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Two Essays on Managerial Horizon, Cash Holdings and Earnings Management

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TWO ESSAYS ON MANAGERIAL HORIZON, CASH HOLDINGS AND EARNINGS MANAGEMENT

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ABSTRACT

TWO ESSAYS ON MANAGERIAL HORIZON, CASH HOLDINGS AND EARNINGS MANAGEMENT

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U.S. corporations are now sitting on an enormous stockpile of cash. Academicians and practitioners alike have tried to understand the reasons why companies are holding on to so much cash. Numerous studies have explored the various motives for holding cash. Many researchers have tried to correlate excess cash holding with particular firm characteristics. This dissertation analyzes the correlations that exist between excess cash holding and some measurable managerial characteristics. This dissertation examines if managerial horizon has any impact on excess cash holding. It also examines if managerial horizon and excess cash has any impact on firm value. Four different measures of managerial horizon were constructed. The first two constructs (MH1 and MH2) are based on the CEO's age and how long he has been the CEO of the company. The next two constructs (MH3 and MH4) are based on compensation, proportion of current compensation and proportion of future compensation.

The results clearly show that CEO Age and the proportion of CEO's compensation (current and future) do determine level of cash holding in the company. Younger CEOs hold more cash compared to older CEOs. Older CEOs hold less cash suggesting that as CEOs grow older they might be motivated by the idea of leaving a long lasting legacy.

CEOs who receive more of their compensation in future payments also hold on to more cash, whereas CEOs who receive more of their compensation in current payments hold less cash. This makes intuitive sense because a CEO whose higher proportion of compensation is going to be paid in the future is more likely to conserve cash to better facilitate its future payments. This dissertation also shows that as companies are holding on to excess cash, the higher level of excess cash is having a significant impact on the firm value. As expected, the results show that in general firms holding more excess cash see a reduction in firm value.

The second essay in this dissertation examines if managerial horizon has any effect on earnings management. Earnings are one of the most important measures of firm performance and previous studies have shown that managers have a tendency to manipulate earnings to raise investor demand for a stock. We used a very good measurement of Earnings Management (EM) as propounded by Lee and Masulis (2009) to see if it was affected by any of the four measurable constructs of managerial horizon. The results show that there is no effect of managerial horizon on earnings management. The results show that one of the important determinants of earnings management was cash flow of the firms, which lends support to the Agency problem facing the firms. The results also show that EM does not lead to higher dividend payouts in firms.

Members of Dissertation Committee: Dr. Mohammad Najand

Dr. David Selover

This dissertation is dedicated to the memory of my father, Mr. Partha Sarathi Guha, who supported me in all my endeavors, who inspired me and who instilled in me the value of education.

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TABLE OF CONTENTS

LIST OF TABLES

ESSAY 1: MANAGERIAL HORIZON AND CASH HOLDINGS

INTRODUCTION

U.S. corporations are now sitting on an enormous stockpile of cash. Bates, Kahle and Stulz (2009) report that for the typical firm the average cash-to-assets ratio (cash ratio) more than doubled from 10.5% in 1980 to 23.2% in 2006. Fresard (2010) shows that cash holdings constitute over one-fifth of a company's assets. Academicians and practitioners alike have tried to find the reasons why companies are holding on to so much cash. Numerous studies have discussed about the various motives for holding cash. Many researchers have tried to correlate excess cash holding with particular firm characteristics.

According to recent reports, all the major U.S. corporations together have more than $ 1.7 trillion of cash reserves. The companies have accumulated so much idle cash that it is more than enough to pay off all their debts, academics say that U.S. companies now have zero leverage because they have accumulated enough cash to pay off all their debt obligations.

Why are U.S. corporations sitting on so much cash, which earns them little or no return? One of the theories that have been propounded more strongly by some corporate CEOs is the high corporate tax rate in the United States. John Chambers, the CEO of Cisco, appeared on the TV show "60 Minutes" aired on March 27, 2011 and stated that his

Company has almost $40 billion of cash overseas, which the company could bring back to the U.S. if there were not a steep tax penalty to pay for repatriation.

Almost all countries tax the income of corporations that operate within their borders. The U.S. and other countries tax the foreign income of their corporations. U.S. law grants tax credits for foreign income taxes paid abroad and companies are permitted to defer U.S. tax liabilities until those profits are repatriated. The taxes due upon repatriation is equal to the difference between foreign income taxes paid and taxes that would be due if profits were taxed at the U.S. rate. For example, assuming that the U.S. corporate tax rate is 35% and a U.S. multinational earns $100 abroad on which it pays $15 in host country corporate income taxes, an additional $20 would be due in U.S. taxes when the profits are repatriated. Foley, Hartzell, Titman and Twite, 2007, did one of the major academic studies on a tax-based explanation for higher cash holdings. The authors found that firms that face higher repatriation tax burdens hold higher levels of cash.

U.S. corporate tax rate is 35%, which is one of the highest corporate tax rates in the world. Only Brazil, Uzbekistan, Chad and Argentina have higher corporate tax rates than the U.S. (Hunkar, 2011). The average corporate tax rate in OECD countries is 18% whereas there are many countries with much lower tax rates, such as, China (16%), Ireland (10%), Taiwan (10%), Singapore (8%), and Hong Kong (4%).

Many distinguished people in corporate America such as John Chambers, CEO of Cisco and Safra Catz, President of Oracle are calling for a tax holiday on repatriated profits. They believe that approximately $ 1 trillion earnings held by American corporations in their foreign operations could be repatriated to the U.S. and could be invested in U.S. jobs, and capital assets.

Such a holiday was actually carried out as an experiment in 2004, when the effective tax rate on repatriated foreign income was reduced from 35% to 5.25%. This one time reduction led to increased inflow of foreign source earnings by some $ 312 billion. Out of that money, only $ 73 billion was used to create or retain jobs and $ 75 billion to finance new capital spending (Shapiro and Mathur, 2009). Therefore, the concept of tax holiday and especially the possibility of streamlining and reducing corporate tax rates are under active consideration by U.S. lawmakers.

One important thing to remember about corporations is that they endeavor to earn the highest return possible, and cash earns very low returns. The investment decisions of the firm and its cash holding policies are determined by the highest level of management. Therefore, it is logical to deduce that the cash holding policy of a firm is based not only by firm characteristics, but also by the personal characteristics of the CEO of the firm.

This dissertation examines different facets of CEO characteristics and tries to determine the specific characteristics that make a CEO hold onto excess cash and another to hold less of it. In this dissertation, we seek to extend the literature on cash holdings by incorporating the role of managerial horizon. Managerial horizon determines whether the managers are more concerned with the firm's short-run stock price or with the long-run price. Managers with a long horizon place additional emphasis on the firm's long-term value rather than the short-term value; they tend to make cash holding decisions to increase the firm's long-run stock price. In contrast, short-horizon managers stress the firm's short-term performance and make cash holding decisions that enhance the stock value in the short run. In this study, we also attempt to establish the link between managerial horizon, cash holdings, and firm value. Prior studies suggest that excess cash holdings could have either a positive or negative effect on firm value. The impact of managerial horizon on the relation between cash holdings and firm value has not been addressed yet in the literature.

We use four different measures of managerial horizon (MH) to determine their effect on cash holding. The first two measures of MH are based on the Age (AGE) of the manager and how long he has been the CEO (Tenure). The other two measures of MH are based on the composition of the manager's compensation: the current salary (MH3) and the future salary (MH4). The results show that Age was statistically significant but Tenure was never statistically significant. MH3 and MH4 were also statistically significant. The results show that as Age increases cash holding decreases, which would imply that

younger CEOs hold more cash than older CEOs. MH3 had a negative sign, which implies that as less of the compensation is paid in cash the CEOs tend to hold more cash. MH4 had a positive sign, which implies that as higher proportion of compensation is paid in the future, the CEOs tend to hold more cash. The other major result in this study is that excess cash holding caused by managers' horizon has a significant negative impact on firm value.

The rest of this paper is structured as follows, Section I compiles the literature review of cash holding and managerial horizon, Section II describes the data, Section III explains the methodology, Section IV presents the analysis and discusses the results, and Section V concludes the paper.

I. LITERATURE REVIEW

This paper brings together two different strings of finance literature, one regarding cash holding and the other is regarding managerial horizon. A literature review of both the topics follows:

A. Higher Cash Holding

Bates, Kahle and Stulz (2009) in their study from 1980 – 2006 find that for the typical firm the average cash-to-assets ratio (cash ratio) increased by 0.46% every year. In their study, they found that the average cash ratio more than doubled over the sample period, from 10.5% in 1980 to 23.2% in 2006.

According to the economic and finance literature there are four motives for firms to hold cash. The academic research on these motives is reviewed briefly:

a) The transaction motive: Classical finance (e.g. Baumol, 1952, Miller and Orr, 1966) believe that a firm incurs transaction costs associated with converting a non-cash asset into cash and uses cash for payments and there is an optimal level of demand for cash. Transaction motive implies there are economies of scale associated, so large firms hold comparatively less cash. Mulligan, 1997 supported the existence of economies of scale.

b) The precautionary motive: When access to capital markets is costly, firms hold more cash to better cope with adverse shocks. Firms with riskier cash flows hold more cash (Opler, Pinkowitz, Stulz and Williamson, 1999). Other notable research on the precautionary motive was done by (Almeida, Campello, and Weisbach, 2004) and Han and Qiu, 2007.

c) The tax motive: As previously mentioned, Foley, Hartzell, Titman and Twite (2007) find that because the U.S. has such high Corporate tax rate (35%), U.S. multinational firms would have to incur huge tax burden if they repatriated their earnings from foreign operations. Therefore, U.S. multinational firms accumulate high levels of cash in foreign countries. So many corporate CEOs and academicians such as, Shapiro and Mathur, 2009 are calling for another tax holiday for repatriated income from foreign operations.

d) The agency motive: Jensen (1986) argued that entrenched managers would rather retain cash than increase payouts to shareholders when the firm has poor investment opportunities. Stulz (1990) predicted that shareholders would choose to limit managers' access to free cash flow to mitigate agency conflicts over its deployment. Dittmar, Mahrt-Smith and Servaes (2003) and Pinkowitz, Stulz and Williamson (2004) find cross-country evidence suggesting that firms hold more cash in countries with greater agency problems. Dittmar and Mahrt-Smith (2007) and Harford, Mansi, and Maxwell (2008) suggest that entrenched managers are more likely to build excess cash balances, but spend excess cash quickly.

Excess cash holdings by firms has become such a pervasive issue that many researchers are trying to identify its causes and effects from various angles. Ran Duchin (2011) has studied the relationship between corporate liquidity and diversification and found that multi-division firms hold significantly less cash than standalone firms. Laurent Fresard (2011) has studied the effects of cash holdings on product market behavior and found that large cash reserves lead to systematic future market – share gains at the expense of industry rivals.

B. Managerial Horizon

The topic of managerial horizon is comparatively much less researched. Managerial horizon determines whether the managers are more concerned with the firm's short-run stock price or with the long-run price. Dechow and Sloan (1991) find that CEOs in their final years of office manage discretionary investment expenditures to improve short-term earnings performance. They find that CEOs spend less on R & D during their final years in office. Cheng (2004) addresses the issue of how firms design CEO incentives to overcome potential underinvestment in R&D. He finds that increased R&D expenditures are associated with increased stock option grants to CEOs. Gibbons and Murphy (1992) studied career concerns -- concerns about the effects of current performance on future compensation. They study optimal contract compensation and they find empirical support for this prediction in the relation between chief-executive compensation and stock-market performance. Bertrand and Schoar (2003) investigate whether and how individual managers affect corporate behavior and performance. Stein (1996) studies capital

budgeting and finds that managerial horizon has significant impact on optimal capital budgeting decisions. Sharma and Hsieh (2011) study managerial horizon of the acquired and acquiring firms in the framework of Mergers & Acquisitions. Chidambaran and John (2010) find that the manager's investment policy depends on his horizon and the cost of disclosure. Narayanan (1996) studies the incentives that make managers take decisions, which yield short-term profits but are not in the stockholders best interests. Kalyta (2009) finds income increasing earnings management in the pre-retirement period only when CEO pension is based on firm performance. Murphy and Zimmerman (1993) study financial performance of the company around CEO turnover. Antia, Pantzalis, and Park (2010) find that a short CEO decision horizon is indicative of preference for investments that offer relatively faster paybacks at the expense of long-term value creation. Huson, Wiedman, and Wier (2003) examine how the compensation committee overcomes the horizon problem while determining CEO compensation.

II. DATA

Data about companies and cash holdings was collected from the Compustat database for the time 1993 – 2012 (20-year period). Data was collected for all publicly traded firms listed on the NYSE, AMEX, and NASDAQ (non- ADRs). The sample excludes utilities (SIC Codes 4900 to 4949) because these firms are highly regulated, and as is generally prevalent, excludes financial firms (SIC Codes 6000 to 6999). Data was collected from the Compustat database for all companies that were one time or the other listed on the NYSE, NASDAX or AMEX over the time 1993 – 2012. Therefore, the data includes both surviving and non-surviving firms that appeared on Compustat at any time during the sample period. Data was collected for 10,204 companies from the Compustat database. The items for which data was collected and their explanations are listed in Appendix.

Data about CEO's age and compensation was collected from the ExecuComp database for the time 1993 – 2012 (20-year period). The items for which data was collected from the ExecuComp database and their explanations are listed in Appendix.

Data about the variable "Governance" was collected from the corporate governance index as provided by Gompers, Ishii and Metrick. It has data from 1994 – 2006 but not for all companies and not for all years.

III. METHODOLOGY

We selected a preexisting model from finance literature previously used by Opler et al (1999) and Bates et al (2009) that includes all the relevant control variables. We augmented the model by the hypothesized independent variable – managerial horizon to study its effect on the level of corporate cash holdings. Specifically, the model used has the following specification:

Cash/TA = MH (various proxies) + Sigma + MB + Sales + Realsize + Cashflow/TA + NWC/TA + CAPX/TA + Leverage + R&D/Sales + Divdummy + Acquisition/TA … Eqn (1)

The explanation of each of the variables is provided in Appendix.

The extended regression model looks as follows:

Cash/TA = Age + Tenure + MH3 + MH4 + Govindex + Sigma + MB + Sales + Realsize + Cashflow/TA + NWC/TA + CAPX/TA + Leverage + R&D/Sales + Divdummy + Acquisition/TA + firm effect + year effect …….. equation (2)

IV. RESULTS

The results were obtained by using the SAS program. The means program provided the descriptive statistics that is shown in table 1.

[Insert Table 1 here]

The descriptive statistics revealed that since the matching of the various data sets, there were lots of missing values and many variables, which had data that were very far flung (outliers). Trying to winsorize all the variables at the top and bottom one percentiles (99 percentile and 1 percentile) provided a very low number of observations. This is because the corporate governance index data set did not have too many observations to begin with. Therefore, instead of winsorizing all the variables, we winsorized only a few variables that had lots of missing values and outliers. Therefore, the variables that we winsorized at 99 percentile and 1 percentile level were CFL, CHE, AT, MKBK and DLC. The data set was left with more than 50,000 observations to work with.

The correlation program then provided the correlation matrix for the entire data set. Table 2 shows the correlation matrix.

[Insert Table 2 here]

The model shows Cash/TA to be the dependent variable but the literature review of previous researchers has shown that they have used other measures of cash ratio: a) Cash/TA, b) Cash/NA, c) Cash/Sales and d) log(Cash/NA). Since this is an extensive research, we used an exhaustive list of all the dependent variables for cash ratio. The cash

ratios used are: a) Cash/TA, b) Cash/NA, c) Cash/Sales d) log(Cash/NA) e) log(Cash/TA) and f) log(Cash/Sales).

We divided, one of the measures of managerial horizon, Tenure, into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of Cash/Sales, Cash/NA and Cash/TA. The mean of the first quartile of Tenure and the mean of the fourth quartile of tenure and the means of the corresponding values of Cash/Sales, Cash/NA and Cash/TA was calculated. A differences of means test (T – test) between the means of the first quartile of Tenure and the fourth quartile of tenure was run. The results show that the t-value was 1.89 for Cash/Sales and it was statistically significant at 10%, the t-value was 1.33 for Cash/NA and it was not statistically significant, the t-value was 4.25 for Cash/TA and it was statistically significant at 1%.

We then divided, the managerial horizon variable, Age, into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of Cash/Sales, Cash/NA and Cash/TA. The mean of the first quartile of Age and the fourth quartile of Age and the means of the corresponding values of Cash/Sales, Cash/NA and Cash/TA was calculated. A differences of means test (T – test) between the means of the first quartile of Age and the fourth quartile of Age was run. The results show that the t-value was 2.31 for Cash/Sales and it was statistically significant at 5%, the t-value was 0.37 for Cash/NA and it was not statistically significant, the t-value was 0.87 for Cash/TA and it was not statistically significant.

We divided another measure of managerial horizon, MH3, into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of Cash/Sales, Cash/NA and Cash/TA. The mean of the first quartile of MH3 and the fourth quartile of MH3 and the means of the corresponding values of Cash/Sales, Cash/NA and Cash/TA was calculated. A differences of means test (T – test) between the means of the first quartile of MH3 and the fourth quartile of MH3 was run. The results show that the t-value was 5.66 for Cash/Sales and it was statistically significant at 1%, the t-value was 7.87 for Cash/NA and it was statistically significant at 1%, the t-value was 29.56 for Cash/TA and it was statistically significant at 1%. All the above results are shown in Table 3.

[Insert Table 3 here]

The differences in medians test was then run for the first quartile of tenure and fourth quartile of tenure and the corresponding values of Cash/Sales, Cash/NA and Cash/TA. The results show that the z-value was -3.9949 for Cash/Sales and it was statistically significant at 1%, the z-value was -3.4194 for Cash/NA and it was statistically significant at 1%, the z-value was -4.3568 for Cash/TA and it was statistically significant at 1%.

The differences in medians test was then run for the first quartile of Age and the fourth quartile of Age and the corresponding values of Cash/Sales, Cash/NA and Cash/TA. The results show that the z-value was -1.2848 for Cash/Sales and it was statistically not

significant, the z-value was -2.8874 for Cash/NA and it was statistically significant at 1%, the z-value was -1.0006 for Cash/TA and it was statistically not significant.

The differences in medians test was then run for the first quartile of MH3 and the fourth quartile of MH3 and the corresponding values of Cash/Sales, Cash/NA and Cash/TA. The results show that the z-value was 31.1601 for Cash/Sales and it was statistically significant at 1% level, the z-value was 24.0390 for Cash/NA and it was statistically significant at 1%, the z-value was 31.8082 for Cash/TA and it was statistically significant at 1%. All the above results are shown in Table 3A.

[Insert Table 3A here]

Then we used all the variables to run the main regression model to find the effect of managerial horizon (MH) on cash holding by firms. So the regression given by equation 2 was run.

Cash/TA = Age + Tenure + MH3 + MH4 + Govindex + Sigma + MB + Sales + Realsize + Cashflow/TA + NWC/TA + CAPX/TA + Leverage + R&D/Sales + Divdummy + Acquisition/TA + firm effect + year effect ..... equation (2)

The results are exhibited in Table 4

[Insert Table 4 here]

We ran the regression a number of times with various combinations of the four proxies for managerial horizon (Age, Tenure, MH3 and MH4). Whenever the variable "governance" was used, the number of available observations became very low, so the

variable was omitted later on. The results show that Age always had a negative sign, which signifies that as Age increases cash holding decreases, which would imply that younger CEOs hold more cash than older CEOs. MH3 was always statistically significant at 1% level and always had a negative sign, which implies that as less of the compensation is paid in cash the CEOs tend to hold more cash. MH4 was also always statistically significant at 1% and always had a positive sign, which implies that as higher proportion of compensation is paid in the future, the CEOs tend to hold more cash.

We ran the same regression again but this time the dependent variable was Cash/Sales. The results are shown in Table 5.

[Insert Table 5 here]

The results show that the managerial horizon proxies were never statistically significant.

We ran the same regression again but this time the dependent variable was Cash/NA. The results are shown in Table 6.

[Insert Table 6 here]

The results show that the managerial horizon proxies were never statistically significant. But at least the signs were consistent, Age had a negative sign, MH3 had a negative sign and MH4 always had a positive sign.

We ran the same regression again but this time the dependent variable was log(Cash/TA). The results are shown in Table 7.

[Insert Table 7 here]

Age was statistically significant most of the times and the sign was negative. MH3 was always statistically significant at 1% and the sign was always negative. MH4 was always statistically significant at 1% and the sign was always positive.

We ran the same regression again but this time the dependent variable was log(Cash/NA). The results are shown in Table 8.

[Insert Table 8 here]

Age was statistically significant few times and the sign was negative every time. Tenure was not statistically significant. MH3 was always statistically significant at 1% and the sign was always negative. MH4 was always statistically significant at 1% and the sign was always positive.

We ran the same regression again but this time the dependent variable was log(Cash/Sales). The results are shown in Table 9.

[Insert Table 9 here]

Age was not statistically significant but the sign was negative, and Tenure was never statistically significant. MH3 was always statistically significant at 1% level and the sign was always negative. MH4 was always statistically significant at 1% and the sign was always positive.

We ran all the above regressions again with MH(t-1) to avoid possible endogeneity problems between cash and managerial horizon.

We ran the regression with Cash/TA as the dependent variable. The results are shown in Table 10.

[Insert Table 10 here]

Age(t-1) always had a negative sign. Tenure(t-1) was never statistically significant. MH3(t-1) was always statistically significant at 1% level and the sign was always negative. MH4(t-1) was always statistically significant and the sign was always positive.

We ran the regression again but this time with the dependent variable Cash/Sales. The results are shown in Table 11.

[Insert Table 11 here]

Age(t-1) was never statistically significant but the sign was always negative. MH3(t-1) was always statistically significant at 1% level and the sign was always negative. MH4(t-1) was never statistically significant but the sign was always positive.

We ran the regression this time with the dependent variable Cash/NA. The results are shown in Table 12.

[Insert Table 12 here]

Age(t-1) was never statistically significant but the sign was always negative. Tenure(t-1) was never statistically significant. MH3(t-1) was never statistically significant but the sign was always negative. MH4(t-1) was never statistically significant but the sign was always positive.

We ran the regression again but this time with the dependent variable log(Cash/TA). The results are shown in Table 13.

[Insert Table 13 here]

Age(t-1) was not statistically significant but the sign was always negative. Tenure(t-1) was never statistically significant. MH3(t-1) was always statistically significant at 1% level and the sign was always negative. MH4(t-1) was always statistically significant at 1% level and the sign was always positive.

We ran the regression again but this time with the dependent variable log(Cash/NA). The results are shown in Table 14.

[Insert Table 14 here]

Age(t-1) was not statistically significant but always the sign was negative. Tenure(t-1) was never statistically significant. MH3(t-1) was always statistically significant at 1% level and the sign was always negative. MH4(t-1) was always statistically significant at 1% level and the sign was always positive.

We ran the regression again but this time the dependent variable was log(Cash/Sales). The results are shown in Table 15.

[Insert Table 15 here]

Age(t-1) was not statistically significant but the sign was negative. Tenure(t-1) was never statistically significant. MH3(t-1) was always statistically significant at 1% level and the

sign was always negative. MH4(t-1) was always statistically significant at 1% level and the sign was always positive.

Then the year fixed effect model regression was run six different times with the dependent variable being: a) Cash/TA, b) Cash/NA, c) Cash/Sales d) log(Cash/NA) e) log(Cash/TA) and f) log(Cash/Sales). The results are shown in Table 16.

[Insert Table 16 here]

Age is never statistically significant and has a negative sign with Cash/TA. Tenure is not statistically significant. MH3 is statistically significant at 1% level and has a negative sign for Cash/TA, log(Cash/Sales), log(Cash/TA) and log(Cash/NA). MH4 is statistically significant and has a positive sign for log(Cash/Sales), log(Cash/TA) and log(Cash/NA).

Then the firm fixed effect model regression was run six different times with the dependent variable being: a) Cash/TA, b) Cash/NA, c) Cash/Sales d) log(Cash/NA) e) log(Cash/TA) and f) log(Cash/Sales). The results are shown in Table 17.

[Insert Table 17 here]

MH3 is statistically significant at 1% level and has a negative sign for Cash/TA, log(Cash/Sales), log(Cash/TA) and log(Cash/NA). MH4 is statistically significant at 1% level and has a positive sign for Cash/TA, log(Cash/Sales), log(Cash/TA) and log(Cash/NA).

V. CONCLUSION

The results show that Age was statistically significant some of the time and Tenure was never statistically significant. MH3 was also statistically significant most of the times and MH4 was statistically significant most of the times. Age had a negative sign, which signifies that as Age increases cash holding decreases, which would imply that younger CEOs hold more cash than older CEOs. MH3 also had a negative sign, which implies that as less of the compensation is paid in cash the CEOs tend to hold more cash. MH4 had a positive sign, which implies that as higher proportion of compensation is paid in the future, the CEOs tend to hold more cash.

B) THE IMPACT OF MANAGERIAL HORIZON ON FIRM VALUE

DISCUSSION

This part of the essay analyzes if managerial horizon has any impact on firm value. We constructed four different measures of managerial horizon. The first two constructs (MH1 and MH2) are based on the CEO's age and how long he has been the CEO of the company. The next two constructs (MH3 and MH4) are based on compensation, proportion of current compensation and proportion of future compensation. We used the Opler, Pinkowitz et all (1999) and Dittmar and Mahrt – Smith (2007) papers to determine excess cash and show that firms holding excess cash see a reduction in firm value. Yung and Nafar (2014) using a sample of international firms also find that excess cash has a significant negative impact on firm value.

The rest of this paper is structured as follows, Section I describes the data, Section II explains the methodology, Section III presents the analysis and discusses the results, Section IV concludes the paper.

I. DATA

The data about companies and cash holdings are collected from the Compustat database for the time 1993 – 2012 (20-year period). Data was collected for all publicly traded firms listed on the NYSE, AMEX, and NASDAQ (non- ADRs). The sample excludes utilities (SIC Codes 4900 to 4949) because these firms are highly regulated, and as is generally prevalent, also excludes financial firms (SIC Codes 6000 to 6999). Data was collected from the Compustat database for all companies that were one time or the other listed on the NYSE, NASDAX or AMEX over the time 1993 – 2012. Therefore, the data includes both surviving and non-surviving firms that appeared on Compustat at any time during the sample period. Data was collected for 10,204 companies from the Compustat database.

The items for which data was collected and their explanations are listed in Appendix.

Data about CEO's age and compensation was collected from the ExecuComp database over the time 1993 – 2012 (20-year period). The items for which data was collected from the ExecuComp database and their explanations are listed in Appendix.

Data about the variable "Governance" was collected from the corporate governance index as provided by Gompers, Ishii and Metrick. It has data from 1994 – 2006 but not for all companies and not for all years.

II. METHODOLOGY

The dependent variable of the model is firm value and the independent variables of interest are managerial horizon (MH) and excess cash. The rest of the independent variables in the model are standard control variables used by Fama and French (1998). These variables reflect investors' expectations of future net cash flows, which determine the value of the firm. The Fama and French (1998) control variables are: past changes, future changes and current levels of Earnings, R&D expenses, dividends, interest expenses, as well as past and future changes in Assets and future changes in Market Value, all normalized by the Book Value of the Assets of the firm. The regression equation is as follows:

$$MV_{i,t}/NA_{i,t} = \alpha + \beta_1 MH1_{i,t} + \beta_2 MH2_{i,t} + \beta_3 Xcash_{i,t} + \beta_4 (Xcash_{i,t} * MH1_{i,t}) + \beta_5 Govindex_{i,t} + \beta_6 (Xcash_{i,t} * Govindex_{i,t}) + \beta_7 MV_{i,t+2}/NA_{i,t} + \beta_8 Earnings_{i,t}/NA_{i,t} + \beta_9 D2Earnings_{i,t+2}/NA_{i,t} + \beta_{10} DL2Earnings_{i,t-2}/NA_{i,t} + \beta_{11} R\&D_{i,t}/NA_{i,t} + \beta_{12} D2R\&D_{i,t+2}/NA_{i,t} + \beta_{13} DL2R\&D_{i,t}/NA_{i,t} + \beta_{14} Interest_{i,t}/NA_{i,t} + \beta_{15} D2Interest_{i,t+2}/NA_{i,t} + \beta_{16} DL2Interest_{i,t-2}/NA_{i,t} + \beta_{17} D2NA_{i,t+2}/NA_{i,t} + \beta_{18} DL2NA_{i,t-2}/NA_{i,t} + \beta_{19} Dividends_{i,t}/NA_{i,t} + \beta_{20} D2Dividends_{i,t+2}/NA_{i,t} + \beta_{21} DL2Dividends_{i,t-2}/NA_{i,t}$$ .....equation (3)

The explanation for all the items are listed in Appendix.

All the above data was collected, the only data that was missing was Xcash (excess cash). We derived the data for excess cash in two different methods and show the results

obtained in both the cases. In the first method, we use the Dittmar and Mahrt-Smith (2007) paper to derive excess cash. We used the following regression equation as given by them; and used the residuals to compute excess cash:

$$Log(Cash_{i,t} / NA_{i,t}) = \beta_0 + \beta_1 Log(NA_{i,t}) + \beta_2 (FCF_{i,t} / NA_{i,t}) + \beta_3 (NWC_{i,t} / NA_{i,t}) + \beta_4 (Sigma)_{i,t} + \beta_5 (MV_{i,t} / NA_{i,t}) + \beta_6 (RD_{i,t} / NA_{i,t}) + \varepsilon_{i,t} \quad \text{Equation (4)}$$

The explanation for all the items are listed in Appendix.

We used another variant of the Dittmar and Mahrt-Smith (2007) paper where instead of Net Assets (NA), the Total Assets (AT) was used to derive excess cash and once the excess cash was calculated using AT, the original equation (1) was modified by replacing NA with AT. Results are shown for both using NA and AT.

Another method that we used to calculate excess cash was by following the Opler, Pinkowitz, et all (1999) paper. We used the following regression equation as given by them; and used the residuals to compute excess cash:

Cash/TA = MB + Sigma + Realsize + Cashflow/TA + NWC/TA + CAPX/TA + Leverage + R&D/Sales + Divdummy + Acquisition/TA.....equation (5)

The explanation for all the items are listed in Appendix.

III. RESULTS

The descriptive statistics revealed that since the matching of the various data sets, there were lots of missing values and many variables, which had data, which were very far flung (outliers). Trying to winsorize all the variables at the top and bottom one percentiles (99 percentile and 1 percentile) provided a very low number of observations. This is because the corporate governance index data set did not have too many observations to begin with. Therefore, instead of winsorizing all the variables, we winsorized only a few variables that had lots of missing values and outliers. Therefore, the variables that were winsorized at 99 percentile and 1 percentile level were CFL, CEQ, IB, AT, MKBK and DLC. This provided more than 50,000 observations to work with.

We ran the regression equation in the SAS program to calculate excess cash. Therefore, we ran the equation based on Dittmar and Mahrt-Smith (2007) as given in equation 4.

$$\text{Log}(\text{Cash}_{i,t} / \text{NA}_{i,t}) = \beta_0 + \beta_1 \text{Log}(\text{NA}_{i,t}) + \beta_2 (\text{FCF}_{i,t} / \text{NA}_{i,t}) + \beta_3 (\text{NWC}_{i,t} / \text{NA}_{i,t}) + \beta_4 (\text{Sigma})_{i,t} + \beta_5 (\text{MV}_{i,t} / \text{NA}_{i,t}) + \beta_6 (\text{RD}_{i,t} / \text{NA}_{i,t}) + \varepsilon_{i,t} \quad \text{..... Equation (4)}$$

The results are shown in Table 18

[Insert Table 18 here]

The dependent variable is log(cash/NA) and the results show that all the independent variables are statistically significant. The residuals of this regression equation were used to calculate excess cash (Cash minus optimal cash).

We used Excess cash and all the other variables to run the main regression model to find the effect of managerial horizon (MH) and excess cash on firm value. Therefore, we ran the following regression as given by equation 3.

$$MV_{i,t}/NA_{i,t} = \alpha + \beta_1 MH1_{i,t} + \beta_2 MH2_{i,t} + \beta_3 Xcash_{i,t} + \beta_4 (Xcash_{i,t} * MH1_{i,t}) + \beta_5 Govindex_{i,t} + \beta_6 (Xcash_{i,t} * Govindex_{i,t}) + \beta_7 MV_{i,t+2}/NA_{i,t} + \beta_8 Earnings_{i,t}/NA_{i,t} + \beta_9 D2Earnings_{i,t+2}/NA_{i,t} + \beta_{10} DL2Earnings_{i,t-2}/NA_{i,t} + \beta_{11} R\&D_{i,t}/NA_{i,t} + \beta_{12} D2R\&D_{i,t+2}/NA_{i,t} + \beta_{13} DL2R\&D_{i,t}/NA_{i,t} + \beta_{14} Interest_{i,t}/NA_{i,t} + \beta_{15} D2Interest_{i,t+2}/NA_{i,t} + \beta_{16} DL2Interest_{i,t-2}/NA_{i,t} + \beta_{17} D2NA_{i,t-2}/NA_{i,t} + \beta_{18} DL2NA_{i,t-2}/NA_{i,t} + \beta_{19} Dividends_{i,t}/NA_{i,t} + \beta_{20} D2Dividends_{i,t+2}/NA_{i,t} + \beta_{21} DL2Dividends_{i,t-2}/NA_{i,t}$$ .....equation (3)

The results are shown in Table 19

[Insert Table 19 here]

We ran the regression a number of times with various combinations of the four proxies for managerial horizon (Age, Tenure, MH3 and MH4). Whenever the variable "governance" was used, the number of available observations became very small, so the variable was omitted later on. The results show that the managerial horizon proxies were never statistically significant, except one time when Age was statistically significant at 10% level. Tenure, MH3 and MH4 were never statistically significant. The variable ExcessCash on the other hand was statistically significant at all times mostly at 1% level and once at 5% level.

We ran the same equation again based on Dittmar and Mahrt-Smith (2007) to calculate excess cash but this time changed NA to TA (AT), so the dependent variable was log(Cash/TA). The results are shown in Table 20.

[Insert Table 20 here]

All the variables are statistically significant at 1% level except FCFTA. We used the residuals of this regression equation to calculate excess cash.

We used Excess cash and all the other variables to run the main regression model to find the effect of managerial horizon (MH) and excess cash on firm value. Therefore, we ran the regression given by equation 3 except that NA was changed to TA (AT), so the dependent variable was MVAT. The results are shown in Table 21.

[Insert Table 21 here]

We ran the regression a number of times with various combinations of the four proxies for managerial horizon (Age, Tenure, MH3 and MH4). Whenever the variable "governance" was used, the number of available observations became very low, so the variable was omitted later on. The results show that Age and Tenure were never statistically significant. MH3 was statistically significant a few times at 1% level and MH4 was statistically significant a few times at 5% level. The variable ExcessCash on the other hand was statistically significant at all times either at 1% level 5% level or 10% level.

We ran the following regression equation to calculate excess cash. The equation is based on Opler et all (2006) as given in equation 5:

Cash/TA = MB + Sigma + Realsize + Cashflow/TA + NWC/TA + CAPX/TA + Leverage + R&D/Sales + Divdummy + Acquisition/TA.....equation (5)

The results are shown in Table 22.

[Insert Table 22 here]

All the variables are statistically significant. We used the residuals of this regression equation to calculate excess cash.

We used Excess cash and all the other variables to run the main regression model to find the effect of managerial horizon (MH) and excess cash on firm value. Therefore, we ran the regression given by equation 3 with the dependent variable MVNA.

The results are exhibited in Table 23

[Insert Table 23 here]

We ran the regression a number of times with various combinations of the four proxies for managerial horizon (Age, Tenure, MH3 and MH4). Whenever the variable "governance" was used, the number of available observations became very low, so the variable was omitted later on. The results show that Age was always statistically significant at 1% level. Tenure and MH3 were sometimes statistically significant but MH4 was never statistically significant. The variable ExcessCash on the other hand was most often statistically significant at 1% level.

We ran the regression equation to calculate excess cash. The equation is based on Opler et all (2006) as given in equation 3.

The results are shown in Table 24

[Insert Table 24 here]

All the variables are statistically significant. We used the residuals of this regression equation to calculate excess cash.

We used Excess cash and all the other variables to run the main regression model to find the effect of managerial horizon (MH) and excess cash on firm value. Therefore, we ran the regression given by equation 3 by changing all the NA's to TA's (AT). Therefore, the dependent variable for this regression equation was MVTA.

The results are shown in Table 25.

[Insert Table 25 here]

We ran the regression a number of times with various combinations of the four proxies for managerial horizon (Age, Tenure, MH3 and MH4). Whenever the variable "governance" was used, the number of available observations became very low, so that variable was omitted later on. The results show that Age was seldom statistically significant. Tenure was always statistically significant at 1% level and MH3 was most often not statistically significant but MH4 was most often statistically significant. The variable ExcessCash on the other hand was most often statistically significant at 1% level and statistically insignificant a few times.

IV. CONCLUSION

The first essay tries to determine the specific characteristics of CEOs who would be more likely to hold on to excess cash. We used four different measures of managerial horizon to determine if any specific characteristic of CEO's accumulate higher levels of cash. The results clearly show that CEO Age and the proportion of CEO's compensation (current and future) do determine level of cash holding in the company. Younger CEOs hold more cash compared to older CEOs. CEOs who receive higher proportion of their compensation in future payments also hold on to more cash, whereas CEOs who receive higher proportion of their compensation in current payments hold less cash. This makes intuitive sense because a CEO whose most of the compensation is going to be paid in the future is more likely to conserve cash to better facilitate its future payments. This essay also shows that as companies are holding on to excess cash, the higher level of excess cash is having a significant impact on the firm value. As expected, the results show that in general, firms holding more excess cash see a reduction in firm value.

This essay examines the influences of managerial horizon on cash holdings and it also raises many interesting opportunities for future research as well. The effect of managerial horizon on corporate policies such as debt and equity issuance, share repurchase, dividends, and investments remains to be examined. In future research, it would be interesting to explore the correlation between managerial horizon and aforementioned corporate policies.

ESSAY 2: MANAGERIAL HORIZON AND EARNINGS MANAGEMENT

INTRODUCTION

One important way to measure, a firm's performance is to study its Earnings. There is a risk that managers might manipulate earnings to dress up a firm's performance to increase investor demand for stock. There are many studies, which have examined the opportunistic uses of accounting information around various types of corporate events. To examine earnings management most researchers study accruals. Accruals are accounting adjustments to a firm's cash flows from operations that convert cash flows into accounting earnings. Earnings quality is often interpreted as synonymous with accruals quality. In this essay, we try to examine if Managerial horizon has any impact on Earnings Management. There is a whole host of literature regarding Earnings management, accruals quality and manipulation of earnings around various corporate events, but to our knowledge there is no study, which has examined if managerial horizon (using proxies for both age and compensation) has any effect on earnings management.

This essay examines if managerial horizon has any effect on earnings management. We constructed four different measures of managerial horizon. The first two constructs (MH1 and MH2) are based on the CEO's age (AGE) and how long he has been the CEO of the company (Tenure). The next two constructs (MH3 and MH4) are based on compensation, proportion of current compensation and proportion of future compensation. The results show no effect of managerial horizon (MH) on earnings management (EM). The results show that EM is caused by the Agency problem in the firms and free cash flows causes

EM. We also tried to find out what managers do with EM, tried to determine if EM is used for higher dividend payouts. The results show that EM does not lead to higher dividend payouts.

The rest of this paper is structured as follows: Section I provides the background and literature review of the topic, Section II describes the data, Section III explains the methodology, Section IV presents the analysis and discusses the results, Section V concludes the paper.

I. BACKGROUND AND LITERATURE REVIEW:

Earnings management is often defined by the following definition as stated by Healy and Wahlen, 1999:

"Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers."

Earnings management is recognized as attempts by management to influence or manipulate reported earnings by using specific accounting methods (or changing methods), recognizing one-time non-recurring items, deferring or accelerating expense or revenue transactions, or using other methods designed to influence short-term earnings (Akers et al., 2007)

Earnings quality is a measure of the ability of reported earnings to reflect the firm's true earnings and to help predict future earnings.

Earnings management is predominantly a function of manipulating accruals, so it is intuitive to use the magnitude of accruals as a proxy for earnings quality: the higher the total accruals as a percentage of assets, the greater the likelihood that earnings quality is low. Remember that accruals can be either a reflection of earnings manipulation or just

normal accounting estimations based on future business expectations. It is difficult to determine which one is driving the accruals, but there is evidence that the size of accruals can be used as a rough measure for earnings manipulation, especially in high-accrual firms.

Accruals are amounts unaccounted for yet still owing at the period or year-end. If the amount is not known, estimates need to be made and then added to the expenses in order for this to show a true picture in the Profit and Loss account.

There is a large body of literature regarding earnings management. The primary focus of earnings management research has been on detecting whether and when earnings management takes place. Healy and Wahlen (1999) have reviewed earnings management literature in respect to the usefulness of prior research for standard setters. Recently, Verbruggen, Christaens and Mills (2008) have done a comprehensive review on earnings management research.

Several studies have examined various motives for earnings management. Many studies have examined if firms manage earnings for stock market purposes. These include studies of earnings management in periods surrounding capital market transactions and when there is a gap between firm performance and analysts' or investors' expectations. Some studies indicate that firms report positive (income increasing) unexpected accruals prior

to seasoned equity offers (Teoh, Welch and Wong, 1998 and Shivakumar, 2000), initial public offers (Teoh, Welch and Wong, 1998 and DuCharme et al., 2001), and stock financed acquisitions (Erickson and Wang 1998).

Meeting or beating the analysts' forecasts seems to be of enough importance for companies to engage in earnings management. Burgstahler and Eames (1998) find that firms manage earnings to meet analysts' forecasts. Missing an earnings benchmark has negative implications for stock returns as well as CEO compensation (Matsunaga and Park, 2001).

There is also a vast list of literature regarding earnings management and CEOs (the topic that this paper is most closely associated with). Two articles present evidence of earnings management when there is a change in CEO (Godfrey et al., 2003) or when the CEO is retiring (Reitenga and Tearny, 2003). A new CEO can be inclined to lower earnings management in the year of change and increase earnings management in the following years. Retiring CEO's use higher earnings management to leave in style and keep a seat on the board. However, some studies find little or no association between managerial retirement and earnings management (Cheng, 2004). Kalyta (2009) finds evidence of income-increasing earnings management in the pre-retirement period only when CEO compensation is based on firm performance.

Numerous theoretical and empirical studies have analyzed relationships between managerial compensation and earnings management. Watts and Zimmerman (1986) argue that managers manipulate earnings in order to increase the amount of their bonus compensation. Healy (1985) shows that firms with caps on bonus awards are more likely to report accruals that defer income when that cap is reached than firms that have comparable performance but which have no bonus cap. Bartov and Mohanram (2004) find that with large stock options, in the pre-exercise period discretionary accruals are abnormally high, while in the post-exercise period discretionary accruals are abnormally low.

A number of studies examine the relationship between managerial horizon and earnings management. Theoretically speaking, a manager who plans to leave the firm lacks incentives to act in the best interest of the firm. Managers with short horizon prefer projects with lower net present value but higher current earnings to projects with higher net present values but lower current earnings (Smith and Watts, 1982). Gibbons and Murphy (1992) hypothesize that these activities would be especially pronounced when the manager intends to retire rather than join another firm, because a retiring manager faces fewer reputational concerns. However, despite theoretical predictions, empirical evidence on the impact of managerial horizon on earnings management is scarce and inconclusive. Wells (2002) finds little empirical evidence of income-increasing earnings management prior to CEO departures.

Empirical findings on the association between managerial horizon and earnings management decisions are also mixed. Dechow and Sloan (1991) show that CEOs in their final years in office reduced R&D spending, presumably to increase reported earnings. This behavior is consistent with the short-term nature of their compensation contracts and their short employment horizons. However, Murphy and Zimmerman (1993) find little support for the impact of the horizon problem on R&D expenditures. Cheng (2004) finds no association between CEO turnover and R&D expenditures.

II. DATA

Data about companies and cash holdings are collected from the Compustat database over the time 1993 – 2012 (20-year period). Data is collected for all publicly traded firms listed on the NYSE, AMEX, and NASDAQ (non- ADRs). The sample excludes utilities (SIC Codes 4900 to 4949) because these firms are highly regulated, and as is generally prevalent, excludes financial firms (SIC Codes 6000 to 6999). Data was collected from the Compustat database for all companies that were one time or the other listed on the NYSE, NASDAX or AMEX over the time 1993 – 2012. Therefore, the data includes both surviving and non-surviving firms that appeared on Compustat at any time during the sample period. Data was collected for 10,204 companies from the Compustat database.

The items for which data was collected and their explanations are listed in Appendix.

Data about CEO's age and compensation was collected from the ExecuComp database over the time 1993 – 2012 (20-year period). The items for which data was collected from the ExecuComp database and their explanations are listed in Appendix.

Data about the variable "Governance" was collected from the corporate governance index as provided by Gompers, Ishii and Metrick. It has data from 1994 – 2006 but not for all companies and not for all years.

III. METHODOLOGY

We measure Earnings management by following the work of Lee and Masulis (2009). They have measured accruals quality by following the Jones model (1991). They have improved the measurement of accounting quality by using the residuals from the model used by Dechow and Dichev (2002). They have also taken into account the modification by McNichols (2002).

Therefore, the resulting regression equation that we used is given as follows:

$$CA_{j,t} = c_j + \Phi_1 CFO_{j,t-1} + \Phi_2 CFO_{j,t} + \Phi_3 CFO_{j,t+1} + \Phi_4 \Delta Sales_{j,t} + \Phi_5 PPE_{j,t} + v_{j,t} \quad (6)$$

The explanation of all the variables are listed in Appendix.

We ran the regression for equation (6) by using SIC Codes for all companies and breaking them up into 48 industry groups as done by Fama and French (1997). We used the residual of the regression as the measure of Earnings Management (EM).

We examined previous literature to design the model and control variables. Based on previous literature the model looks like:

EM = MH (various proxies) + Sales + ROA + Leverage + Firmsize + CEO_cash compensation + CEO_non-cash compensation + firm effect + year effect ....eqn(7)

The explanation of all the variables are listed in Appendix.

IV. RESULTS

We ran the means program to get the descriptive statistics, which is shown, in table 26.

[Insert Table 26 here]

The descriptive statistics revealed that since the matching of the various data sets, there were lots of missing values and many variables, which had data, which were very far flung (outliers). When all the variables were winsorized at the top and bottom one percentiles (99 percentile and 1 percentile), the resultant final data with all available variables had very few observations. This is because the corporate governance index data set did not have too many observations to begin with. So we winsorized only, a few variables, which had lots of missing values and outliers. Therefore, the variables that we winsorized at 99 percentile and 1 percentile level were CFL, CEQ, IB, AT, MKBK and DLC. This still left more than 50,000 observations to work with.

We ran the correlation program and obtained the correlation matrix for the entire data set. The correlation matrix is shown in Table 27.

[Insert Table 27 here]

We ran the regression as given in equation 6:

$$CA_{j,t} = c_j + \Phi_1 CFO_{j,t-1} + \Phi_2 CFO_{j,t} + \Phi_3 CFO_{j,t+1} + \Phi_4 \Delta Sales_{j,t} + \Phi_5 PPE_{j,t} + v_{j,t} \quad (6)$$

We first formatted the equation based on the long format of SIC Codes as given by Fama and French (1997) and sorted the data based on 48 industry groups. We ran the regression

and used the residual of the regression result as the Earnings Management measurement (EM).

We divided one of the measures of managerial horizon, Tenure, into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of EM. We calculated the mean of the first quartile of Tenure and the fourth quartile of tenure and the means of the corresponding values of EM. We ran a differences of means test (T – test) between the means of the first quartile of Tenure and the fourth quartile of tenure. The result showed that the t-value was 1.26 and it was not statistically significant.

We divided the variable, Age, into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of EM. We calculated the mean of the first quartile of Age and the fourth quartile of Age and the means of the corresponding values of EM. We ran a differences of means test (T – test) between the means of the first quartile of Age and the fourth quartile of Age. The result showed that the t-value was -0.87 and it was not statistically significant.

We divided the variable, MH3, into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of EM. We calculated the mean of the first quartile of MH3 and the fourth quartile of MH3 and the means of the

corresponding values of EM. We ran a differences of means test (T – test) between the means of the first quartile of MH3 and the fourth quartile of MH3. The result showed that the t-value was 0.23 and it was not statistically significant. All the above results are shown in Table 28.

[Insert Table 28 here]

We ran the differences in medians test for the first quartile of tenure and fourth quartile of tenure and the corresponding values of EM. The result showed that the z-value was -2.1893 and it was statistically significant at 5% level.

We ran the differences in medians test for the first quartile of Age and the fourth quartile of Age and the corresponding values of EM. The result showed that the z-value was 2.8422 and it was statistically significant at 1% level.

We ran the differences in medians test for the first quartile of MH3 and the fourth quartile of MH3 and the corresponding values of EM. The result showed that the z-value was 4.7754 and it was statistically significant at the 1% level. All the above results are shown in Table 28A.

[Insert Table 28A here]

Then we ran the regression equation with EM being the dependent variable:

EM = MH (various proxies) + Sales + ROA + Leverage + Realsize + CEO_cash compensation + CEO_non-cash compensation + firm effect + year effect....eqn(7)

Table 29 shows the results with EM being the dependent variable and various combinations of MH (Age, Tenure, MH3 and MH4).

[Insert Table 29 here]

As the results exhibit, Age is not statistically significant in any of the equations. Tenure, MH3 and MH4 are also not statistically significant in any of the equations. Therefore, in all the equations none of the measures of Managerial horizon (Age, Tenure, MH3 and MH4) is ever statistically significant.

Then we ran the year fixed effect model with EM being the dependent variable.
Table 30 shows the results with EM being the dependent variable and all the proxies of MH (Age, Tenure, MH3 and MH4).

[Insert Table 30 here]

The results show that Age, Tenure, MH3 and MH4 are not statistically significant.

Then we ran the firm fixed effect model with EM being the dependent variable.

Table 31 shows the results with EM being the dependent variable and all the proxies of MH (Age, Tenure, MH3 and MH4).

[Insert Table 31 here]

The results show that Age is statistically significant at 5% level and MH3 is statistically significant at 10% level but Tenure and MH4 are not statistically significant.

Therefore, the results show that the various proxies of managerial horizon were not causing earnings management in the firms. We tried to find various other factors that could be determining EM. We ran various differences of means chow tests to find various determinants of EM. EM could be caused by differences in growth opportunities in firms as shown by their market-to-book ratio or even by larger firms as shown by their total assets or by firms, which have higher cash or free cash flow.

We divided Market to Book ratio (MKBK) into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of EM. We calculated the mean of the first quartile of MKBK and the fourth quartile of MKBK and the means of the corresponding values of EM. We ran a differences of means test (T – test) between the means of the first quartile of MKBK and the fourth quartile of MKBK. The result showed that the t-value was -0.19 and it was not statistically significant.

We divided the variable, Cash (CHE), into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of EM. We calculated

the mean of the first quartile of CHE and the fourth quartile of CHE and the means of the corresponding values of EM. We ran a differences of means test (T – test) between the means of the first quartile of CHE and the fourth quartile of CHE. The result showed that the t - value was -1.42 and it was not statistically significant.

We divided the variable, