The Effect of Managerial Turnover on Stock Performance[*]

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Abstract

This thesis investigates the effect of managerial turnover on stock returns. It is performed by dividing the study into two distinctive parts; an event study determining abnormal returns on days surrounding managerial turnover and an examination of whether the Fama-French Three-Factor Model can explain the returns of zero-investment portfolios based on managerial turnover. The results obtained from the event study indicate significant negative abnormal stock returns related to managerial turnover. The study provides strong evidence for a negative relationship between CEO turnover and abnormal returns, whereas a weaker relationship is documented with respect to chairman of the board turnover. In addition, it is shown that the there exists significant alphas related to the zero-investment portfolios when controlling for the Fama-French factors; this implies evidence of either a shortcoming of the model or the existence of an unexplained anomaly. The authors provide several possible explanations for the results found.

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I.   Introduction

Asset pricing theory in general, and the development of asset pricing models more specifically, is one of the major, partly unresolved, research areas within the field of finance. Despite the numerous models and theories put forth in various academic articles, two general approaches to asset valuation can be discerned; valuation based upon the theory of arbitrage and valuation based upon the idea of a market equilibrium determined by supply and demand. Examples of the former include the Arbitrage Pricing Theory (see for example; Ross, 1976; and Roll et al., 1980) whereas the latter include the Capital Asset Pricing Model (see for example; Mossin, 1966; and Lintner, 1965) and the Fama-French Three-Factor Model (see for example; Fama and French, 1993; Fama and French, 1996).

Taking the approach of a market equilibrium, the objective becomes determining independent variables that have significant explanatory value in revealing asset prices corresponding to a market equilibrium. Hence, in addition to the generally accepted risk proxies such as those determined by, for example, the Capital Asset Pricing Model (henceforth CAPM) and the Fama-French Three-Factor Model (henceforth F-F Model) the aim of much research, both current and previous, is to define additional variables which can help to reveal and reflect what the return ought to be for a given asset. These independent variables, which can be seen as risk proxies, should reflect an asset's level of exposure to certain risks, and thereby the level of return that can be seen as adequate. The main issue with most of the previous research conducted within the field is that the proposed explanatory variables, to a large extent, have poor theoretical foundation, as for the F-F Model (Fama and French, 1993), or struggles with explanatory power, as for the CAPM (see for example; Fama and French, 1992).

Looking at the extensive literature, within the field of business and management, covering the importance of leadership – especially the importance of the Chief Executive Officer (henceforth CEO) and the board of directors – and the impact this leadership has on company performance (see for example; Collins, 2001; Useem, 2006), one would expect there to be a casual relationship between firm value, both current and future, and measures reflecting differences in leadership. Elaborating this further, we started thinking about the impact of CEO – and chairmen of the board – turnover on the quality of leadership, and thereby ultimately on firm performance. However, if the capital markets are efficient, the market ought to have incorporated this knowledge regarding leadership quality into current assets prices, thereby eliminating any possibility to realize abnormal

returns by trading on such information. Despite the theoretical claim, if stock returns related to managerial turnover cannot be fully explained by the currently prevailing asset pricing models, it would suggest that either such stocks capture some risks the asset pricing models in question disregard, or that an anomaly exists. Seeing that the CEO is the one ultimately responsible for the everyday fortune of a company, the resignation[1] of a CEO is often a significant event in the history of a company. The same can be said concerning the board of directors – and especially the chairman of the board – who ought to be responsible for the strategy of a company (Lorsch and Clark, 2008; and Useem, 2006), which often is considered to be the key to long term value creation (Porter, 2008).

Much of previous research concerning the relationship between stock returns and managerial turnover has not focused on the explanatory value that different events – involving top executive turnover – have on stock returns, but rather on the causal relationship between past performance and such turnover (see for example; Weisbach, 1988; Kaplan 1994). However, thinking about stock returns, which ought to reflect company performance, it is hard to believe that the opposite relationship does not exist – i.e. managerial turnover not having an effect on subsequent performance (see for example; Beatty and Zajac, 1987). There are also studies that propose a reciprocal relationship, where the two variables are mutually dependent. Hence, the causal relationship between these two variables is not very clear-cut, rendering methodological issues for studies conducted within this field.

As far as the authors are aware, previous studies trying to understand the relationship between top executive turnover – not only defined by CEO turnover – and stock returns, have not previously been conducted on Swedish data. There has however, been studies conducted in other countries which have taken a similar approach to the one taken in this paper, though they mainly consider the effect of CEO turnover (see for example; Beatty et al., 1987). In addition, the announcement effect of managerial turnover has also been studied, although, not on Swedish data (for an excellent review of previous literature see; Furtado and Karan, 1990).

In light of the discussion above, there are many rationales for using the information conveyed by differences in management, as for example top executive turnover, to evaluate the performance

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[1] Observe that we have chosen to refer to the event when a CEO or chairman of the board leaves his/her position as a resignation, making no difference between whether he/she voluntarily leaves the position or is being sacked. We will also refer to these events as turnover events (as for example "CEO turnover").

of currently applied asset pricing models. Thus, taking influence from the research area of management, this article tries to broaden this perspective and apply it to the field of finance. Hence, the purpose of this paper can be formalized as to evaluate the stock market's reaction to managerial turnover, and thereafter investigate whether a common asset pricing model can explain the returns of companies exhibiting such turnover. As a basis for testing the turnover factor, this study will make use of the F-F Model, which must be seen as one of the most recognized asset pricing models – along with the CAPM – thereby constituting a good theoretical foundation.

To investigate this issue and draw conclusions about the significance of the impact of such turnover measures, the returns from a large sample of companies listed on the Stockholm Stock Exchange (henceforth SSE) and Nordic Growth Market (henceforth NGM) between the years 1998-2009 are examined. Initially, by conducting a rigorous event study examining the abnormal returns during several time intervals and across several groups of companies, it is proven that CEO and/or chairman resignation is associated with abnormal returns. Secondly, after concluding that there are significant abnormal returns surrounding the event days associated with managerial resignation, zero-cost portfolios are constructed based upon this information. Evidence is found in this study proving the existence of returns not explained by the F-F Model, a finding well in line with the critical standpoint taken regarding the F-F Model in other researches (see for example; Carhart, 1997; and Kothari et al., 1995). This paper also shows, using Fama-MacBeth's (1973) two step procedure, that a dummy indicating top executive turnover has explanatory value when controlling for size and market-to-book ratio (henceforth MtBV) factors. Hence, the implication of this study is that, either managerial turnover captures some risk currently not reflected in asset prices, or that an apparent anomaly exists.

This article is organized in the following manner; Section II gives a detailed introduction to relevant research made in areas of importance to this study and ultimately results in the formalization of the hypotheses the article will test. Section III describes the data underlying the study, along with the applied methodology. Section IV presents the results of the two separate parts of the study, as well as an analysis of these results. Finally, section V discusses the findings and gives an overall conclusion of the results found in this article.

II. Theories, Models and Previous Research

In the following part of the article a thorough review of the various theories and models laid forth within this field will be presented. In addition, a comprehensive survey of previous research will also be given. This is done in order to relate the results of this study to previous findings, and ultimately determine the contribution made.

Theories and Models

The introduction of asset pricing models – presenting a revolutionizing tool to handle the concern of pricing risk and thereby assets – was a major research area during the 20th century. The issue of portfolio selection, one of the fundaments on which asset pricing models based on market equilibrium are built, was first introduced in a highly influential article by Markowitz (1952). Extending the research of utility maximization, Markowitz takes the standpoint of the second step in the process of portfolio formation, namely that of using expectations of future performance in order to construct portfolios. Furthermore, Markowitz assumes a universe where an investor only cares about return and risk, defined by mean and variance of portfolio return, when constructing portfolios. By introducing the efficient frontier of portfolios, a frontier depicting portfolios with the highest return given a specific level of risk, an important foundation of asset pricing was put forth. In addition to introducing the mean variance trade-off, Markowitz (1952) presents powerful evidence in favor of the phenomenon of diversification, the thought of using several different assets when constructing investment portfolios in order to decrease the total risk.

In the spirit of Markowitz's findings, Sharpe (1964) presents a theory of investor behavior under various conditions of risk. Extending the logic, under two main assumptions – a common interest rate at which all investors can borrow and lend, and homogenous expectations among investors with respect to expected returns and volatility – the conditions for market equilibrium are put forth. Sharpe (1964) uses individual investors' utility functions and the rational investor's preference to maximize utility, in order to derive what he entitles the Capital Market Line (CML). The CML, which displays the portfolios with the optimal risk return trade off, is common to every investor. What differs between different investors is the allocation between a risky investment in the market portfolio and the risk free rate, i.e. where on the CML the investor's investment is allocated. The amount allocated to the market portfolio is unique for every investor and depends on each individual's risk preferences. Ultimately, a methodology to price assets depending on risk in relation to return was presented.

The Capital Asset Pricing Model

The CAPM is a powerful tool and was an important breakthrough, independently developed to its current form by Lintner (1965) and Mossin (1966). The CAPM relates the covariance of returns, between a given asset and the market portfolio, to the variance of the market portfolio; a measure depicting the level of exposure to market risk, named the CAPM beta. The purpose of this beta is to be able to predict the required rate of return for a given asset, given the market's excess return. Despite the models vast recognition and applicability due to its simple, but still powerful implications – it has endured massive critique from several researchers. Lintner (1965b) tested the empirical validity of the CAPM on individual assets with mixed results. Studying the relationship between mean returns and beta levels of individual companies, Lintner (1965b) proclaimed that there where severe problems with the asset pricing model. The issues of concern were mainly the intercept, alpha, which according to the model should be equal to zero, but which often was significantly different from zero when estimated; other issues included a wide dispersion of returns with little connection to varying beta levels and a linear relationship between risk – as defined by beta – and return, named the Security Market Line (SML), that was to flat. However, it has been argued that there are inaccuracies with the study; and that, due to measurement errors in the beta estimation, the second stage equation's coefficients will be downwardly biased.

Furthermore, evidence has been put forth in several other empirical studies that clearly contradict the CAPM (see for example; Fama and French, 1992). More mixed results are described by Banz (1981), who find evidence against the CAPM, but, at least according to himself, not strong enough evidence to reject it.

As an alternative to the empirically based critique the model has endured, Roll (1977) published a famous analysis which states that there is only one testable implication of the CAPM, namely whether the market portfolio is mean variance efficient or not. However, testing this is only possible if the true market portfolio is known. This implies a paradox, since testing the market portfolio requires all individual assets to be included, something not practically possible and thereby proving Roll's main point, namely that all empirical tests of the CAPM struggles with the fact that they can only use a proxy for the market portfolio. Thus, studies can never prove anything about the mean variance efficiency of the true market portfolio.

However, there is also plenty of evidence in favor of the CAPM; for example, Black et al. (1972) presented one of the earliest empirical studies supporting the CAPM. He did this by testing the model on ten size based portfolios using a sample of all stocks listed on the New York Stock Exchange. These results also hold true in an article written by Fama and MacBeth (1973), which presents a study finding similar results, but by using a different methodology. Additional support for the CAPM is presented by Kothari et al. (1995) and Jagannathan and Wang (1996). In addition, the model's massive impact in applied finance, clearly being the most favorable and used model by practitioners when calculating cost of capital (Graham and Harvey, 2001), speaks for itself. Hence, the conclusion that can be drawn, despite the model's widespread recognition, is that it does have gaps to be filled.

Factor Models

As an answer to the CAPM and its apparent anomalies, multifactor models were introduced by various researchers as an alternative to the model (see for example; Fama and French, 1993; Jagannathan and Wang, 1996). The F-F Model, which constitutes the foundation of this study, has received the most widespread acceptance among the common multifactor models. Despite the fact that the model's factors have less clear interpretation – as when compared to the ones used by Jagannathan and Wang (1996) whose factors have a clear economic rational (e.g. industrial production and human capital) – the model has obtained a higher level of explanatory value and more recognition than its opponents.

As discussed earlier, much of the current research within the field of asset pricing is concerned with finding new factors acting as proxies for risk, or understanding the currently used factors. Among others, Lettau and Ludvigson (2001) and Campbell and Cochrane (1999) takes on a macro perspective in order to determine additional factors, whereas Stehle (1977) and Korajczyk and Viallet (1989) takes on a more integrated and internationalized perspective in their research. Other factors presented include the momentum phenomenon discussed by Jegadeesh and Titman (1993) – empirically proving that past period winners outperform past period losers in terms of stock returns – they provide clear evidence of an anomaly not explained by the traditional factor models. This factor was later used by Carhart (1997) to create his four-factor asset pricing model.

The practical implications of asset pricing models is also an area of extensive research (see for example; Fama and French, 1997; Boudoukh et al., 2007), as is the research trying to understand

what risks the different factors are acting as proxies for (see for example; Chan et al., 1998; Holmström and Tirole, 2001; Trecartin Jr, 2000).

The tradeoff between complexity and explanatory value is apparent when evaluating and comparing different asset pricing models. This applies both to the choice between categories of asset pricing models, i.e. models based on market equilibrium or arbitrage, as well as when choosing within a category. Despite the research performed in later years, which has presented a vast array of asset pricing models, the F-F Model along with the CAPM is undoubtedly the major asset pricing model used today. Since the F-F Model, in a way, is an extension of the CAPM it is a natural starting point for any study aiming to understand which factors that determine stock returns.

