report on them or perhaps the data was not submitted to the Bloomberg Financial Database. To deal with this, the study used imputation: the process of inserting the average of the sample in areas where information was missing. I do not expect this to alter the results significantly, as there were a minimal number of missing data points in each case.

The *n Aff* and *n Pow* scores were used as control variables and were derived by performing the same process as for the *n Ach* scores already described.

The dollar value of the company's stock on their fiscal year end date occurring simultaneously to the independent variable and other control variable data in terms of time was also used as a control variable.

## *Analysis*

The analysis performed in this study consisted of computing zero order correlations of the independent and control variables with the dependent variable for both one and two year lags. Considering both lag times is important because it takes into account a potentially fast or slow shift in the market's perception. I then conducted three sets of regression equations by means of ordinary least squares using predictor variables including the hypothesized independent variable, *n Ach*, and control variables, *n Aff*, *n Pow*, AnR, and current stock price, in order to predict for the dependent variable, future stock price with either a one or two year lag.

## **Results**

Table 5 shows the means, standard deviations, and sample size of the dependent, independent, and control variables. The mean for the stock prices of the sampled companies rises each year in line with what one would expect given the overall trend of the economy in general during those years. In terms of the motive scores, the *n Ach* score is consistently higher than both the *n Aff* and *n Pow* scores for the sampled CEOs according to their LTSs. Based on the method of calculating the motive scores, the high value for *n Ach* scores suggests that CEOs have a higher frequency of making *n Ach* statements, and when they do make those statements, they are relatively stronger with greater emphasis that are more salient to the reader in comparison to *n Aff* and *n Pow* statements. The sample of AnR was partially incomplete in each year but was rectified through imputation. The AnR scores are also generally high, close to an average of 4, a "buy" rating, which supports the claim analysts have an economic incentive to issue favorable recommendations or earnings growth forecasts which make them naturally biased (Michaely & Womack, 1999; Dechow, Hutton, and Sloan, 2000).

**TABLE 5**  
**DESCRIPTIVE CHARACTERISTICS OF STUDIED VARIABLES 2004 THROUGH 2006**

|                    | 2004  |       |     | 2005  |       |     | 2006  |       |     |
|--------------------|-------|-------|-----|-------|-------|-----|-------|-------|-----|
|                    | Mean  | S.D.  | N   | Mean  | S.D.  | N   | Mean  | S.D.  | N   |
| <b>Stock Price</b> | 37.59 | 33.48 | 100 | 40.24 | 32.58 | 100 | 45.66 | 33.62 | 100 |
| <b>n Ach Score</b> | 1.78  | 0.46  | 100 | 1.79  | 0.41  | 100 | 1.82  | 0.47  | 100 |
| <b>n Aff Score</b> | 0.74  | 0.39  | 100 | 0.73  | 0.39  | 100 | 0.77  | 0.38  | 100 |
| <b>n Pow Score</b> | 0.60  | 0.23  | 100 | 0.63  | 0.24  | 100 | 0.67  | 0.25  | 100 |
| <b>AnR</b>         | 3.76  | 0.91  | 86  | 3.82  | 0.78  | 90  | 3.68  | 0.68  | 94  |

Table 6, 7, and 8 show the zero order correlations of the study variables across all years.

Table 6 and 7 show correlations with a one year time lag, while table 8 shows correlations with a two year time lag. There are very high correlations between the same variables across years, in both one and two year time lags, which reveal a strong stability of scores across years.

Table 6 does not reveal any significant statistical correlation between achievement scores in 2004 and stock prices in 2005. There are strong correlations between the same variables across years. There is also a strong correlation ( $p < 0.01$ ) between affiliation scores and subsequent power scores. Similarly, there is a strong ( $p < 0.01$ ) correlation between power scores and subsequent affiliation scores.

**TABLE 6**  
**PEARSON CORRELATIONS: 2004 DATA VS. 2005 DATA**

|                         | Stock Price 2005 | n Ach Score 2005 | n Aff Score 2005 | n Pow Score 2005 | AnR 2005 |
|-------------------------|------------------|------------------|------------------|------------------|----------|
| <b>Stock Price 2004</b> | .971**           | .088             | .084             | -.023            | -.014    |
| <b>n Ach Score 2004</b> | .144             | .661**           | -.014            | .072             | .049     |
| <b>n Aff Score 2004</b> | .120             | .018             | .744**           | .369**           | -.020    |
| <b>n Pow Score 2004</b> | -.079            | -.142            | .312**           | .350**           | -.028    |
| <b>AnR 2004</b>         | -.023            | -.015            | -.158            | .069             | .397**   |

\* $p < 0.05$ . \*\* $p < 0.01$ .

Table 7 reveals a statistical correlation ( $p < 0.05$ ) between achievement scores in 2005 and stock prices in 2006. In addition, there is a statistically significant correlation ( $p < 0.05$ ) between the AnR 2005 and n Pow scores in 2006. There are strong correlations between the

same variables across years. Similar to the results found in table 6, there is an association between affiliation scores and subsequent power scores and vice-a-versa.

**TABLE 7**  
**PEARSON CORRELATIONS: 2005 DATA VS. 2006 DATA**

|                         | Stock Price 2006 | n Ach Score 2006 | n Aff Score 2006 | n Pow Score 2006 | AnR 2006 |
|-------------------------|------------------|------------------|------------------|------------------|----------|
| <b>Stock Price2005</b>  | .957**           | .008             | .150             | .004             | -.132    |
| <b>n Ach Score 2005</b> | .209*            | .707**           | .111             | .137             | .069     |
| <b>n Aff Score 2005</b> | .116             | -.001            | .804**           | .364**           | .022     |
| <b>n Pow Score 2005</b> | -.033            | -.002            | .342**           | .528**           | .010     |
| <b>AnR 2005</b>         | .072             | -.027            | .138             | .200*            | .380**   |

\*p < 0.05. \*\*p < 0.01.

Table 8, which represents the two year time lag between 2004 and 2006, does not reveal any statistically significant correlation between *n* Ach in 2004 and stock price in 2006. There are strong correlations between the same variables even over a two year time lag. The same relationship that occurred in a one year time lag between affiliation scores and subsequent power scores, and vice-a-versa, also stands over a two year time lag.

**TABLE 8**  
**PEARSON CORRELATIONS: 2004 DATA VS. 2006 DATA**

|                         | Stock Price 2006 | n Ach Score 2006 | n Aff Score 2006 | n Pow Score 2006 | AnR 2006 |
|-------------------------|------------------|------------------|------------------|------------------|----------|
| <b>Stock Price2004</b>  | .926**           | -.019            | .119             | -.075            | -.162    |
| <b>n Ach Score 2004</b> | .140             | .597**           | .097             | .100             | .033     |
| <b>n Aff Score 2004</b> | .118             | .140             | .714**           | .272**           | -.039    |
| <b>n Pow Score 2004</b> | -.108            | -.089            | .336**           | .241*            | -.018    |
| <b>AnR 2004</b>         | -.003            | -.064            | -.031            | .141             | .350**   |

\*p < 0.05. \*\*p < 0.01.

Table 9, 10, and 11 show the regression analyses of the predictor variables on the dependent variable of subsequent stock price using ordinary least squares.

Table 9 predicts for the 2005 stock price using 2004 variable data. As expected, there is a statistically significant finding ( $\beta = 0.062$ ,  $t = 2.58$ ,  $p < 0.05$ ) involving the *n* Ach variable in 2004 and the 2005 stock price. This proposes that increased *n* Ach levels predict for increased

stock prices one year later. Additionally, and to be expected, the 2004 stock price is a very strong predictor ( $\beta = 0.963$ ,  $t = 40.45$ ,  $p < 0.001$ ) for the 2005 stock price.

**TABLE 9**  
**PREDICTING 2005 STOCK PRICE WITH 2004 PREDICTOR VARIABLES**

| PREDICTOR VARIABLE | $\beta$ | t        | n   |
|--------------------|---------|----------|-----|
| n Achievement      | 0.062   | 2.58*    | 100 |
| n Affiliation      | 0.029   | 1.15     | 100 |
| n Power            | -0.004  | -0.15    | 100 |
| Stock Price (2004) | 0.963   | 40.45*** | 100 |
| Analyst Ratings    | 0.017   | 0.69     | 86  |
| $R^2$              | 0.948   |          |     |
| Adjusted $R^2$     | 0.945   |          |     |

+p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001

Table 10 predicts for the 2006 stock price using 2005 variable data. Unfortunately, the *n* Ach predictor variable did not produce statistically significant results ( $\beta = 0.041$ ,  $t = 1.36$ ,  $p = 0.18$ ) as it had in Table 9 with the prior year's data. Instead, there appears to be a negative statistically significant relationship ( $\beta = -0.060$ ,  $t = -1.90$ ,  $p < 0.10$ ) between the *n* Pow score in 2005 and its prediction for 2006 stock prices. This suggests that higher *n* Pow levels predict for declining stock prices one year later. Again, 2005 stock prices were a very strong predictor ( $\beta = 0.946$ ,  $t = 31.81$ ,  $p < 0.001$ ) of 2006 stock prices.

**TABLE 10**  
**PREDICTING 2006 STOCK PRICE WITH 2005 PREDICTOR VARIABLES**

| PREDICTOR VARIABLE | $\beta$ | t        | n   |
|--------------------|---------|----------|-----|
| n Achievement      | 0.041   | 1.36     | 100 |
| n Affiliation      | 0.018   | 0.59     | 100 |
| n Power            | -0.060  | -1.90+   | 100 |
| Stock Price (2005) | 0.946   | 31.81*** | 100 |
| Analyst Ratings    | 0.048   | 1.59     | 90  |
| $R^2$              | 0.921   |          |     |
| Adjusted $R^2$     | 0.917   |          |     |

+p < .10, \*p < .05, \*\*p < .01, \*\*\*p < .001

Table 11 predicts for the 2006 stock price using the 2004 variable data and therefore assesses a two year lag time. The only statistically significant relationship ( $\beta = 0.914$ ,  $t = 23.79$ ,

$p < 0.001$ ) is between the 2004 stock price data predicting for the 2006 stock price. The  $n$  Ach data from 2004 was unable to elicit any statistically significant prediction ( $\beta = 0.056$ ,  $t = 1.46$ ,  $p = 0.15$ ) of the stock price two years later in 2006.

**TABLE 11**  
**PREDICTING 2006 STOCK PRICE WITH 2004 PREDICTOR VARIABLES**

| PREDICTOR VARIABLE | $\beta$ | t        | n   |
|--------------------|---------|----------|-----|
| n Achievement      | 0.056   | 1.46     | 100 |
| n Affiliation      | 0.049   | 1.19     | 100 |
| n Power            | -0.043  | -1.05    | 100 |
| Stock Price (2004) | 0.914   | 23.79*** | 100 |
| Analyst Ratings    | 0.036   | 0.94     | 94  |
| $R^2$              | 0.865   |          |     |
| Adjusted $R^2$     | 0.858   |          |     |

+ $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

## Discussion

The value of a company's stock is determined based on the aggregated perceptions of all of the buyers and sellers in the stock market. These perceptions dictate the buying and selling decisions made by participants in the market. Perceptions can be shaped by the economic climate, the company's performance, or an expert's opinion about the company. Even the role of prominent leaders in an organization can have an effect on our perceptions of a company. We often attribute corporate outcomes, whether they are positive or negative, directly to leaders, and we change our perceptions about leaders based on how they behave.

Underlying all human behavior are our various motivations. If a leader's behavior can shape perception and motivation brings about behavior, then surely a leader's motivation can also have the ability to change perceptions. For business leaders, a vast body of research has shown that an increased level of the need for achievement motivation subsequently leads to positive corporate performance. In the stock market, when company stock prices increase, they are generally the result of positive perceptions of corporate evaluation. Therefore, the levels of

need for achievement motivation in leaders of organizations may act as an indicator to buyers and sellers in the stock market of future corporate performance, and thus may alter their perceptions and ensuing decision to buy or sell a company's stock ultimately pushing the price upwards or downwards.

The results of this study somewhat validate this claim. The 2005 stock prices of my sampled companies were indeed accurately predicted by the need for achievement motivation levels of CEOs in their Letter to Shareholder Statements in 2004. The need for achievement motivation predicted better than other types of motivation including the need for affiliation and the need for power. Perhaps most significant is the finding that the need for achievement motivation was an even better predictor of 2005 stock prices than expert analyst ratings in 2004. The results also suggest that the predictive lag time of the need for achievement motivation on stock price is one year and not two years, because no statistically significant results were revealed in predicting for 2006 stock price using 2004 data. There was a significant correlation between the need for achievement motivation in 2005 and the 2006 stock prices of the sampled companies. Unfortunately, however, the results failed to elicit a significant result when predicting for 2006 stock prices using ordinary least squares regression analysis of 2005 motivation and analyst rating data.

Based on these results, there is an undeniable link between CEO need for achievement motivation levels and future stock price performance. In 2004, high levels of CEOs need for achievement motivation was an important, prominent, and strong enough indicator to shift the perceptions of buyers and sellers in the stock market to alter their stock purchasing decisions in a favorable way to drive stock prices of those companies up, which effectively and successfully affirms the proposed hypothesis. The need for achievement motivation of corporate leaders is

indeed a signal to stock buyers and sellers that matters, because the influence is accurately incorporated into stock prices at a future date as expected. However, this may not be the case in all years. The reason for this discrepancy may be the result of the extensive amount of influences that shape perceptions of stock market participants. At any given time, there are likely different cues or indicators in our world that weigh more or less heavily on our perceptions in evaluating the future value of a company. While a CEO's need for achievement motivation is evidently significant in determining future stock price, it is by no means the only force or the most influential force shaping our perceptions at all times. This is a given and is further substantiated by the outcome of this study.

The findings of this study are supported by its strong design. First, the choice of a random sample provided a selection of companies free of researcher bias that was also extremely diverse in terms of corporate characteristics. This makes the findings universal and applicable to a range of all sorts of companies in general. Second, the analyses performed rule out reverse causation as a possible alternative explanation for the results. Predictor variables from an earlier time were used to assess future stock price and significant results were obtained. Third, without knowing the exact lag time that the need for achievement motivation has on subsequent stock prices, my study conducted analyses of both one and two year lag times. Significant results were found at a one year lag only. Fourth, the need for achievement motivation of CEOs was compared to other motivation types like the need for affiliation motivation and the need for power motivation in order to assess its validity in influencing future stock prices over and above these competing motive types. Finally, motive scores were calculated by performing manual content analysis by inter-raters who achieved exemplary Pearson correlations which legitimize the scores significantly.

Some may contend that the content analysis for motive imagery in the Letter to Shareholder statements ought to have been done by the same pair of inter-raters for the entire sample. While this would have been beneficial, there is no disadvantage in splitting up the sample so long as scoring remains consistent amongst all groups, and if anything, it saves valuable time and ensures quality. Others may argue that a one year time lag is arbitrary. However, studying the levels of CEO need for achievement motivation and subsequent changes in stock price *between* Letters to Shareholder statements most adequately evaluates the motivation's influence.

Though, future studies would be encouraged to investigate more precisely the lag time that CEO need for achievement motivation in Letter to Shareholder statements has on stock price. Furthermore, perhaps the lag time is different for certain industries. A detailed scrutiny of industry specific CEO need for achievement motivation levels and subsequent stock price movement will be a valuable next step. Additionally, other CEO statements aside from the Letter to the Shareholder ought to be studied for motivation levels and their impact on the company's future stock price. Transcripts from press conferences, interviews, and especially the quarterly earnings conference call come to mind as some particularly important CEO statements that would have influence on shaping market perceptions. It would also be fascinating to test these results experimentally. Ideally, this would take place in the open market, but it is unlikely that CEOs would allow their statements to be crafted for the purposes of social science. Until then, we will have to make do with content analysis.

Even still, the findings of this study are profound in terms of their practical implications. It is clear that CEO need for achievement motivation shapes perceptions and decisions of market participants, because it is incorporated into future stock prices. Understanding that CEO

motivation has influence on stock prices could be enormously valuable to pundits, experts, and stock market analysts. Just as corporate financials, technical indicators, and economic trends are used to calculate expected stock performance, a CEO's need for achievement motivation levels ought to be integrated into this repertoire of analysis. Similarly, buyers and sellers in the stock market ought to pay particular attention to their CEO's need for achievement motivation levels to get a more comprehensive reading on what the stock price of that company may do in the future. It is essentially an added metric in weighing the future value of a company. With this knowledge, it would be to a CEO's benefit to recognize that his or her need for achievement motivation levels are a significant driver of future stock prices. Therefore, a CEO would be recommended to align his or her characteristics with those attributed to individuals with high need for achievement motivation. Not only will this likely improve the functioning of their company (McClelland 1961; 1969; 1985; Kock, 1965; Andrews, 1967; Wainer & Rubin, 1969), but it can also work to shift the perceptions of market participants to drive stock prices upwards. While the Letter to Shareholder statement was the document from which this study draws CEO motivation levels, I do not assert that it is any more or less important than other public CEO statements. The Letter to Shareholder statement merely provided a proxy for CEO motivation levels which are more importantly indicative of characteristics and behaviors that the CEO may possess. It is these motivations and behaviors that the CEO should be more concerned with rather than the content of the Letter to Shareholder statement. However, given that the results are directly tied to the Letter to Shareholder statement, a CEO ought to take notice of its inherent power in shaping market perceptions and thus craft it wisely. It may also be a valuable place for experts and market participants alike to begin their assessments of CEO motivation levels.

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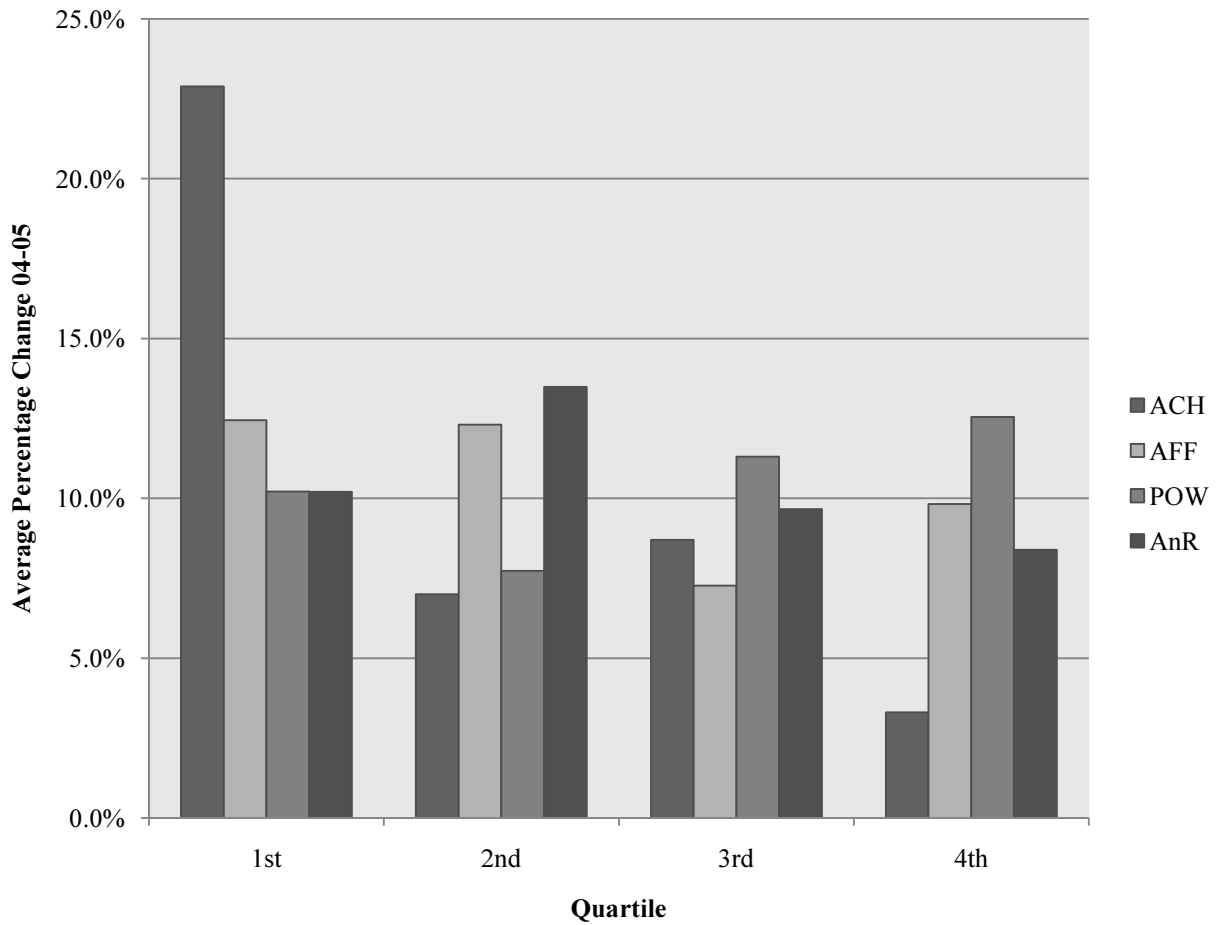
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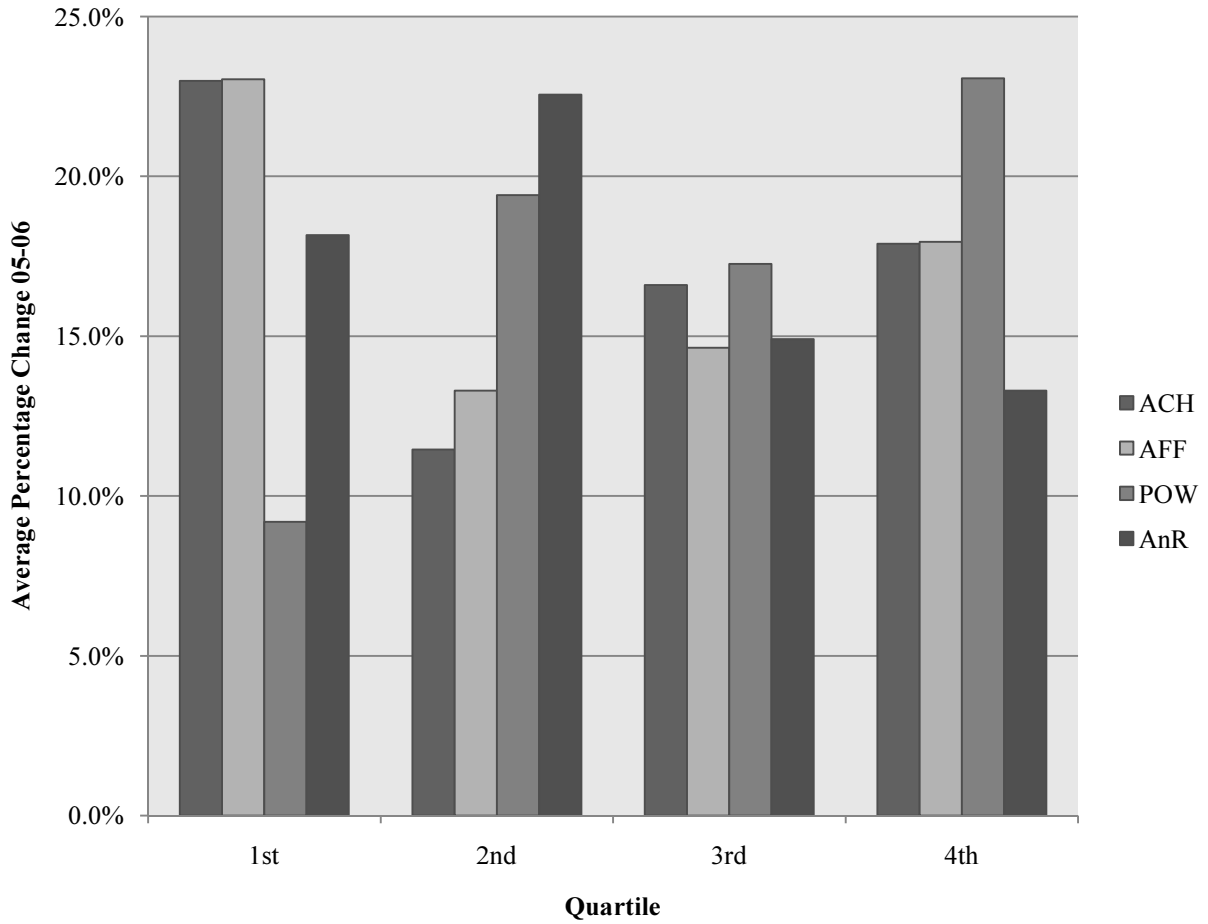
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## Appendix A



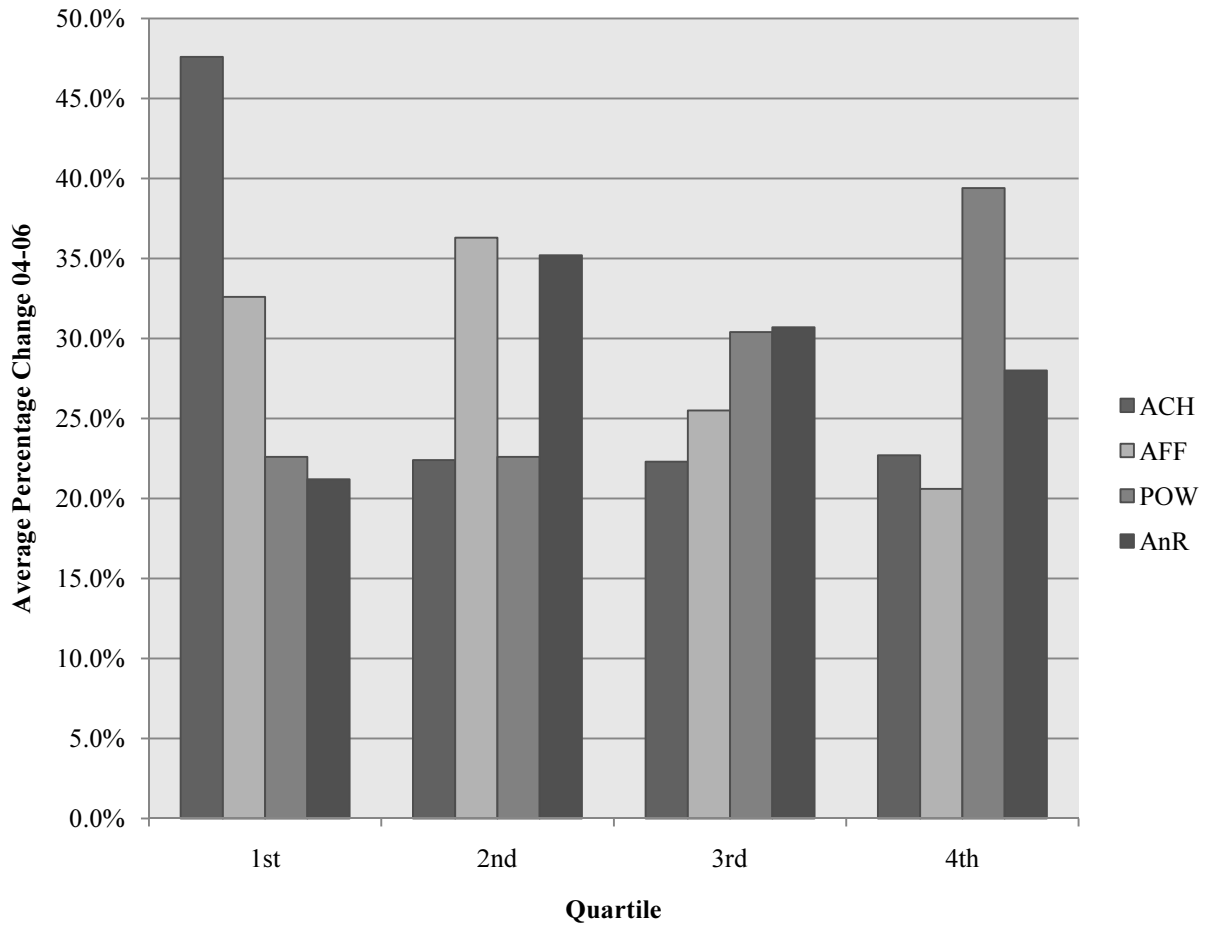
| <b>Appendix A</b>   |                 |            |            |            |
|---|-----------------|------------|------------|------------|
| <b>Predictor Variable Average Stock Performance by Quartile 2004-2005</b> |                 |            |            |            |
|   | <b>Quartile</b> |            |            |            |
|   | <b>1st</b>      | <b>2nd</b> | <b>3rd</b> | <b>4th</b> |
| <b>n Ach</b>  | 22.9%           | 7.0%       | 8.7%       | 3.3%       |
| <b>n Aff</b>  | 12.4%           | 12.3%      | 7.3%       | 9.8%       |
| <b>n Pow</b>  | 10.2%           | 7.7%       | 11.3%      | 12.6%      |
| <b>AnR</b>  | 10.2%           | 13.5%      | 9.7%       | 8.4%       |

## Appendix B



| <b>Appendix B</b>   |                 |            |            |            |
|---|-----------------|------------|------------|------------|
| <b>Predictor Variable Average Stock Performance by Quartile 2005-2006</b> |                 |            |            |            |
|   | <b>Quartile</b> |            |            |            |
|   | <b>1st</b>      | <b>2nd</b> | <b>3rd</b> | <b>4th</b> |
| <b>n Ach</b>  | 23.0%           | 11.5%      | 16.6%      | 17.9%      |
| <b>n Aff</b>  | 23.0%           | 13.3%      | 14.6%      | 18.0%      |
| <b>n Pow</b>  | 9.2%            | 19.4%      | 17.3%      | 23.1%      |
| <b>AnR</b>  | 18.2%           | 22.6%      | 14.9%      | 13.3%      |

## Appendix C



**Appendix C**  
**Predictor Variable Average Stock Performance by Quartile 2004-2006**

|              | Quartile |       |       |       |
|--------------|----------|-------|-------|-------|
|              | 1st      | 2nd   | 3rd   | 4th   |
| <b>n Ach</b> | 47.6%    | 22.4% | 22.3% | 22.7% |
| <b>n Aff</b> | 32.6%    | 36.3% | 25.5% | 20.6% |
| <b>n Pow</b> | 22.6%    | 22.6% | 30.4% | 39.4% |
| <b>AnR</b>   | 21.2%    | 35.2% | 30.7% | 28.0% |

## Appendix D

| <b>NYSE Ticker</b> | <b>Company Name</b>                         | <b>Letter to Shareholder Signatories</b> |
|--------------------|---|--|
| <b>ATU</b>         | Actuant Corporation                         | Robert Arzbaecher                        |
| <b>MO</b>          | Altria Group                                | Louis Camilleri                          |
| <b>AEE</b>         | Ameren Corporation                          | Gary Rainwater                           |
| <b>AWR</b>         | American States Water Company               | Lloyd Ross & Floyd Wicks                 |
| <b>AMT</b>         | American Tower Corporation                  | James Taiclet                            |
| <b>ANH</b>         | Anworth Mortgage Asset Corporation          | Lloyd McAdams                            |
| <b>AIV</b>         | Apartment Investment and Management Company | Terry Considine                          |
| <b>WTR</b>         | Aqua America Inc.                           | Nicholas DeBenedictis                    |
| <b>ARB</b>         | Arbitron Inc.                               | Stephen Morris                           |
| <b>ASH</b>         | Ashland Inc.                                | James O'Brien                            |
| <b>AXS</b>         | Axis Capital Holdings                       | Michael Butt                             |
| <b>AZZ</b>         | AZZ Incorporated                            | H. Kirk Downey & David Dingus            |
| <b>BLL</b>         | Ball Corporation                            | R. David Hoover                          |
| <b>BAC</b>         | Bank of America Corporation                 | Kenneth Lewis                            |
| <b>BKH</b>         | Black Hills Corporation                     | David Emery                              |
| <b>BCO</b>         | Brink's Company                             | Michael Dan                              |
| <b>BHS</b>         | Brookfield Homes Corp                       | Ian Cockwell                             |
| <b>BPL</b>         | Buckeye Partners L.P.                       | William Shea, Jr.                        |
| <b>BG</b>          | Bunge                                       | Alberto Weisser                          |
| <b>BNI</b>         | Burlington Northern Santa Fe Corporation    | Matthew Rose                             |
| <b>BCR</b>         | C.R. Bard Inc.                              | Timothy Ring & John Weiland              |
| <b>CPT</b>         | Camden Property Trust                       | Richard Campo & D. Keith Ogden           |
| <b>CPB</b>         | Campbell Soup Company                       | Douglas Conant                           |
| <b>KMX</b>         | CarMax Inc                                  | Austin Ligon                             |
| <b>CBL</b>         | CBL & Associates Properties Inc.            | Charles Lebovitz                         |
| <b>CDR</b>         | Cedar Shopping Centers Inc                  | Leo Ullman                               |
| <b>CVX</b>         | ChevronTexaco Corporation                   | Dave O'Reilly                            |
| <b>CHD</b>         | Church & Dwight Company Inc.                | James Craigie                            |
| <b>CIT</b>         | CIT Group Inc (DEL)                         | Jeffrey Peek                             |
| <b>CLC</b>         | CLARCOR Inc.                                | Norman Johnson                           |
| <b>CMCSA</b>       | Comcast Corporation                         | Brian Roberts                            |
| <b>CYH</b>         | Community Health Systems Inc.               | Wayne Smith & W. Larry Cash              |
| <b>CVH</b>         | Coventry Health Care Inc.                   | Dale Wolf                                |
| <b>CXR</b>         | Cox Radio Inc.                              | Robert Neil                              |
| <b>CSS</b>         | CSS Industries Inc.                         | David Erskine & Jack Farber              |
| <b>CFR</b>         | Cullen/Frost Bankers Inc.                   | Dick Evans                               |
| <b>CYT</b>         | Cytec Industries Inc.                       | David Lilley                             |
| <b>DHI</b>         | D.R. Horton Inc.                            | Donald Horton                            |
| <b>DDR</b>         | Developers Diversified Realty Corporation   | Scott Wolstein                           |

| <b>NYSE Ticker</b> | <b>Company Name</b>                    | <b>Letter to Shareholder Signatories</b> |
|--------------------|--|--|
| <b>DRE</b>         | Duke Realty Corporation                | Dennis Oklak                             |
| <b>ETN</b>         | Eaton Corporation                      | Alexander Cutler                         |
| <b>EV</b>          | Eaton Vance Corporation                | James Hawkes                             |
| <b>EQT</b>         | Equitable Resources Inc.               | Murry Gerber                             |
| <b>FDO</b>         | Family Dollar Stores, Inc.             | Howard Levine                            |
| <b>FRE</b>         | Federal Home Ln Mtg Corp               | Richard Syron                            |
| <b>FBC</b>         | Flagstar Bancorp, Inc.                 | Mark Hammond & Thomas Hammond            |
| <b>FLR</b>         | Fluor Corporation                      | Alan Boekmann                            |
| <b>FCX</b>         | Freeport-mcmoran Copper & Gold, Inc.   | James Moffett & Richard Adkerson         |
| <b>FBR</b>         | Friedman, Billings, Ramsey Group, Inc. | Eric Billings                            |
| <b>GBL</b>         | Gabelli Asset Management Inc.          | Mario Gabelli                            |
| <b>GBX</b>         | Greenbrier Companies, Inc.             | William Furman                           |
| <b>HHS</b>         | Harte-hanks, Inc.                      | Richard Hochhauser                       |
| <b>HL</b>          | Hecla Mining Company                   | Phillips Baker, Jr.                      |
| <b>HPT</b>         | Hospitality Properites Trust           | John Murray                              |
| <b>HUM</b>         | Humana Inc.                            | David Jones, Jr. & Michael McCallister   |
| <b>IDT</b>         | Idt Corporation                        | Howard Jonas                             |
| <b>IRM</b>         | Iron Mountain Incorporated             | C. Richard Reese                         |
| <b>IMP</b>         | Itla Capital Corporation               | George Haligowski                        |
| <b>JW.A</b>        | John Wiley & Sons, Inc.                | William Pesce & Peter Booth Wiley        |
| <b>JNY</b>         | Jones Apparel Group, Inc.              | Peter Boneparth                          |
| <b>KCP</b>         | Kenneth Cole Productions, Inc.         | Kenneth Cole                             |
| <b>KIM</b>         | Kimco Realty Corporation               | Milton Cooper                            |
| <b>LG</b>          | Laclede Group, Inc.                    | Douglas Yaeger                           |
| <b>LHO</b>         | Lasalle Hotel Ppty                     | Jon Bortz                                |
| <b>LNC</b>         | Lincoln Natl Corp Ind                  | Jon Boscia                               |
| <b>LOW</b>         | Lowe's Companies, Inc.                 | Robert Niblock                           |
| <b>M</b>           | MACY'S INC                             | Terry Lundgren                           |
| <b>MAN</b>         | Manpower Inc                           | Jeffrey Joerres                          |
| <b>MCY</b>         | Mercury General Corporation            | George Joseph & Gabriel Tirador          |
| <b>MOV</b>         | Movado Group Inc.                      | Gedaliao Grinberg & Efraim Grinberg      |
| <b>NSM</b>         | National Semiconductor Corporation     | Brian Halla                              |
| <b>NCS</b>         | Nci Building Systems, Inc.             | A.R. Ginn & Norman Chambers              |
| <b>OIS</b>         | Oil States International, Inc.         | Douglas Swanson                          |
| <b>OSG</b>         | Overseas Shipholding Group, Inc.       | Morten Arntzen                           |
| <b>PNK</b>         | Pinnacle Entertainment, Inc.           | Daniel Lee                               |
| <b>PJC</b>         | Piper Jaffray Companies                | Andrew Duff                              |
| <b>PCL</b>         | Plum Creek Timber Company, Inc.        | Rick Holley                              |
| <b>PNC</b>         | Pnc Finl Svcs Group Inc                | James Rohr                               |
| <b>KWK</b>         | Quicksilver Resources Inc.             | Thomas Darden & Glenn Darden             |
| <b>RAH</b>         | Ralcorp Holdings, Inc.                 | Kevin Hunt & David Skane                 |
| <b>RJF</b>         | Raymond James Financial, Inc.          | Thomas James                             |

| <b>NYSE Ticker</b> | <b>Company Name</b>            | <b>Letter to Shareholder Signatories</b> |
|--------------------|--------------------------------|--|
| <b>RTN</b>         | Raytheon Company               | William Swanson                          |
| <b>RMD</b>         | Resmed Inc.                    | Peter Farrell                            |
| <b>RTI</b>         | Rti International Metals, Inc. | Robert Hernandez & Timothy Rupert        |
| <b>RYL</b>         | Ryland Group, Inc.             | R. Chad Dreier                           |
| <b>SGR</b>         | Shaw Group Inc.                | J. M. Berhard, Jr.                       |
| <b>SLG</b>         | SI Green Rlty Corp             | Stephen Green & Marc Holliday            |
| <b>SWK</b>         | Stanley Works                  | John Lundgren & James Loree              |
| <b>STE</b>         | Steris Corporation             | Les Vinney                               |
| <b>SWC</b>         | Stillwater Mining Company      | Frank McAllister                         |
| <b>SGY</b>         | Stone Energy Corporation       | David Welch                              |
| <b>STU</b>         | Student Loan Corporation       | Michael Reardon                          |
| <b>SYX</b>         | Systemax Inc.                  | Richard Leeds                            |
| <b>TLB</b>         | Talbots, Inc.                  | Arnold Zetcher                           |
| <b>TCO</b>         | Taubman Ctrs Inc               | Robert Taubman                           |
| <b>TXT</b>         | Textron Inc                    | Lewis Campbell                           |
| <b>TMA</b>         | Thornburg Mortgage Inc.        | Garrett Thornburg & Larry Goldstone      |
| <b>VVC</b>         | Vectren Corporation            | Niel Ellerbrook                          |
| <b>XRX</b>         | Xerox Corporation              | Anne Mulcahy                             |
| <b>ZMH</b>         | Zimmer Holdings, Inc.          | Ray Elliot                               |