In addition to the traditional CAPM beta, the F-F Model includes two additional factors, named Small-Minus-Big (henceforth SMB), based on market value of equity, and High-Minus-Low (henceforth HML), based on Book-To-Market (henceforth BtMV) ratio. The rational for using these measures, Fama and French (1993) argue, is that they act as proxies for certain risks that the CAPM fails to capture. Including a size factor and a book-to-market factor greatly increases the explanatory value in empirical studies as opposed to only using the market beta which has, as mentioned, a more limited explanatory value.

Fama and French (1992) point out a strong negative relationship between firm size and average returns, i.e. portfolios based on low market capitalization yield higher average returns, which implies that small companies are riskier than larger ones. In itself this negative relationship is not something strange, but the fact that beta levels are not high enough to motivate the average returns these small companies have generated casts shadow upon the validity of the CAPM (Banz, 1981). However, more recent research reports an elimination of the size anomaly shortly after its discovering (see for example; Black, 1993). When it comes to the second risk factor attributable to the F-F Model, namely the BtMV factor, Fama and French (1992) find even stronger evidence regarding the relationship between BtMV and asset returns. They claim a strong positive relationship between BtMV and average stock returns. The counterargument saying that the excess returns of BtMV portfolios can be explained by beta does not earn much credibility, and is seen as unlikely by Fama and French (1992). The evidence put forth, displaying the significance of size and BtMV also holds true when applying alternative methodologies, such as using the Fama-Macbeth two-stage procedure (Fama and French, 1992).

There are however, several studies contradicting the models superiority. As previously mentioned, Black (1993) presents evidence precluding the possibility to exploit the size factor due to its disappearance shortly after its discovery. Additional studies conducted by, among others, Kothari et al. (1995) point out issues of concern regarding methodological challenges when using BtMV as a factor of risk, such as survivorship bias. Black (1993) also points out a very important point regarding factor models in general, namely that when researchers conduct regressions trying to explain past returns with various factors, some factors will explain past returns fairly well just by chance and not due to any theoretical or economical reasoning. Hence, distinguishing between factors with explanatory value attributable just to luck and actual risk proxies can be tough. In the spirit of finding factors actually explaining returns, and not just by chance, a thorough economic reasoning and intuition is required.

Asset Pricing Built upon Arbitrage

As mentioned in the introduction, asset prices need not be determined by a market equilibrium, instead they can be constructed based upon the theory of arbitrage. The main contribution to the field is acknowledged to Ross (1971; 1976), who combined statistical tools with economic arguments precluding arbitrage. One of the main assumptions behind the Arbitrage Pricing Theory (henceforth APT) is that investors have non-saturable preferences, i.e. prefer more to less. Hence, the model need not rely on the statistical distributions of returns or on investor preferences. The APT model proposes that the return of a specific asset is determined by the assets exposure to specific factors (for a detailed description of different methodologies used in order to obtain factors, and examples of factors see for example; Chen et al., 1986; Roll and Ross, 1980). The main advantage with the APT model is its simplicity, applicability and testability, but also the less stringent assumptions the model requires; as opposed to asset pricing models based on market equilibrium, such as the CAPM and the F-F Model (for a thorough discussion see for example; Huberman, 1982; and Ross, 1976).

The Efficient Market Hypothesis

As for all studies trying to determine asset prices and the extent of abnormal returns, the efficient market hypothesis (henceforth EMH) becomes an interesting foundation. The efficient market hypothesis was developed, in the middle of the 20th century, by Samuleson (1965) and Fama (1963) using two different approaches – this laid the foundation for much of later research within the field of finance. The theory builds on the underpinning that if a market is to be seen as efficient, all currently available information ought to be reflected in asset prices. The ultimate implication of the

EMH is that all strategies proclaiming to outperform the market will ultimately fail. Hence, any strategy using such information as a company's market capitalization (as in the SMB factor in the F-F Model), Book-To-Market ratio (as in the HML factor in the F-F Model) or top executive turnover characteristics will not realize returns outperforming the market, when controlling for risk. As previously discussed, evidence of such market characteristics have been put forth (see for example; Black, 1993). However, evidence also indicates market characteristics severely deviating from those of an efficient market.

Three different levels of an efficient market are put forth in the literature (see for example; Fama, 1970), namely the weak, semi-strong and strong form of market efficiency. Given the weak form of market efficiency it should be impossible to earn abnormal returns trading on information conveyed by past prices, such as a momentum strategy; whereas, under the semi-strong form also strategies built upon any publicly available information will fail to earn abnormal returns, as for example strategies built upon fundamentals such as the book-to-market ratio. The most restrictive form of market efficiency states that it should be impossible to earn abnormal returns even by trading on private information, i.e. the prices ought to reflect all available information both private and public; hence, under this form it should be impossible for insider traders to earn abnormal returns.

Fama (1970) puts forth characteristics that ought to describe an efficient market. According to him, efficient markets are characterized by lack of transaction costs; costlessly available information to all investors; and investors agreeing upon what implications currently available information has on asset prices. Lucas (1978) on the other hand, just states that given a market where all investors behave rationally, the prices will follow a random walk, i.e. the efficient market hypothesis will hold.

There have been several studies, including Fama (1965; 1970), Samuelson (1965) and Black (1993), showing evidence of stock prices exhibiting characteristics in accordance with the EMH. However, the critique of the hypothesis is massive; evidence of such critique is the action taken by the Journal of Financial Economics in the year 1978, which publicized a special edition entirely committed to reporting anomalies to the EMH (Keane, 1986). Examples of anomalies reported in the literature are; the momentum effect (Jegadeesh and Titman, 1993); the January effect (Keim, 1983); and the Value Line Enigma (Copeland and Mayers, 1982). The latter presents evidence of abnormal returns when basing investments on recommendations from Value Line, an advisory firm,

during the period 1965-1978. However, it has been pointed out that there are concerns regarding choice of benchmark when it comes to the Value Line Enigma anomaly.

However, the most severe critique against the EMH comes not from the empirical studies conducted, but rather from the research aimed at criticizing the foundation of the EMH, namely the extent of rational investors. Much of later research concludes that there is reason to question whether investors really are rational. For example, the research conducted within the field of behavioral finance describes several phenomenon potentially portraying the irrationality of investors; such as overconfidence, i.e. investors exaggerating their abilities to realize returns (see for example; Barber and Odean, 2001); loss aversion (see for example; Kahneman and Tversky, 1979); and underreaction (see for example; Jegadeesh and Titman, 1993). Grossman and Stiglitz (1980) go as far as ruling out the possibility of efficient markets; they do this by proving that if information gathering is not rewarded, which would be the result of an efficient market, no one will conduct such action, which ultimately will lead to the destruction of markets.

The overall conclusion that can be drawn is that researchers are divided into two groups, either supporting or rejecting the EMH. However, despite the critique put forth, the theory serves as a useful benchmark and idealization of financial markets.

Leadership and Its Importance for Firm Value

The importance of leadership for firm performance has long been known and is heavily documented. Collins (2001), as well as Weiner and Mahoney (1981), point out the significant impact leadership has on firm performance and ultimately firm value. However, counterarguments reducing the importance of leadership also prevail; Lieberson and O'Connor (1972) among others present evidence advocating the importance of factors beyond the control of leaders, such as social and economic factors. The reason to such diverse findings can largely be attributable to the tough methodological challenges related to determining the importance of leadership, largely due to the intangible nature of leadership evaluation. Leadership, conducted by managers, may affect firm performance only indirectly, for example through satisfied employees, thereby making evaluation problematic.

Corporate Governance

In Sweden, all listed companies are required to have a CEO, elected by the board of directors. The board of directors is elected at the Annual General Meeting (henceforth AGM) by the shareholders

of the company. Shareholders at the AGM also elect the chairman of the board. However, if the chairman resigns during the mandate period the board can elect a new chairman, among the board members, to serve until the next AGM. Beyond legislation, the Swedish Corporate Governance Code – published by the Swedish Board of Corporate Governance, an independent body aiming to encourage good and well functioning corporate governance in the companies listed on the stock exchanges in Sweden – is a prerequisite for all companies listed on SSE and NGM, i.e. all companies in our sample.

Corporate governance defined as the separation of ownership and control, was first discussed in an influential paper by Berle and Means (1932). The aim of corporate governance is mainly to unite the actions of individuals within a company, using various institutional constructions. Shleifer et al. (1997) presents a survey related to corporate governance and how corporate governance practically is imposed from suppliers of capital, as for example shareholders. They highlight the results of separating capital and management, and the potential risk of fund deterioration accompanied by such separation. Corporate governance and its effect on firm performance has been documented by several researchers (see for example; Cremers and Nair, 2005; and Kang and Sörensen, 1999), pointing out what characterizes good corporate governance, and its relation to satisfactory firm performance. Examples of such characteristics are strong ownership structure and efficient legislation (Shleifer et al., 1997).

Related to the theory of corporate governance is the agency theory, about which many influential papers have been published (see for example; Jensen and Meckling, 1976). The theory has been related to the field of finance by for example Fama (1980). Agency theory can be described as the problem of aligning the individual's goals with that of the principal. An example of such a problem is aligning the interest of the companies CEO with that of the owners. There are many alternative views regarding the importance of the field of agency theory (for two opposing views see for example; Jensen and Meckling, 1976; Perrow, 1986). Many of the issues concerning agency theory, and the concerns it yields, can be related to asymmetric information, depicting a discrepancy between the agent and the principal with respected to how well informed they are. In order to handle and mitigate the issue of agents not acting in the principal's major interests, contractual arrangements can be constructed, to limit the agents' acting space. However, these contractual arrangements are both hard to construct, as well as highly resource consuming.

Given the discussion above, it is evident that different organizations will vary with respect to how successful they are at handling corporate governance and agency related issues. This in turn will affect the value of each respective corporation; companies being able to cope with these issues will realize higher firm values than their failing counterparts. What defines effective action in a specific case will however vary from firm to firm. Hence, high managerial turnover can either be seen as a sign of well functioning corporate governance and effective contractual agreements – replacing managers not appropriate for their tasks – or as a sign of problems with constructing efficient monitoring and contractual arrangements, prohibiting undesirable action from the agent. Relating to previous research, Kaplan (1994) claims that efficient governance structures punishes bad management in firms with poor performance. In addition, it is evident that well functioning companies, in a thrive to maximize shareholder value, ought to replace poor performing management. The prerequisite to increase shareholder value by such an action, is however that the company can recruit new, highly skilled, management, which cannot be guaranteed. However, well functioning corporate governance and contractual arrangements ought to minimize the risk of even having poor performing management in the first place, thereby reducing turnover.

Previous Research

The research conducted within the area of managerial turnover – its effect on various performance measures, the reasons behind it, and the ultimate consequences of various turnover levels – is vast and the results are mixed. Allen et al. (1979) distinguishes between three different schools of thought regarding the relationship between managerial turnover and organizational performance. One proposes an increase in performance due to turnover, one the opposite and the last proposes no effect of turnover on performance at all. In addition, Allen et al. (1979) distinguishes between two different research areas, namely studies conducted on the effects of leadership as opposed to studies conducted on the effects of top executive turnover. The focus of this study is managerial turnover, and thereby will any research on the effect of leadership be beyond the scope of this text. The article aims rather to indirectly determine whether stability in leadership, defined by a low level of turnover of CEO and/or chairman of the board, can approximate good leadership, determined by adequate stock performance.

When taking a top view perspective, clear trends can be found regarding the scope of research, which heavily is focused on CEO turnover – and almost entirely excludes chairman of the board turnover. When looking at the research conducted on CEO turnover one can see that there is often

a distinction between internal and external turnover; with the former being turnover forced by internal bodies of the company, such as the board of directors or the owners, whereas the latter being turnover forced by external bodies such as private equity companies dismissing the CEO of acquired companies (see for example; Huson et al. 2001). In this paper however, the results will not be explicitly split into these two sub-categories, due to its purpose. In addition, as discussed above, two separate categories of studies can be distinguished; namely, those that base their reasoning on turnover being determined by stock performance and those that explain stock returns by looking at executive turnover (see for example; Murphy et al., 1993; Beatty and Zajac, 1987). It should be clear however, that this paper takes on an approach more in line with the latter category.

When it comes to the results obtained from the research conducted within the area of managerial turnover, the first major quantitative study published is acknowledged to Grusky (1963), who found a relationship between managerial turnover and organizational performance, when looking at organizations with similar characteristics. When it comes to relating CEO turnover to stock performance, the results put forth mainly proves a negative stock price performance surrounding the announcement of CEO resignation. Brickley (2003) presents and discusses the empirical evidence regarding the effect of stock price performance on turnover rates in a clear-cut manner, and concludes some interesting points regarding the implication of CEO turnover. Firstly, CEO turnover increases, as discussed above, when stock price performance is poor; secondly, the economic significance of the findings are low; thirdly, several factors, including accounting measures and age have higher predictive power than stock performance, in determining turnover. In addition, the effect of firm performance on turnover varies significantly across firms; finally, due to multicollinearity, it is hard to distinguish the effect of various factors on turnover. Huson et al. (2001) also present evidence confirming the relation between CEO resignation and firm performance; furthermore, this relationship is stable over the studied time period 1971-1994. Gibbons and Murphy (1990) on the other hand, present evidence regarding how CEOs are evaluated based on filtered performance, i.e. it is not the performance per se that is relevant for turnover, but rather the performance related to different benchmarks such as market performance. Hence, according to them poor stock performance in isolation does not per se result in high turnover rates.

Weisbach (1988) presents a study which combines both directions of causality – i.e. a study that looks at the effect on stock returns due to top executive turnover, while at the same time studying the relationship between past negative stock performance and managerial turnover. He also

shows that the relationship between CEO turnover and past firm performance depends on the board's composition. Beatty and Zajac (1987) on the other hand, argue that the relationship between turnover and stock price performance can be divided into two distinctive parts; effects related to leader specific factors and effects related to leader independent factors. They conclude that the announcement of a turnover event is typically associated with a reduction in firm value, i.e. a negative stock price development.

Daily and Dalton (1995); Coughlan and Schmidt (1985); and Wagner et al. (1984) all point out evidence, well in line with the research presented regarding CEO turnover, namely that top executive turnover is inversely related to stock performance i.e. managerial turnover follows poor stock performance. Wagner et al. goes as far as to say that since turnover is related to performance and other company characteristics, these factors can be used to predict turnover. Warner et al. (1988) shows that having good corporate governance is related to having a negative correlation between firm performance and managerial turnover; i.e. if there exists an effective external monitoring such as an active takeover market and effective internal monitoring such as board monitoring and large shareholders, the relationship will be negative between firm performance and top executive turnover. In a study conducted on data from Denmark, Lausten (2002) presents evidence in line with much other research on leader turnover; hence it is reasonable to think that the above results would also apply to the Swedish market.

Warner et al. (1988) however, relates the announcement of managerial resignation to signaling; he proposes that the announcement can convey information of two dimensions to the market. Firstly, if the resignation is due to poor top executive performance, earlier not recognized by the market, the market will have a partly negative reaction to the turnover event. However, and this is the second dimension of the signaling he argues, the reaction will also be partly positive if the change is in the interest of the company. Hence, the overall market reaction will be a mixture of both reactions.

Contribution

Trying to combine the different research areas of management and finance, the effect of managerial resignation on stock returns is investigated. The first part of this article examines whether the announcement of such information is accompanied by abnormal returns. This is done by conducting an event study, using generally accepted methodologies; results are then put forth depicting a

negative market reaction to the announcement of a CEO and/or chairman of the board departure. Secondly this study points out, well in line with prior research, returns not explained by the F-F Model, by constructing zero-cost portfolios taking long (short) positions in high (low) turnover firms and regressing these portfolios against the F-F factors. Hence, evidence is put forth depicting either that the turnover portfolios include some risk factor currently not appreciated, or that an anomaly exits.

Prior event studies investigating the impact of top executive turnover on stock prices has mainly focused on the effect of CEO resignation and not on other top executives, such as the chairman of the board. Hence, the results from the event study can give valuable insights regarding the impact the market attains to changes in board constellation, and the relative importance the market attains to the CEO and the chairman. In addition, the results from the second part of the article, indicating returns left unexplained by the F-F Model, contribute to the field by proposing alternative explanations to what risks the factors actually account for.

Hypotheses

In order to formalize the objective of this article, several hypotheses are put forth and tested. Below follows a very short review of the theoretical background, previous findings and expected results; all of which ultimately will result in the hypotheses this article will test.

The research studying the relationship between CEO and managerial turnover on stock performance has, as previously discussed, mainly focused on the inverse relationship as compared to the standpoint taken in this article. Given a standpoint in line with our, the results from empirical research indicate both negative and positive abnormal returns associated with managerial turnover (see for example; Beatty and Zajac, 1987; Furtado and Karan, 1990 for two opposing views) – it is difficult to determine which effect that ought to be expected. Nonetheless, the viewpoint taken is that managerial turnover is an unwanted, as well as significant, event for a company and therefore ought to be accompanied by negative stock performance. However, in light of the contradicting results obtained in other studies the hypothesis will be tested against two sided alternatives, i.e. without any bias regarding what should be considered as likely results. Therefore, for the event study, the following hypotheses are specified and tested against the respective alternatives:

Hypothesis 1(a):   There are no significant abnormal returns surrounding CEO turnover events

$$H_{0,1(a)}: \overline{AR}_{CEO} = 0$$

$$H_{A,1(a)}: \overline{AR}_{CEO} \neq 0$$

Hypothesis 1(b):   There are no significant abnormal returns surrounding chairman of the board turnover events

$$H_{0,1(b)}: \overline{AR}_{CoB} = 0$$

$$H_{A,1(b)}: \overline{AR}_{CoB} \neq 0$$

Hypothesis 1(c):   There are no significant abnormal returns surrounding management[2] turnover events

$$H_{0,1(c)}: \overline{AR}_{Management} = 0$$

$$H_{A,1(c)}: \overline{AR}_{Management} \neq 0$$

Given the considerable amount of research presenting both advocating and rejecting views regarding one of the most commonly cited asset pricing models, the F-F Model (see for example, Fama and French, 1992; and Kothari et al., 1995 for two challenging views), no clear prediction of what results are to be expected when regressing the portfolios based on managerial turnover on the F-F factors, can be made. However, a significant alpha would provide evidence of an anomaly or a risk not incorporated in the model. To study the empirical fit of the F-F Model, the following hypotheses are stated:

Hypothesis 2(a):   CEO turnover portfolios do not generate any abnormal returns (positive or negative) when adjusting for the F-F risk factors.

$$H_{0,2(a)}: \alpha = 0$$

$$H_{A,2(a)}: \alpha \neq 0$$

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[2] A management event is defined as an event where either the CEO and/or chairman of the board has resigned.

Hypothesis 2(b):   Chairman of the board turnover portfolios do not generate any abnormal returns (positive or negative) when adjusting for the F-F risk factors.

$$H_{0,2(b)}: \alpha = 0$$

$$H_{A,2(b)}: \alpha \neq 0$$

Hypothesis 2(c):   Management turnover portfolios do not generate any abnormal returns (positive or negative) when adjusting for the F-F risk factors.

$$H_{0,2(c)}: \alpha = 0$$

$$H_{A,2(c)}: \alpha \neq 0$$

III. Data and Methodology

Data

The data sources primarily used in this study are the book series *Owners and Power in Sweden's listed Companies* (Sundin and Sundqvist 1998-2002; Fristedt and Sundqvist, 2003-2009) and *Styreleser och Revisorer i Sveriges börsföretag* (Fristedt and Sundqvist, 2005-2010) – which contain information about CEO and chairman of the board turnover of Swedish listed companies – and the database Thomsons Datastream (henceforth Datastream), which has stock prices as well as accounting measures for all but some listed companies in Sweden. From Datastream daily data are collected on the one year Stockholm Interbank Offered Rate (henceforth STIBOR), adjusted stock prices, market-to-book ratio as well as market capitalization. As previously mentioned, we use data for all stocks listed on the Stockholm Stock Exchange as well as NGM. A few companies in our sample are dropped due to lack of data in the Datastream database. However, given that our initial sample contains 588 companies and that no more than a handful are removed due to lack of data, the effect on the end results ought to be insignificant regarding the event study. Worth noting though is that more companies are dropped when constructing the portfolios due to lack of data on the accounting measures. This is more thoroughly described in the methodology sub-section.

+ + + Please insert TABLE 1 about here + + +

As can be seen in Table 1, we have about 500 recorded changes for CEO and chairman of the board respectively, i.e. a little bit more than 1000 changes all in all. Although the total amount of dismissals/resignations varies slightly between different periods, mainly during crises, the above numbers imply that the average company changes CEO and chairman of the board once every sixth year, given about 300 listed companies on the covered exchanges per year. Worth noting is that we have chosen not to include an event if it happens in the same year as another equivalent event, i.e. if a company changes CEO more than once a year (the same holds true for the chairman of the board). There are several reasons for this course of action. First of all, many companies choose to, for example, appoint an acting CEO while searching for a permanent replacement for the old CEO. This means that the subsequent change of CEO most likely will be anticipated by the market, making this observation invalid for an event study since it violates one of the assumptions upon which an event study is based, i.e. that the information is unanticipated. Secondly, companies changing CEO or chairman of the board more than once a given year, maybe even several times, are likely to be suffering from other problems than just inconsistency in leadership which could bias the results for the portfolios we want to create. To avoid getting a survivorship bias, the study is conducted using data on all companies that are listed, on the previously mentioned exchanges, some time during the studied time period. For the event study all available data is used, the same holds for the asset pricing part of this study with a slight difference. In order to create our portfolios we need returns, market value and MtBV for the companies for the whole period (one year), and if a company is delisted, or the like, in a period we will not use data on that company for that specific period. Of course, the company will be used for all other periods for which it has data on the whole period. This means that the survivorship bias discussed by Brown et al. (1992) ought to be insignificant in our study.

The daily stock prices retrieved from Datastream are not the actual closing prices. Instead adjusted prices are used, which take into account the effect capital actions have on stock prices, thus enabling us to retrieve daily stock returns through the following formula:

$$r_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}}$$

Where $P_{i,t}$ is the closing price for security i at day t. The benefit of this approach, in contrast to using log returns, is that it captures the exact return and is not susceptible to errors for larger

returns. Therefore, we use these arithmetic returns when performing our event study, although the results probably would not be affected in any major way if log returns were to be used.[3] We will make use of log returns to create our monthly returns, used in the second part of the study, since the log returns are time additive. However, due to the nature of log returns, a portfolio created by weighting log returns would render incorrect results and therefore the logarithmic returns will be transformed back into arithmetic returns when the monthly returns have been created.

The market capitalization is defined as the price of the security times the number of shares outstanding, i.e. the market value of equity, whereas the market-to-book ratio is defined as the market capitalization divided by the book value of equity.

To be able to construct the CAPM betas, which are used in the event study, one needs to define the risk free rate – in most studies this is taken as the U.S. treasury bills – in order to calculate the excess returns. However, given that our study is performed on Swedish data a more appropriate proxy for the risk free rate is the STIBOR, which is retrieved from Datastream. The rational for using the one-year STIBOR is mainly that we want to use a risk free rate with the same investment horizon as the portfolio investments, which are rebalanced once a year. In order to obtain the CAPM beta there is also a need to define the market portfolio, which in theory should contain all assets; however, since this is not feasible, a proxy such as the S&P 500 is often used. We use the OMX Stockholm 30 Index as a market proxy in this study, once again acknowledging that the study is performed on Swedish data. The prices for the OMXS30 are retrieved from Nasdaq OMX Nordic's database.

Regarding the data obtained from the book series, changes in the variables of interest, that is CEO and chairmen of the board turnover, are manually put together from these books. Since there is no database that contains all information about the announcement date of such managerial changes, this information was obtained by using various online resources containing company press releases, as well as retrieving the information directly from the companies' own press release archives. The main resource for acquiring this information has been through a private database owned by News Agency Direkt. News Agency Direkt is a small news agency focused on reporting stock market related news, serving customers such as banks, funds and institutional investors. Other resources used in order to retrieve the announcement dates, worth mentioning, are NGM's website

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[3] Actually, we do try log returns in the event study as well, and just as predicted the result are more or less the same.

– which contains information regarding the companies listed on their exchange – and Cision Wire, which specializes in gathering press releases and company related information.

Since the effect of interest is the effect instable leadership has on stock returns – were we define instable leadership as lack of continuity in the leadership roles of the CEO and the chairman of the board – our data has been constructed by setting the date of interest as the earliest date that it becomes known that a change is to take place, not taking any notice of whether a replacement has been announced.

Methodology

In order to determine whether the hypotheses previously stated are valid, the following methodology will be applied. First of all, an event study is conducted in order to determine the impact on stock returns of an announcement of CEO – and/or chairman of the board – resignation. This is done by examining whether there are any abnormal returns surrounding the event day. Secondly, the F-F Model's explanatory value is tested by regressing portfolios based on managerial turnover on the F-F factors. Finally, to gain additional support for the results obtained, Fama-MacBeth regressions will be performed. Below follows a thorough explanation of each step in these approaches.

The Event Study

Within the field of finance, event studies, pioneered by the influential research paper conducted by Dolley (1933), have long been applied to determine the effect of various events on, for example, stock returns. Examples of finance related research areas where the methodology of event studies is highly applicable include the effect of insider trading, or that of earnings announcements, on stock prices. Furthermore, the method can also be applied when trying to validate or reject the efficient market hypothesis. However, the usage of event studies is not limited to the field of finance, but also highly applicable in a variety of additional research fields; examples include economics and social science. Event studies and its methodologies have been exposed to constant refinement and evolvement and as a consequence, during the late 1960's, articles (see for example; Fama et al., 1969) were presented which first introduced the methodology applied in the research of today. These articles presented a methodology, making it possible to distinguish between the effects of different events, i.e. to isolate the effect of a specific event, controlling for the disturbance caused by other factors except the one of interest. The later methodologies demonstrate an advantage of conducting event studies, namely a solution to the possibility of an endogeneity problem, also called an omitted

variable problem. Being one of the fundamental subjects of concern when conducting statistical studies, the issue of endogeneity has received a lot of attention in research. The problem of endogeneity is defined as when one or several of the independent variables are correlated with the error term or, put simply, when we fail to recognize a variable with explanatory value in a model. This leads to a situation where the expected value of the error term, given the independent variables, is not always zero. Hence, one of the assumptions underlying Time Series Ordinary Least Squares Regressions – namely, $E(u_t|X) = 0, t = 1,2, ..., n$, i.e. an error term equaling zero independent of all exogenous variables and time – is violated. The implication of violating this assumption is immense, resulting in a biased estimation. The advantage of conducting event studies is that it renders an analysis where all independent variables are held constant except the one of interest, in this case managerial resignation, and the effect on the endogenous variable, in this case stock returns, can be analyzed in isolation, implying a less severe endogeneity problem. The popularity of event studies can largely be attributed to this benefit. However, it is worthwhile mentioning that if the event itself is endogenous, the estimations obtained from the event study will still be biased.

The procedure of an event study is fairly simple and straightforward (for an excellent review see for example; MacKinlay, 1997). In order to conduct an event study, an event has to have occurred. These events can, as described above, be diverse but they all require two main assumptions to be fulfilled; namely that, the event is not in advance anticipated by the market – i.e. the event must reveal new information[4] – and that the market must immediately absorb the, by the event, revealed information. Hence, if the market is efficient, at least to some extent, the information revealed by the event will on average be incorporated into market prices immediately and not be anticipated prior to the event. Since this article is concerned with the impact turnover rates of CEOs and chairmen have on stock returns the event date is defined as the day of announcement of the approval, dismissal or resignation, of a CEO and/or chairman of the board.[5]

After defining the actual event day, i.e. the date of the CEO or chairman of the board resignation, the length of the event window needs to be established. Well in line with similar

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[4] This is the reason why equal events, happening during the same year, are removed. That is, if a company changes CEO more than once in a given period, the same action is taken regarding the chairman of the board, as mentioned in the Data section.

[5] The date of whichever of these announcements that comes first will be picked, since they all indicate that a change in the management of the company is about to happen. Once again, we are not taking any notice of the content of the press release, what is important in this study is that it has become publicly known that the company is going to change the CEO and/or chairman of the board.

research, the event window is initially chosen to one day; since, given an efficient market, this is the date that should be associated with abnormal returns. In addition, it is common practice to extend the event window beyond the specific day of interest in order to be able to investigate the effect of the event over a larger time interval, thereby making a more thorough examination possible. Furthermore, this course of action is required when the press release revealing the new information is made public during hours when the stock market is closed; since, in these cases, the information will be incorporated in the stock prices the day after the announcement. In addition, by extending the event window to some days prior and some days after the event, it is possible to capture the potential effect that might occur due to the fact that financial markets may not be fully efficient.

Abnormal Returns

In order to conduct the event studies, abnormal returns for each asset in the sample needs to be computed. The abnormal return for an asset is given by:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}|X_{i,t})$$

Where $AR_{i,t}$, $R_{i,t}$ and $E(R_{i,t}|X_{i,t})$ are the abnormal return, realized return and normal return respectively, for asset i in period t. This is in line with the procedure laid forth by MacKinlay (1997). According to him normal returns are commonly calculated in one of two ways, either by using a constant mean return model or by using a market model. The constant mean return model uses, as the name implies, the historical mean return as the normal return for a security, which simply is:

$$E(R_{i,t}|X_{i,t}) = \frac{\sum_{t=0}^{n}(R_{i,t})}{n}$$

Estimating normal returns using a market model requires one to estimate a market model return, for each security in a given period, and then use these estimates to calculate the abnormal returns. The market model we use is the standard CAPM, where betas are retrieved through the following regression:

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_i(R_{OMXS30,t} - R_{f,t}) + e_{i,t}$$

That is, the excess return of a specific stock $(R_{i,t} - R_{f,t})$ is regressed against the market excess return $(R_{OMXS30,t} - R_{f,t})$. The beta obtained is accordingly the specific stock's sensitivity to the

volatility of the market. Consequently, we obtain the normal return for a security i, using a market model approach, by assuming an alpha equal to zero[6] and calculate:

$$E(R_{i,t}|X_{i,t}) = R_{f,t} + \beta_i(R_{OMXS\,30,t} - R_{f,t})$$

Preferably one should define an estimation window which is a period before the event takes place and estimate the parameter using observations from that time period. Another common approach is to assume a beta of one and an alpha of zero, doing this allows one to simply use the market return as the normal return. We have chosen to conduct the event study using all of the above mentioned methods, simply because there is no *right or wrong* in this matter and in order to make the results more robust.

This study's methodology differs slightly from the MacKinlay (1997) method in one respect. Instead of defining an estimation window, from which to calculate the betas and the mean returns, we have constructed the betas using all observations for each company. However, since this approach would lead to biased estimates of our abnormal returns we avoid this problem, or at least ease it, by not using observations from months where an event takes place. Although not a customary approach, the fact that the method does not render much different results from those retrieved when assuming a beta of one and an alpha of zero, ought to be enough to convince the reader that the bias should be small.

As mentioned above, it is standard procedure to extend the event window to, at least, a few days after and before the event date, and calculate cumulative abnormal returns. By doing this we make sure those abnormal returns, which could be due to the event but does not happen on the same day as the event, are not missed. The cumulative abnormal returns are calculated by taking the sum of returns for a given period, well in line with MacKinlay's (1997) procedure.

To make sure that extreme outliers do not have an impact on the results of the t-tests conducted on CEO and chairman of the board turnover, we remove observations that have a return that is further away than three times the interquartile range (henceforth IQR) from the first and the third quartile.

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[6] Which is a strong assumption, but nonetheless valid if the CAPM holds.

After the different abnormal return measures, as well as the different cumulative abnormal return measures, have been created, the tests are quite straightforward. What is done is that abnormal returns are tested using ordinary hypothesis testing; obtaining average abnormal returns significantly different from zero would tell us that there is something about CEO and chairman of the board stability that is of importance to investors. These tests will be conducted on three different events, one considering solely CEO resignations, one solely considering chairman resignations and finally one considering the effect of a resignation regardless of whether the manager is a CEO or chairman – called management turnover.

The Asset Pricing Model

The second step of this article analyzes, as explained earlier, whether there are returns associated with portfolios created according to managerial turnover that cannot be explained by the F-F Model. That is, variation in the returns of the turnover portfolios that are not captured by the risk factors constituting the F-F Model. The rational for using the asset pricing model developed by Fama and French (1993) and not any of the other generally accepted asset pricing models discussed above are many but have one common denominator, namely the models superior explanatory value and its relatively straightforward interpretation. The reason for not including the momentum factor depicted by Carhart (1997) is mainly due to a desire to keep the model simple, in order to present the additional factors presented in the article in a more clear-cut manner, and the more limited research conducted on this extended model, thereby making the model's empirical applicability more doubtful. The F-F Model is usually written in the following manner:

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_{Mkt,i} \times MKTRF + \beta_{i,SMB} \times SMB_t + \beta_{i,HML} \times HML_t + \varepsilon_{i,t}$$

Where $(R_{i,t} - R_{f,t})$ is the excess return of a given security over the risk free rate for a given date (month or day) t. MKTRF the excess return of a market portfolio containing all securities, in our study approximated by the OMXS30 Index. SMB (Small-Minus-Big) and HML (High-Minus-Low) are both zero-cost, value weighted portfolios. The SMB portfolio has a long position in small companies and a short position in large companies, with size being defined by market capitalization; whereas the HML portfolio has a long position in companies with a high BtMV ratio and a short position in companies with a low BtMV ratio.

To use the above model we need to obtain the three different portfolios specified above. The creation of the first factor of the model, i.e. the market factor, is fairly straightforward. It is simply

the market excess return, that is, the return on OMXS30 less the return on the one-year STIBOR at each given point in time.

To obtain the other two portfolios, SMB and HML, the following six portfolios – in accordance with Fama-French's procedure (1993) – are created, using our sample of Swedish stocks:

Size (Market cap.)	Book-to-Market ratio		
	Low	Medium	High
Small	S/L	S/M	S/H
Big	B/L	B/M	B/H

Firstly, we define eleven periods, starting July 1st 1999 and ending June 30th 2009, for which we create these different portfolios. If a company has missing values for any of the relevant variables during a period it is dropped from that period; for example, a company that is delisted in April 2001 will be dropped from the entire period of which April 2001 is a part, i.e. the one starting in July 2000 and ending in June 2001. This course of action is taken due to an obvious reason; we cannot create portfolios to be monitored for one period if it contains securities that drop out some time during that period. The portfolios belonging to the Small category are defined as the 50 percent smallest companies and consequently the Big category contains the 50 percent largest companies, as defined by market value of equity. The Low, Medium and High categories contain the companies with a book-to-market ratio belonging to, the lowest three deciles; the four deciles between the third and seventh decile; and top three deciles respectively. According to these principles the portfolios are rebalanced on the last day of June each year. Each of these six portfolios are value weighted, where the total market value of the portfolio, as well as the individual securities market value, is measured at the day the portfolios are to be created, i.e. the last day of June each year.

In order to obtain the Fama and French's zero cost factor portfolios, SMB and HML, the following formula is then used:

$$SMB_t = \frac{(S/L_t + S/M_t + S/H_t)}{3} - \frac{(B/L_t + B/M_t + B/H_t)}{3}$$

$$HML_t = \frac{(S/H_t + B/H_t)}{2} - \frac{(S/L_t + B/L_t)}{2}$$

The zero-cost SMB portfolio is thus created by taking a long position in the three portfolios containing small companies and a short position in the three portfolio containing large companies. The creation of the HML portfolio is done in a similar manner, by taking a long position in the two portfolios containing high book-to-market stocks and a short position in the two portfolios with low book-to-market securities. Within the HML and SMB portfolios the underlying portfolios are equally weighted, in accordance with Fama and French (1993).

Our own zero-investment portfolios are created by taking a long position in firms with a high turnover, which simply is defined as whether they have changed manager sometime during the last period; conversely a short position in the companies with a low turnover is taken, that is all companies which have not changed CEO or chairman of the board during the last period. We create a zero-cost portfolio where we only consider the CEO turnover; one where we only take into account chairman turnover; and one portfolio which is a combination of both CEO and chairman turnover, i.e. where the company is seen as a turnover company whenever they have changed CEO or chairman during the last period. The securities in these portfolios are then weighted, both equally and according to market capitalization[7]; also, just as the Fama-French factors, the portfolios are rebalanced in June each period. The reason for constructing the portfolios to contain companies that changed CEO or chairman the last period, rather than the period in question, is that, in this way one can be sure to capture the effect from discontinuity in leadership, which could be absent in the former period if the resignation takes place in the end of the period. Hence, one should be able to construct these portfolios using ex post information. See Table 2 for a summary of the number of turnover companies in each period, as well as the number of companies used each year to construct the HML and SMB portfolios.

+ + + Please insert TABLE 2 about here + + +

After constructing these portfolios standard ordinary least squares (henceforth OLS) regressions are conducted with the return of our zero-cost turnover portfolios as the dependent variable and the F-F portfolios as the independent variables. From these regressions any significant intercepts, or alphas, would indicate some unexplained variation in the returns of our portfolios.

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[7] i.e. we conduct tests on both equally weighted and value weighted portfolios.

The Fama-MacBeth Regression

Due to the complicated nature of the method developed by Fama and MacBeth (1973), we felt there ought to be a short section describing how this regression is performed. However, since the regression is performed mostly to support the other results obtained, and is not to be seen as the main test conducted in this study, a longer description of the regression is outside the scope of this article. These regressions will be performed with daily excess returns as the dependent variable and the logarithm of market-to-book[8] ratio, the logarithm of market value of equity and a dummy variable indicating various turnover events as the independent variables.

In essence the two-step procedure runs as follows; in the first step, cross-sectional regressions are performed for each time period on the chosen independent variables. In the second step, one obtains the final coefficient for the variables by taking the average of the coefficients obtained in the first step. One of the advantages of this approach is that it avoids the problem of having different amounts of observations in different periods, since the coefficients are obtained as an average of the coefficients of the different time periods, irrespective of the number of observations in each period. Thus, one avoids, for example, the bias that might arise as a result of having much more observations in later time periods. As a result, the model allows for tests on samples where companies are not in the sample for the whole studied time period, i.e. the number of observation differs in each time period. However, this is not a large problem for this study, considering that the sample consist of approximately 300 companies each year – although not exactly the same unique companies each year.

IV. Results and Analysis

This section of the article aims to present the results obtained from the various regressions and tests conducted in order to validate the earlier stated hypotheses. The section will be divided into two separate parts, one related to the results obtained from the event study and one related to the results of the regressions performed on the different managerial turnover based portfolios. Each of these subsections will be structured in the following manner: The results will be presented and described thoroughly in order to clarify to the reader the overall results of the study, this is followed by an in

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[8] This is essentially the same thing as using book-to-market ratio (as in the F-F Model), the only difference is that the signs of the coefficient will be the opposite.

depth analysis aiming to break up the topic into smaller parts, in order to gain a better understanding of the research area and its consequences.

Event Study

Results

The following subsection presents the results obtained when testing Hypothesis 1(a)-1(c). The aim is to clarify whether significant evidence can be presented, supporting or rejecting the hypothesis, i.e. to determine whether abnormal returns surrounding the event day is present or not.

+ + + Please insert TABLE 3 about here + + +

The results of the event study based on CEO resignation are presented in Table 3. As can be seen in the table, the mean abnormal returns on the event days – as well as the average cumulative abnormal returns surrounding the event days – are consistently negative. The average abnormal daily return on the event day ranges from –0.76 percent to –0.54 percent depending on how normal returns are defined; furthermore, the results for the mean abnormal return on the event day are all significant at the five percent significant level. In addition to the statistical significance of the findings being high, there is also a considerable level of economical significance with a geometric monthly return ranging between –14.80 percent and –10.75 percent[9] when studying the average abnormal return on the event day. With respect to the cumulative abnormal returns, in addition to all being significant at the five percent significance level and economically significant, they are all uniformly negative. They range from –2.38 percent to –1.54 percent, for the seven day period surrounding and containing the day of the event, depending on the method used in order to determine normal returns. Overall, the results from the event study conducted on CEO turnover and its relationship to abnormal returns indicate a negative correlation, which is both statistically and economically significant.

+ + + Please insert TABLE 4 about here + + +

Observing the results presented in Table 4, relating abnormal stock return measures to chairman of the board turnover, one finds mixed evidence regarding the stock market's reaction. The mean abnormal returns on the event day are all negative, but far from significant at any commonly accepted significance level (the most significant having a p-value of 16.0 percent).

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[9] It is assumed that there are 21 trading days per month.

Considering the results for the cumulative abnormal return measures, they also display negative coefficients; however, worth noting is the dispersion of significance levels related to the different cumulative abnormal return measures, both with respect to period and normal return definition. When assuming an alpha of zero and a beta of one, i.e. using the OMXS30 return as normal return, none of the average abnormal return measures are even close to being significant at an acceptable level. This is in large contrast to the p-values obtained when using the historical mean of each stock as a proxy for normal return, which are all significant at the five percentage level – except for the, as previously mentioned, abnormal return on the event day. What however is uniform across all the observations is the economical significance of the abnormal returns, irrespective of period and normal return definition used. As an example, the three-day average cumulative abnormal return ranges between –5.62 percent and –2.56 percent when the geometric monthly return is calculated. The overall conclusion is thereby that abnormal returns relating to chairman of the board turnover are insignificant with some exceptions, rendering an interpretation of the economical significance as redundant.

+ + + Please insert TABLE 5 about here + + +

In Table 5, the results for management, i.e. chairman of the board and/or CEO turnover are presented. A negative relationship between abnormal returns and management turnover is evident. The average abnormal return on the event day ranges from –0.51 percent to –0.33 percent, depending on the measure used, and are all statistically significant at the ten percent level. This yields a geometric monthly return ranging between –10.18 percent and –6.71 percent, which must be seen as highly significant in economical terms. In addition, all of the average cumulative abnormal return measures for management turnover are significant at the five percent level. The average cumulative abnormal return representing the seven day interval including the event day ranges from –1.70 percent to –0.90 percent, both of which are significant at a one percent level of significance. Hence, there is an obvious negative relationship between various average abnormal return measures and management resignation, which also is statistically significant.

Analysis

As described above the aim of this analysis is to investigate the relationship between a turnover event and abnormal stock returns. As can be seen in Table 3-5 and is described above, irrespective of event and normal return measure used, the average abnormal return surrounding a turnover event is negative. These findings are surprisingly uniform in contrast to previous literature, which have

shown both positive and negative abnormal returns surrounding top executive turnover (Furtado and Karan, 1990). However, some deviation in significance of the results is apparent. Overall, chairman of the board turnover events have a much lower level of statistical reliability than those of CEO or management turnover. There could be several reasons for this finding; the fact that the CEO is the one with a direct responsibility for the daily operations makes his resignation a substantial event for a company, something supported by among others, Huson et al. (2001) and Beatty and Zajac (1987). If we also consider the fact that it was more troublesome to find the date of announcements regarding chairman resignation when sampling our data, i.e. the media coverage surrounding a CEO resignation is much larger than for a chairman event, one could draw the conclusion that a CEO resignation is a more significant occasion than the chairman resignation. This is also supported by the fact that companies tend to publish a separate press release when a CEO resigns, something rarely done when a chairman resigns. Thus, it should not come as a surprise that the CEO turnover events, which are more momentous, presumably have a larger effect on the market and are accompanied by more significant results.

Furthermore, as already mentioned the CEO has a responsibility for the daily operations and hence a partly short-term perspective. When it comes to responsibility for the long-term perspective, this is often seen as the board's and thereby the chairman's duty. Hence, the board has a larger focus on the vision and strategy of the company than the CEO. The CEO's responsibility, on the other hand, lies in the implementation of this long-term strategy. In addition, the fact that there are many decision makers on a board apart from the chairman – and that the chairman only has a limited possibility to influence the company due to the nature of board meetings, which are only held on an occasional basis – makes the chairman's possibility to influence the company on the short-term very small. These facts together could suggest that one should see a larger effect on the short term when studying CEO turnover, i.e. a more severe stock market reaction to CEO turnover than chairman events. Judging by the results, it seems as if the market attaches greater importance to a CEO than a chairman, since a disruption of stability is more severely punished by the capital markets. Thus, the results imply that the CEO is considered to be more important for the leadership of a company than the chairman by the capital markets. The overall indication is that the market either reacts negatively to turnover, i.e. break of stability, or that some other information is revealed.

Despite the purpose of this paper not being to neither reject nor confirm the EMH, a comment regarding the relation between the results found and previous theories regarding the EMH

can be informative. Since the results suggest a severe reaction from the financial markets when the new information, in this case resignation information, is announced, the markets seem at first sight to function well. Hence, the efficient market hypothesis, depicting a market reacting to new information first when it becomes public, cannot be rejected based on the results found in this study. However, when looking at the different measures of abnormal returns surrounding the chairman events it is evident that the abnormal returns on the event day are not significant. The cumulative abnormal returns on the other hand are to some extent significant. This could indicate a situation where the market has a problem with incorporating information regarding chairman turnover. Thus, either the market cannot obtain this information as easy as the equivalent CEO information, or that the information already has been distributed to some investors – implying lower abnormal returns surrounding the event day – in which case this would be seen as evidence against the EMH.

Relating the findings to the theories regarding corporate governance and agency theory described above, yields slightly contradicting results. Since it is not clear whether turnover is accompanied by effective or ineffective corporate governance, the implications of the negative stock returns, surrounding the event days, cannot easily be determined. The negative returns could either be seen as evidence of the market acknowledging the company having worse corporate governance than previously anticipated, or evidence of the markets opposing opinion regarding what is to be seen as appropriate action in order to obtain effective corporate governance.

To conclude, when analyzing the results regarding managerial turnover, the evidence is relatively clear in that such turnover is accompanied by negative stock market returns. This gives an overall indication that the market can be seen as reacting negatively to turnover, i.e. break of stability. The results found in the event study heavily reject Hypotheses 1(a) and 1(c), since abnormal returns surrounding the event days are found, which are both statistically and economically significant. However, hypothesis 1(b), regarding abnormal returns resulting from chairman of the board turnover, cannot be rejected to the same extent. The market reacts to a larger extent, looking at average abnormal returns, to CEO than chairman or overall management turnover; indicating some kind of difference in appraisal regarding leadership, and the disruption of stability the turnover events give rise to.

In order to make the event study more robust and reliable, several actions, as described in the methodology section above, are taken. Primarily, three entirely different methodological approaches

are used in order to determine the normal return of an observation. Hence, the clear evidence of a negative relationship between turnover and stock performance, irrespective of benchmark used, adds to the trustworthiness of the presented results. In addition, the benefit of using four different event windows is that it generates stronger evidence of abnormal returns surrounding the turnover event. Furthermore, two different samples have been used, one including and one excluding extreme outliers, as defined as above. Including extreme outliers yields results fairly well in line with those presented above, the main difference being somewhat weaker results for the cumulative abnormal return measures.

All in all the tests conducted using varying methodological approaches give faith to the results and their consequences.

Asset Pricing

Results

The following subsection aims to test Hypothesis 2(a)-2(c), i.e. to determine whether the returns from various turnover measures can be explained by the F-F Model. These hypotheses are operationalized by using the two methodological approaches presented above. Hence, the results from both regressing the turnover portfolios on the F-F factors, and the Fama-MacBeth regressions will be presented in the following subsection.

+ + + Please insert TABLE 6 about here + + +

The results from regressing the zero-investment equally weighted CEO turnover portfolio on the market excess return and the zero cost portfolios HML and SMB, i.e. the Fama and French factors, are presented in Table 6. The constant obtained from the regression is negative and statistically significant at the one percent significance level. With respect to the economical significance, the constant yields an annualized geometric return equaling –9.87 percent, which clearly is significant. The F-F factors, all have negative coefficients, but none of them are statistically or economically significant. Worth noting is the low level of both R-squared equaling 0.0367, implying that only 3.67 percent of the variation in the dependent variable is explained by the variation in the independent variables. Furthermore, the F-statistic is only 0.98 thus it cannot be rejected that all explanatory variables are jointly equal to zero. The overall conclusion that can be drawn is that all coefficients are negative, but only the constant is significant. The fact that SMB is not statistically

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significant at any acceptable level might not come as a surprise, since research on later data has shown that the size effect vanished after it was discovered (Black, 1993).

+ + + Please insert TABLE 7 about here + + +

The results presented in Table 7 are obtained by regressing the chairman of the board turnover portfolio on the F-F factors. As can be seen in the table, only the constant is negative, as opposed to the market excess return, HML and SMB portfolios which are all positive. The constant, in addition to being statistically significant at the five percent and almost at the one percent level, has a coefficient of –0.78 percent, implying an economically significant annualized geometric return of –8.97 percent. Worth noting is that the only coefficients significant at any reasonable significance level is the constant and the HML. The other coefficients have t-statistics ranging from 0.51 to 1.08, i.e. not even close to any acceptable significance level. However, the F-statistic, which tests if the independent variables jointly are different from zero, equals 2.38 (p-value of 7.29 percent) implying that the independent variables together have an explanatory value at the ten percent significance level. However, the overall conclusion is that the coefficients are of mixed signs and that only the constant and the HML portfolio coefficients are significantly different from zero.

+ + + Please insert TABLE 8 about here + + +

The results from the regression performed on the entire sample, i.e. both CEOs and chairmen of the board, yields negative coefficients on the constant and SMB variable, and are presented in Table 8. The only statistically significant coefficient is the constant, yielding a t-statistic of –3.09, i.e. significant on one percent significance. All of the other variables are far from significant. Regarding the economical significance, the constant must be seen as highly significant. It yields an annualized geometric return of –10.03 percent obtained from the monthly return of –0.877 percent. Hence, the only significant coefficient is attributable to the constant, with the F-F factors having no explanatory value. This is reinforced with the low levels of R-squared equaling 0.0474 and the F-statistic of 1.11.

+ + + Please insert TABLE 9 about here + + +

In Table 9 are presented, the results obtained from the Fama and MacBeth regression performed with daily excess return as the dependent variable; the independent variables being, the logarithm of market value; the logarithm of the MtBV; and a dummy equaling one for CEO turnover events. Both the CEO and market value variable coefficients are negative whereas the

opposite holds true for MtBV and the intercept. All values are significantly different from zero at acceptable levels except for the constant. Thus, the results obtained supports the earlier results since the turnover dummy can be said to be both economically, as well as statistically, significant. Hence, the results are relatively mixed with respect to statistical and economical significance, as well as with respect to the sign of the coefficients.

+ + + Please insert TABLE 10 about here + + +

The results from the Fama-MacBeth regression when replacing the CEO turnover dummy with a chairman of the board turnover dummy are presented in Table 10. The only coefficients significant at the ten percent level are the logarithmic MtBV and logarithm of the market value. With respect to economic significance, only the constant ought to be seen as significant. Hence, mixed results with respect to all evaluation criteria are found.

+ + + Please insert TABLE 11 about here + + +

In Table 11 the results are presented from the Fama-MacBeth regression using management turnover as the dummy variable. The dummy and size variables both have negative coefficients, whereas the opposite holds true for the coefficient of MtBV and the constant respectively. Only the logarithm of market value and logarithm of MtBV are statistically significant at ten percent significance. The only economically significant value is however attributable to the constant, having a coefficient of 0.096 percent yielding a monthly geometric return of 2.03 percent.

Analysis

The aim of this analysis is, as described above, to determine whether the F-F factors and their underlying measures explains all of the return attributable to portfolios based upon managerial turnover. As can be seen in Table 6-8, the constant is both statistically and economically significant irrespective of which turnover portfolio that is used. This gives clear evidence rejecting Hypotheses 2(a)-2(c), namely that the return of zero-cost portfolios formed on managerial turnover is explained by the F-F factors. Since the regressions yield alphas significantly different from zero, abnormal returns could be realized assuming the F-F Model captures all of the risk inherent in these portfolios. However, another explanation could be that there are some additional risk factors, like the stability of leadership, which the model currently not controls for. Hence, it can be proposed that the F-F

Model is not sufficient when it comes to accounting for all variance in returns related to the turnover portfolios or that the market wrongly prices such portfolios.

If the negative alphas are due to mispricing, a strategy based on constructing zero-cost portfolios taking long positions in high turnover firms from previous year and a short position in firms which did not change CEO and/or chairman of the board the previous year, yield a negative monthly excess return ranging from –0.88 percent to –0.78 percent. This transforms into a geometric annualized return of high economical significance, ranging between –9.95 percent and –8.86 percent.

When it comes to the F-F factors, they are all negative when having the CEO turnover portfolio as dependent variables, whereas none of the coefficients are negative when chairman of the board turnover is regressed. However, the coefficients for the HML, SMB and market excess return obtained from the chairman regression are positive which implies that the return of the chairman turnover portfolio increases as the return of our two factor portfolios (SMB and HML) increases. A negative coefficient implies the opposite, i.e. that returns are negatively correlated with the given factor.

Additionally, worth noting are the very low levels of statistical significance accompanied with the F-F Factors. This implies very low levels of explanatory value attributable to these variables. This is also something supported by the R-squared values which give an indication of low levels of explanatory value – i.e. the model only explains a small amount of variation in our portfolios. A slight counter argument, pointing out the relevance of the F-F factors, are the values obtained from the F-statistic, implying some statistically significant results, which indicates that the independent variables are not jointly equal to zero. However, the only regression depicting results significant at generally acceptable levels of significance is the regression of the chairman turnover portfolio, yielding an F-statistic of 2.38. In line with the overall low levels of economic significance attributable to the F-F factors, the results found here indicate a low explanatory value related to these factors, something contradicting much previous research (see for example; Fama and French, 1996). Given the purpose of this paper and the fact that the factors are statistically insignificant makes a thorough discussion of the economical impact of these variables redundant.

Comparing the evidence between the different portfolios, the results indicate more significant and negative coefficients attributable to the constants when regressing the management portfolios,

than the CEO and chairman of the board portfolios, on the F-F factors. However, the difference between the constants is not very large with respect to absolute value or level of significance. Hence, the issue of mispricing can be seen as equally apparent irrespective of turnover measure studied. This finding slightly contradicts the research presented in the event study, where the market was proven to attain less value to information regarding management and chairman of the board turnover than CEO turnover. Hence, what is observed could be that, since the portfolios are constructed once a year, the full effect of chairman of the board turnover events can be captured since investors are able to obtain the relevant information.

In order to determine whether firm specific characteristics, such as market value of equity, can explain individual stock performance, Fama-MacBeth regressions are conducted. When regressing the fundamentals underlying the F-F Model, i.e. market value of equity and market-to-book ratio and a dummy indicating whether any turnover event has been enacted, confirming and opposing evidence to the prior results are found. The dummy indicating turnover is significantly different from zero for the CEO turnover factor, as opposed to the other managerial factors used, at generally acceptable levels of significance. The negative coefficient corresponding to this turnover measure confirms the evidence presented above, namely that there are negative returns associated with the day of announcement of a CEO change. Extending the analysis to the other factors also yields mixed results. The size factor, i.e. market value of equity, is statistically, however not economically significant, implying low impact of size on stock returns – which, as previously discussed, is in line with Black's (1993) findings. When it comes to the MtBV factor, the results contradicts Fama and French's (1993) results, attaining lower returns to firms with low MtBV, i.e. high BtMV.

Taking into account the presented results and the analysis above, clear evidence of unexplained returns are found. The returns are lower for high turnover firms than for low turnover firms, when controlling for the F-F factors. The obvious question rising, if the F-F Model is assumed to hold, is why investors are not exploiting this pricing error in order obtain abnormal returns. Hence, evidence of market inefficiencies may be apparent, which could be due to several reasons. One reason could be transaction cost; Carhart (1997), for example, finds evidence proving the momentum effect not exploitable, when taking into account transaction costs. Furthermore, in order for the market to exploit such arbitrage, liquidity is an important part and perhaps an issue of concern for this study. Looking at our sample, there is some evidence raising concerns regarding the liquidity of certain securities – this can mainly be attributed to some of the small companies listed on

NGM – an issue that could have an effect on why the apparent arbitrage has not been exploited. The liquidity concern however, does not hold for the great majority of companies in the sample, since most are highly liquid, thereby easing the possibility to exploit potential arbitrage. However, as discussed above, some limits to arbitrage do prevail in the financial markets, something possibly explaining anomalies – such as the ones found in this paper.

If the alphas are not an indication of an anomaly this would suggest that the F-F Model does not capture all risk relevant in determining stock returns. What risk the portfolios are acting as a proxy for ought to be related to some kind of measure linked to the company's leadership such as well functioning corporate governance and consistency. However, since the portfolios with high turnover yields lower risk adjusted returns than those with low turnover this would imply that low turnover portfolios are riskier, a conclusion we find contradictory.

To conclude, the results obtained from the various regressions presented in this subsection, presents clear evidence rejecting Hypothesis 2(a)-2(c). This statement is based on the findings of both statistically and economically significant alphas when regressing the zero-cost turnover portfolios on the F-F factors. This evidence is somewhat reinforced with the statistically significant coefficient related to CEO turnover events, obtained from the Fama-MacBeth (1973) regressions. Hence, risk adjusted excess returns can be obtained from strategies built on various turnover portfolios, thereby giving reason to question the F-F Model and the theories presented regarding the degree of market efficiency prevailing in the financial markets.

+ + + Please insert TABLE 12 about here + + +

In order to increase the robustness of the presented results, several actions are taken; primarily, the zero-cost portfolios based on management turnover presented above were constructed by equally weighting the returns from each company underlying the portfolio. However, regressions have also been conducted using value weighted turnover portfolios. The results from such an analysis are presented in Table 12. As can be seen, such a change in methodology, yields results not in line with those discussed above; the constants are no longer statistically significant. Overall the results for the F-F factors, both with respect to the sign of the coefficient and the statistical significance are mixed. However, it must be recognized that the F-F Model has a higher explanatory value for these portfolios, than when using the equally weighted portfolios. This is also something recognized in the much higher R-squares and the uniformly higher p-values, with respect to the F-

statistics, obtained from the regression using the value weighted portfolios. Hence, evidence giving some support to the explanatory value of the F-F Model is given by these results. However, proposing that this would render out the prior results would be harsh, partly due to the results obtained from the Fama-MacBeth regression and partly due to the highly significant results obtained when regressing the equally weighted portfolios.

To further increase the robustness of our results, the Fama-MacBeth regression have been conducted by only logarithmically scaling the market value, which overall lead to results confirming the prior. The dummy variable depicting CEO turnover and management turnover are both economically and statistically significant. This is in contrast to the prior findings, which prove slightly weaker evidence. The F-statistics, as well as R-squares, obtained from the regressions are however quite similar to the ones obtained when using solely logarithmic scaling.

Finally, the Fama-MacBeth regressions have been used on a sample where the dummy variable, indicating turnover, is stretched one week, i.e. the dummy is equal to one for the seven day period following the event day. The rationale behind this course of action is that it takes into account a situation where the market is slow to react to the new information. The results obtained from these regressions are in line with the other results obtained from Fama-MacBeth regressions in this paper.

V.   Discussion & Conclusion

The purpose of this article has been to study the relationship between managerial turnover and stock returns. Dividing the article into two main parts; an event study – intending to ascertain whether turnover events are accompanied by abnormal stock returns – and an analysis trying to determine whether the returns of portfolios based on managerial turnover are in line with what the F-F Model would predict.

Results found in this article indicate that there are negative abnormal returns related to the different turnover events. The reason proposed in this article is that the stock market reacts negatively to news related to disruption of leadership stability, or that the announcement is signaling information regarding the quality of the firm. Furthermore, this study proves that risk adjusted abnormal returns can be realized, i.e. indicating that there either exists an anomaly or that the F-F Model is missing some risk factor important in determining stock returns.

As discussed in the article, there are some issues of concern when it comes to analyzing the effect of leadership turnover. Previous research can mainly be divided into two categories, those proposing that turnover depends on stock performance and those trying to explain stock returns with turnover as the explanatory variable. The problem with an unclear causality is mainly an issue for the event study conducted, since this would imply that the events themselves are dependent on the past stock returns of the company[10], i.e. the event is endogenous. However, even if this could be the case, there is nothing to suggest that the return on the event day, or the returns close to the event day are the ones causing the turnover event; the studies previously conducted looks at the relationship by examining the returns further back in time, which clearly has explanatory value in determining the likelihood of turnover – something we do not contradict. Nonetheless, if we assume that the other information revealed to the market on the event day is on average neutral, the only thing different on the event day compared to any other day is the news regarding the turnover. Hence, any abnormal returns on the event day could be said to be related to this event.

Whether this is due to the fact that turnover is actually capturing some real risk or only measures a signaling effect – it might be the case that turnover events are seen as signals indicating a *bad company* – is another story. Put simply, if a company is a *bad company* this ought to be reflected in the price of the stock, not in the return of the stock. As long as the turnover event does not reveal any additional information to the market no difference in firm value, i.e. no abnormal return ought to be observed. Hence, as long as the turnover event does not reveal the company being worse than previously perceived by the market, the negative abnormal return ought to be due to a reflection of the importance of leadership stability.

When it comes to the portfolios created based on leadership turnover, one might argue that turnover is dependent on past returns, and therefore that our tests of the F-F Model would be incorrect. However this argument fails to recognize two things; first of all, the same *bad company* argument described above holds for the turnover portfolios as well; secondly, the only thing this article proposes is that one can obtain abnormal returns by constructing portfolios based on different measures of managerial turnover, looking at prior period events. The fact that this yields an alpha statistically and economically different from zero is a proof of one out of two things; the first being, the F-F Model is incomplete and the turnover portfolios are characterized by a risk currently not incorporated; the second being, the portfolios are mispriced revealing an existing anomaly.

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[10] i.e. being inversely related to previous stock performance.

Hence in light of the discussion above, we argue that the results obtained in this article are both relevant and reliable.

To conclude, managerial turnover has an adverse effect on stock price. This can be seen looking at the returns surrounding the day of announcement of the resignation as well as by following a portfolio of such companies over a specified time period. This relationship can be determined with high reliability regarding CEO turnover; to a slightly less extent concerning management turnover; and to a relatively low extent with respect to the chairman of the board turnover. Finally, this article points out the relevance, and importance, of combining different research areas in the struggle of trying to understand and explain questions and phenomenon currently not fully appreciated.

References

Allen, M. P., Panian, S. K. and Lotz, R. E. (1979), "Managerial Succession and Organizational Performance: A Recalcitrant Problem Revisited", *Administrative Science Quarterly*, vol. 24, no. 2, pp. 167-180.

Banz, R. W. (1981), "The Relationship Between Return and Market Value of Common Stocks", *Journal of Financial Economics*, vol. 9, no. 1, pp. 3-18.

Barber, B. M. and Odean, T. (2001), "Boys Will be Boys: Gender, Overconfidence, and Common Stock Investment", *The Quarterly Journal of Economics*, vol. 116, no. 1, pp. 261-292.

Beatty, R. P. and Zajac, E. J. (1987), "CEO Change and Firm Performance in Large Corporations: Succession Effects and Manager Effects", *Strategic Management Journal*, vol. 8, no. 4, pp. 305-317.

Berle, A. A. and Means, G. C. (1932), *The Modern Corporation and Private Property*, New York: Macmillan.

Black, F. (1993), "Beta and Return", *Journal of Portfolio Management*, vol. 20, no. 1, pp. 8-18.

Black, F., Jensen, M. C. and Scholes, M. S. (1972), "The Capital Asset Pricing Model: Some Empirical Tests", in *Studies in the Theory of Capital Markets*. Jensen, M. C. (editor), New York: Praeger Publishers, pp. 79-121.

Boudoukh, J., Michaely, R., Richardson, M. and Roberts, M. R. (2007), "On the Importance of Measuring Payout Yield: Implications for Empirical Asset Pricing", *The Journal of Finance*, vol. 62, no. 2, pp. 877-915.

Brickley, J. A. (2003), "Empirical Research on CEO Turnover and Firm-Performance: A Discussion", *Journal of Accounting and Economics*, vol. 36, no. 1-3, pp. 227-233.

Brown, S. J., Goetzmann, W., Ibbotson, R. G. and Ross, S. A. (1992), "Survivorship Bias in Performance Studies", *The Review of Financial Studies*, vol. 5, no. 4, pp. 553-580.

Campbell, J. Y. and Cochrane, J. H. (1999), "By Force of Habit: A Consumption-Based Explanation of Aggregate Stock Market Behavior", *The Journal of Political Economy*, vol. 107, no. 2, pp. 205-251.

Carhart, M. M., (1997), "On Persistence in Mutual Fund Performance", *The Journal of Finance*, vol. 52, no. 1, pp. 57-82.

Chan, L. K. C., Karceski, J. and Lakonishok, J. (1998), "The Risk and Return from Factors", *The Journal of Financial and Quantitative Analysis*, vol. 33, no. 2, pp. 159-188.

Chen, N-F., Roll, R. and Ross, S. A. (1986), "Economic Forces and the Stock Market", *The Journal of Business*, vol. 59, no. 3, pp. 383-403.

Collins, J. (2001), "Level 5 Leadership", *Harvard Business Review*, vol. 79, no. 1, pp. 3-12.

Copeland, T. E. and Mayers, D. (1982), "The Value Line Enigma (1965-1978): A Case Study of Performance Evaluation Issues", *Journal of Financial Economics*, vol. 10, no. 3, pp. 289-321.

Coughlan, A. T. and Schmidt, R. M. (1985), "Executive Compensation, Management Turnover, and Firm Performance: An Empirical Investigation", *Journal of Accounting and Economics*, vol. 7, no. 1-3, pp. 43-66.

Cremers, K. J. M. and Nair, V. B. (2005), "Governance Mechanisms and Equity Prices", *The Journal of Finance*, vol. 60, no. 6, pp. 2859-2894.

Daily, C. M. and Dalton, D. R. (1995), "CEO and Director Turnover in Failing Firms: An Illusion of Change?", *Strategic Management Journal*, vol. 16, no. 5, pp. 393-400.

Dolley, J. C. (1933), "Characteristics and Procedure of Common Stock Split-Ups", *Harvard Business Review*, vol. 11, no. 3, pp. 316-326.

Fama, E. F. (1963), "Mandelbrot and the Stable Paretian Hypothesis", *The Journal of Business*, vol. 36, no. 4, pp. 420-429.

Fama, E. F. (1965), "Random Walks in Stock Market Prices", *Financial Analysts Journal*, vol. 21, no. 5, pp. 55-59.

Fama, E. F. (1980), "Agency Problems and the Theory of the Firm", *The Journal of Political Economy*, vol. 88, no. 2, pp. 288-307.

Fama, E. F. and French, K. R. (1992), "The Cross-Section of Expected Stock Returns", *The Journal of Finance*, vol. 47, no. 2, pp. 427-465.

Fama, E. F. and French, K. R. (1993), "Common Risk Factors in the Returns on Stocks and Bonds", *Journal of Financial Economics*, vol. 33, no. 1, pp. 3-56.

Fama, E. F. and French, K. R. (1996), "The CAPM is Wanted, Dead or Alive", *The Journal of Finance*, vol. 51, no. 5, pp. 1947-1958.

Fama, E. F. and French, K. R. (1997), "Industry Costs of Equity", *Journal of Financial Economics*, vol. 43, no. 2, pp. 153-193.

Fama, E. F. and MacBeth, J. D. (1973), "Risk, Return, and Equilibrium: Empirical Tests", *The Journal of Political Economy*, vol. 81, no. 3, pp. 607-636.

Fama, E. F., Fisher, L., Jensen, M. C. and Roll, R. (1969), "The Adjustment of Stock Prices to New Information", *International Economic Review*, vol. 10, no. 1, pp. 1-21.

Fama. E. F. (1970), "Efficient Capital Markets: A Review of Theory and Empirical Work", *The Journal of Finance*, vol. 25, no. 2, pp. 383-417.

Fristedt, D. and Sundqvist, S. (2003-2009), *Owners and Power in Sweden's listed Companies*, Stockholm: Dagens Nyheter.

Fristedt, D. and Sundqvist, S. (2005-2010), *Directors and auditors in Sweden's listed companies*, Stockholm: SIS Ägarservice.

Furtado, E. P. H. and Karan, V. (1990), "Causes, Consequences, and Shareholder Wealth Effects of Management Turnover: A Review of the Empirical Evidence", *Financial Management*, vol. 19, no. 2, pp. 60-75.

Gibbons, R. and Murphy, K. J. (1990), "Relative Performance Evaluation for Chief Executive Officers", *Industrial and Labor Relations Review*, vol. 43, no. 3, pp. 30S-51S.

Graham, J. R. and Harvey, C. R. (2001), "The theory and practice of corporate finance: evidence from the field", *Journal of Financial Economics*, vol. 60, no. 2-3, pp 187-243.

Grossman, S. J. and Stiglitz, J. E. (1980), "On the Impossibility of Informationally Efficient Markets", *The American Economic Review*, vol. 70, no. 3, pp. 393-408.

Grusky, O. (1963), "Managerial Succession and Organizational Effectiveness", *The American Journal of Sociology*, vol. 69, no. 1, pp. 21-31.

Holmström, B. H. and Tirole, J. (2001), "LAPM: A Liquidity-Based Asset Pricing Model", *The Journal of Finance*, vol. 56, no. 5, pp. 1837-1867.

Huberman, G. (1982), "A Simple Approach to Arbitrage Pricing Theory", *Journal of Economic Theory*, vol. 28, no. 1, pp. 183-191.

Huson, M. R., Parrino, R. and Starks, L. T. (2001), "Internal Monitoring Mechanisms and CEO Turnover: A Long- Term Perspective", *The Journal of Finance*, vol. 56, no. 6, pp. 2265-2297.

Jagannathan, R. and Wang, Z. (1996), "The Conditional CAPM and the Cross-Section of Expected Returns", *The Journal of Finance*, vol. 51, no. 1, pp. 3-53.

Jegadeesh, N. and Titman, S. (1993), "Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency", *The Journal of Finance*, vol. 48, no. 1, pp. 65-91.

Jensen, M. C. and Meckling, W. H. (1976), "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure", *Journal of Financial Economics*, vol. 3, no. 4, pp. 305-360.

Kahneman, D. and Tversky, A. (1979), "Prospect Theory: An Analysis of Decision under Risk", *Econometrica*, vol. 47, no. 2, pp. 263-291.

Kang, D. L. and Sörensen, A. B. (1999), "Ownership Organization and Firm Performance", *Annual Review of Sociology*, vol. 25, pp. 121-144.

Kaplan, S. N. (1994), "Top Executives, Turnover, and Firm Performance in Germany", *Journal of Law, Economics, & Organization*, vol. 10, no. 1, pp. 142-159.

Keane, S. M. (1986), "The Efficient Market Hypothesis on Trial", *Financial Analysts Journal*, vol. 42, no. 2, pp. 58-63.

Keim, D. B. (1983), "Size-Related Anomalies and Stock Return Seasonality: Further Empirical Evidence", *Journal of Financial Economics*, vol. 12, no. 1, pp. 13-32.

Korajczyk, R. A. and Viallet, C. J. (1989), "An Empirical Investigation of International Asset Pricing", *The Review of Financial Studies*, vol. 2, no. 4, pp. 553-585.

Kothari, S. P., Shanken, J. and Sloan, R. G. (1995), "Another Look at the Cross-Section of Expected Stock Returns", *The Journal of Finance*, vol. 50, no. 1, pp. 185-224.

Lausten, M. (2002), "CEO Turnover, Firm Performance and Corporate Governance: Empirical Evidence on Danish Firms" *International Journal of Industrial Organization*, vol. 20, no. 3, pp. 391-414.

Lettau, M. and Ludvigson, S. (2001), "Resurrecting the (C)CAPM: A Cross-Sectional Test When Risk Premia Are Time-Varying", *The Journal of Political Economy*, vol. 109, no. 6, pp. 1238-1287.

Lettau, M. and Ludvigson, S. (2001), "Resurrecting the (C)CAPM: A Cross-Sectional Test When Premia Are Time-Varying", *The Journal of Political Economy*, vol. 109, no. 6, pp. 1238-1287.

Lieberson, S. and O'Connor, J. F. (1972), "Leadership and Organizational Performance: A study of Large Corporations", *American Sociological Review*, vol. 37, no. 2, pp. 117-130.

Lintner, J. (1965), "The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets", *The Review of Economics and Statistics*, vol. 47, no. 1, pp. 13-37.

Lintner, J. (1965b), "Security Prices, Risk, and Maximal Gains From Diversification", *The Journal of Finance*, vol. 20, no. 4, pp. 587-615.

Lorsch, J. W. and Clark, R. C. (2008), "Leading from the Boardroom", *Harvard Business Review,* vol. 86, no. 4, pp. 104-111.

Lucas Jr, R. E. (1978), "Asset Prices in an Exchange Economy", *Econometrica*, vol. 46, no. 6, pp. 1429-1445.

MacKinlay, A. C. (1997), "Event Studies in Economics and Finance", *Journal of Economic Literature*, vol. 35, no. 1, pp. 13-39.

Markowitz, H. (1952), "Portfolio Selection", *The Journal of Finance*, vol. 7, no. 1, pp. 77-91.

Mossin, J. (1966), "Equilibrium in a Capital Asset Market", *The Econometric Society*, vol. 34, no. 4, pp. 768-783.

Murphy, K. J. and Zimmerman, J. L. (1993), "Financial Performance Surrounding CEO Turnover", *Journal of Accounting and Economics*, vol. 16, no. 1-3, pp. 273-315.

Perrow, C. (1986), *Complex organizations: A critical essay*. New York: McGraw-Hill.

Porter, M. E. (2008), "The Five Competitive Forces That Shape Strategy", *Harvard Business Review*, vol. 86, no. 1, pp. 78-93.

Roll, R. (1977), "A Critique of the Asset Pricing Theory's Tests Part I: On Past and Potential Testability of the Theory", *Journal of Financial Economics*, vol. 4, no. 2, pp. 129-176.

Roll, R. and Ross, S. A. (1980), "An Empirical Investigation of the Arbitrage Pricing Theory", *The Journal of Finance*, vol. 35, no. 5, pp. 1073-1103.

Ross, A. R. (1976), "The Arbitrage Theory of Capital Asset Pricing" *Journal of Economic Finance*, vol. 13, no. 3, pp. 341-360.

Ross, S. A. (1971), "*Portfolio and Capital Market Theory with Arbitrage Preferences and Distributions – The General Validity of the Mean-Variance Approach in Large Markets*", Working paper, University of Pennsylvania, The Wharton School.

Samulson, P. A. (1965), "Proof That Properly Anticipated Prices Fluctuate Randomly", *Industrial Management Review*, vol. 6, no. 2, pp. 41-19.

Sharpe, W. F. (1964), "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk", *The Journal of Finance*, vol. 19, no. 3, pp. 425-442.

Shleifer, A. and Vishny, R. W. (1997), "A Survey of Corporate Governance", *The Journal of Finance*, vol. 52, no. 2, pp. 737-783.

Shleifer, A. and Vishny, R. W. (1997), "The Limits of Arbitrage", *The Journal of Finance*, vol. 52, no. 1, pp. 35-55.

Stehle, R. (1977), "An Empirical Test of the Alternative Hypotheses of National and International Pricing of Risky Assets", *The Journal of Finance*, vol. 32, no. 2, pp. 493-502.

Sundin, A. and Sundqvist, S. (1998-2002), *Owners and Power in Sweden's listed Companies*, Stockholm: Dagens Nyheter.

Trecartin Jr, R. R. (2000),"The Reliability of the Book-to-Market Ratio as a Risk Proxy", *Financial Services Review*, vol. 9, no. 4, pp. 361-373.

Useem, M. (2006), "How well-run boards make decisions", *Harvard Business Review*, vol. 84, no. 11, pp. 130-138.

Wagner, W. G., Pfeffer, J. and O'Reilly III, C. A. (1984), "Organizational Demography and Turnover in Top-Management Group", *Administrative Science Quarterly*, vol. 29, no. 1, pp. 74-92.

Warner, J. B., Watts, R. L. and Wruck, K. H. (1988), "Stock Prices and Top Management Changes", *Journal of Financial Economics*, vol. 20, no. 1-3, pp. 461-492.

Weiner, N. and Mahoney, T. A. (1981), "A Model of Corporate Performance as a Function of Environmental , Organizational , and Leadership Influences", *The Academy of Management Journal*, vol. 24, no. 3, pp. 453-470.

Weisbach, M. S. (1988), "Outside Directors and CEO Turnover", *Journal of Financial Economics*, vol. 20, no. 1-2, pp. 431-460.

Appendix

Table 1: Summary Statistics for the Event Study

This table reports the number of turnover events that have been examined each year for the sample of Swedish listed firms. It also contains the number of listed companies that have been followed.

Year	1998[11]	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Total
No. of Companies	335	374	381	365	344	331	322	328	337	328	326	307	588[12]
CEO Events	1	53	71	58	68	60	45	39	54	55	36	12	552
Chairman Events	2	39	48	53	60	47	42	43	50	56	32	30	502
Management Events	3	84	110	107	117	100	85	75	102	106	67	40	996

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[11] The reason 1998 is in the data is that we started following the managerial turnover from 1999. However, some of the announcements, for the changes in 1999, was made late in year 1998.

[12] This is the number of unique companies covered during the eleven year period.

Table 2: Summary Statistics for Managerial Turnover Portfolios

This table reports the number of companies constituting the long position in the zero-cost portfolios created. It also reports the total number of companies followed each period, i.e. the size of the sample from which SMB and HML has been constructed. Comparing to Table 1 it can be seen that there is a quite large difference in the total amount of companies covered, this is due to the fact that Datastream does not report MV and MtBV for all companies in our sample.

Period	1	2	3	4	5	6	7	8	9	10
Corresponding years	1999/ 2000	2000/ 2001	2001/ 2002	2002/ 2003	2003/ 2004	2004/ 2005	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 20009
CEO Portfolio	19	51	42	54	50	32	32	41	39	40
Chairman Portfolio	21	37	39	52	41	36	33	39	54	33
Management Portfolio	38	70	68	85	80	63	53	63	78	67
No. of. Companies	280	297	292	291	276	274	282	282	290	280

Table 3: Hypothesis 1(a) – Event: CEO Turnover

This table describes the results from the event study conducted on CEO turnover events. The event study is conducted on the entire sample except the extreme outliers. The sample period is between 1998 and 2009. The two-sided t-tests determine whether the average abnormal returns are significantly different from zero. The coefficients are on a daily basis.

Simple and Cumulative Abnormal Returns (Normal Returns Determined by CAPM)

	Obs.	Mean	Std. Err.	t-stat	P(|T|>|t|)	95 % Conf. Interval	
AR	463	−0.00736	0.00286	−2.574	0.010	−0.01298	−0.00174
CAR(1,1)	433	−0.00801	0.00377	−2.123	0.034	−0.01542	−0.00059
CAR(2,2)	422	−0.01230	0.00462	−2.664	0.008	−0.02138	−0.00322
CAR(3,3)	414	−0.01538	0.00509	−3.024	0.003	−0.02538	−0.00538

Simple and Cumulative Abnormal Returns (Normal Return Determined by Historical Mean)

	Obs.	Mean	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
AR	463	−0.00760	0.00234	−3.242	0.001	−0.01220	−0.00299
CAR(1,1)	433	−0.01323	0.00351	−3.771	0.000	−0.02012	−0.00633
CAR(2,2)	422	−0.01768	0.00400	−4.420	0.000	−0.02554	−0.00982
CAR(3,3)	414	−0.02384	0.00472	−5.047	0.000	−0.03313	−0.01456

Simple and Cumulative Abnormal Returns (Normal Return Determined by OMXS)

	Obs.	Mean	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
AR	463	−0.00537	0.00235	−2.280	0.023	−0.01000	−0.00074
CAR(1,1)	433	−0.00781	0.00341	−2.292	0.022	−0.01450	−0.00111
CAR(2,2)	422	−0.01066	0.00379	−2.814	0.005	−0.01811	−0.00321
CAR(3,3)	414	−0.01621	0.00429	−3.780	0.000	−0.02464	−0.00778

Table 4: Hypothesis 1(b) – Event: Chairman of the Board Turnover

This table describes the results from the event study conducted on chairman of the board turnover events. The event study is conducted on the entire sample except the extreme outliers. The sample period is between 1998 and 2009. The two-sided t-tests determine whether the average abnormal returns are significantly different from zero. The coefficients are on a daily basis.

Simple and Cumulative Abnormal Returns (Normal Returns Determined by CAPM)

	Obs.	Mean	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
AR	425	−0.00094	0.00276	−0.342	0.733	−0.00637	0.00448
CAR(1,1)	409	−0.00680	0.00342	−1.986	0.048	−0.01352	−0.00007
CAR(2,2)	401	−0.00565	0.00380	−1.489	0.137	−0.01312	0.00181
CAR(3,3)	393	−0.00806	0.00493	−1.633	0.103	−0.01775	0.00164

Simple and Cumulative Abnormal Returns (Normal Returns Determined by Historical Mean)

	Obs.	Mean	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
AR	425	−0.00287	0.00204	−1.408	0.160	−0.00687	0.00114
CAR(1,1)	409	−0.00825	0.00318	−2.593	0.010	−0.01450	−0.00200
CAR(2,2)	401	−0.01039	0.00369	−2.817	0.005	−0.01764	−0.00314
CAR(3,3)	393	−0.01023	0.00453	−2.258	0.025	−0.01915	−0.00132

Simple and Cumulative Abnormal Returns (Normal Returns Determined by OMXS)

	Obs.	Mean	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
AR	425	−0.00148	0.00200	−0.739	0.460	−0.00540	0.00245
CAR(1,1)	409	−0.00370	0.00305	−1.215	0.225	−0.00970	0.00229
CAR(2,2)	401	−0.00284	0.00339	−0.838	0.403	−0.00951	0.00383
CAR(3,3)	393	−0.00285	0.00396	−0.721	0.471	−0.01063	0.00493

Table 5: Hypothesis 1(c) – Event: Management Turnover

This table describes the results from the event study conducted on management turnover events. The event study is conducted on the entire sample except the extreme outliers. The sample period is between 1998 and 2009. The two-sided t-tests determine whether the average abnormal returns are significantly different from zero. The coefficients are on a daily basis.

Simple and Cumulative Abnormal Returns (Normal Returns Determined by CAPM)							
	Obs.	Mean	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
AR	942	−0.00374	0.00192	−1.942	0.053	−0.00751	0.00004
CAR (1,1)	893	−0.00723	0.00249	−2.901	0.004	−0.01212	−0.00234
CAR (2,2)	873	−0.00845	0.00291	−2.905	0.004	−0.01416	−0.00274
CAR (3,3)	855	−0.01095	0.00344	−3.186	0.002	−0.01769	−0.00420

Simple and Cumulative Abnormal Returns (Normal Returns Determined by Historical Mean)							
	Obs.	Mean	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
AR	942	−0.00507	0.00152	−3.347	0.001	−0.00805	−0.00210
CAR (1,1)	893	−0.01029	0.00231	−4.462	0.000	−0.01482	−0.00577
CAR (2,2)	873	−0.01374	0.00265	−5.177	0.000	−0.01895	−0.00853
CAR (3,3)	855	−0.01696	0.00319	−5.313	0.000	−0.02323	−0.01070

Simple and Cumulative Abnormal Returns (Normal Returns Determined by OMXS)							
	Obs.	Mean	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
AR	942	−0.00329	0.00151	−2.178	0.030	−0.00626	−0.00033
CAR (1,1)	893	−0.00528	0.00221	−2.383	0.017	−0.00962	−0.00093
CAR (2,2)	873	−0.00613	0.00248	−2.471	0.014	−0.01100	−0.00126
CAR (3,3)	855	−0.00898	0.00285	−3.152	0.002	−0.01458	−0.00339

Table 6: Regression of Equally Weighted CEO Turnover Portfolio on the F–F Factors

This table describes the results from regressing the equally weighted CEO turnover portfolio on the F-F factors. The sample period is between 1999 and 2009. The coefficients are on a monthly basis.

Variables	Coefficient	Std. Err.	t-stat	Pr($|T|>|t|$)	95 % Conf. Interval	
Market excess return	–0.03311	0.05902	–0.560	0.576	–0.15000	0.08377
HML	–0.01391	0.06620	–0.210	0.834	–0.14503	0.11721
SMB	–0.12419	0.07967	–1.560	0.122	–0.28199	0.03360
Constant	–0.00862	0.00272	–3.170	0.002	–0.01402	–0.00032

Number of Obs.	120	Prob > F	0.4058
F(3, 116)	0.98	R–Squared	0.0367

Table 7: Regression of Equally Weighted Chairman Turnover Portfolio on the F–F Factors

This table describes the results from regressing the equally weighted chairman of the board turnover portfolio on the F-F factors. The sample period is between 1999 and 2009. The coefficients are on a monthly basis.

Variables	Coefficient	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
Market Excess return	0.04815	0.09526	0.510	0.611	–0.14015	0.23719
HML	0.19081	0.09468	2.020	0.046	0.00328	0.37835
SMB	0.08103	0.07513	1.080	0.283	–0.06778	0.22983
Constant	–0.00777	0.00318	–2.440	0.016	–0.01409	–0.00147
Number of Obs.		120		Prob > F		0.0729
F(3, 116)		2.38		R–Squared		0.0661

Table 8: Regression of Equally Weighted Management Turnover Portfolio on the F–F Factors

This table describes the results from regressing the equally weighted management turnover portfolio on the F-F factors. The sample period is between 1999 and 2009. The coefficients are on a monthly basis.

Variables	Coefficient	Std. Err.	t-stat	Pr($|T|>|t|$)	95 % Conf. Interval	
Market Excess return	0.01414	0.07022	0.200	0.841	–0.12494	0.15322
HML	0.09725	0.07367	1.320	0.189	–0.04867	0.24317
SMB	–0.03724	0.06872	–0.540	0.589	–0.17336	0.09887
Constant	–0.00877	0.00284	–3.090	0.003	–0.01440	–0.00314
Number of Obs.		120		Prob > F		0.3468
F(3, 116)		1.11		R–Squared		0.0474

Table 9: Fama-MacBeth Two-Stage Regression Using CEO Turnover Dummy

This table describes the results from regressing daily excess returns on a dummy variable equaling one if a CEO turnover event has occurred, the logarithm of market value of equity and the logarithm of market-to-book value of equity. The regression is performed using the entire sample. The sample period is between 1999 and 2009. The coefficients are on a daily basis.

Variables	Coefficient	Std. Err.	t-stat	Pr($|T|>|t|$)	95 % Conf. Interval	
Excess return						
CEO Dummy	–0.00099	0.00047	–2.110	0.035	–0.00191	–0.00007
Log(MV)	–0.00014	0.00008	–1.800	0.073	–0.00029	0.00001
Log(MtBV)	0.00089	0.00020	4.330	0.000	0.00048	0.00129
Constant	0.00095	0.00059	1.620	0.106	–0.00020	0.00210
Number of Obs.		832674		Prob > F		0.0000
Number of Time Periods		3011		Avg. R–squared		0.0250
F(3, 3010)		11.25				

Table 10: Fama-MacBeth Two-Stage Regression Using Chairman of the Board Turnover Dummy

This table describes the results from regressing daily excess returns on a dummy variable equaling one if a chairman of the board turnover event has occurred, the logarithm of market value of equity and the logarithm of market-to-book value of equity. The sample period is between 1999 and 2009. The coefficients are on a daily basis.

Variables	Coefficient	Std. Err.	t-stat	Pr($|T|>|t|$)	95 % Conf. Interval	
Excess return						
Chairman Dummy	0.00002	0.00043	0.040	0.970	–0.00082	0.00085
Log(MV)	–0.00014	0.00008	–1.810	0.071	–0.00030	0.00001
Log(MtBV)	0.00088	0.00020	4.320	0.000	0.00048	0.00128
Constant	0.00096	0.00059	1.630	0.104	–0.00020	0.00211
Number of Obs.		832674		Prob > F		0.0000
Number of Time Periods		3011		Avg. R–squared		0.0244
F(3, 3010)		9.79				

Table 11: Fama-MacBeth Two-Stage Regression Using Management Turnover Dummy

This table describes the results from regressing daily excess returns on a dummy variable equaling one if a management turnover event has occurred, the logarithm of market value of equity and the logarithm of market-to-book value of equity. The regression is performed using the entire sample. The sample period is between 1999 and 2009. The coefficients are on a daily basis.

Variables	Coefficient	Std. Err.	t-stat	Pr($|T|>|t|$)	95 % Conf. Interval	
Excess return						
Management Dummy	–0.00072	0.00059	–1.210	0.226	–0.00187	0.00044
Log(MV)	–0.00014	0.00008	–1.790	0.073	–0.00029	0.00001
Log(MtBV)	0.00089	0.00020	4.330	0.000	0.00048	0.00129
Constant	0.00095	0.00059	1.610	0.106	–0.00020	0.00210
Number of Obs.		832674		Prob > F		0.0000
Number of Time Periods		3011		Avg. R–squared		0.0256
F(3, 3010)		9.97				

Table 12: Regression of Value Weighted Turnover Portfolios on the F-F Factors

This table describes the results from regressing the value weighted turnover portfolios on the F-F factors. The regressions are performed using the entire sample. The sample period is between 1999 and 2009. The coefficients are on a monthly basis.

Variables	Coefficient	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
CEO Turnover Portfolio						
Market excess return	–0.10209	0.08291	–1.230	0.221	–0.26631	0.06212
HML	–0.15046	0.11325	–1.330	0.187	–0.37476	0.07384
SMB	–0.04737	0.11889	–0.400	0.691	–0.28285	0.18812
Constant	0.00134	0.00423	0.320	0.753	–0.00794	0.00972
Number of Obs.		120		Prob > F		0.3427
F(3, 116)		1.12		R–Squared		0.0259

Variables	Coefficient	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
Chairman Turnover Portfolio						
Market Excess return	0.07272	0.07742	0.350	0.838	–0.08062	0.22607
HML	0.51412	0.11369	0.000	0.000	0.28895	0.73929
SMB	0.31042	0.11634	0.009	0.028	0.07900	0.54183
Constant	0.00154	0.00425	0.717	0.123	–0.00687	0.00958
Number of Obs.		120		Prob > F		0.0003
F(3, 116)		6.90		R–Squared		0.2859

Variables	Coefficient	Std. Err.	t-stat	Pr(|T|>|t|)	95 % Conf. Interval	
Management Turnover Portfolio						
Market Excess return	–0.96338	0.05230	–18.420	0.000	–1.06697	–0,87980
HML	–0.01877	0.52509	–0.360	0.721	–0.12277	0,08523
SMB	–0.04721	0.04711	–1.000	0.318	–0.14052	0,04610
Constant	–0.00188	0.00246	–0.760	0.446	–0.00575	0,00299
Number of Obs.		120		Prob > F		0.0000
F(3, 116)		133.14		R–Squared		0.8477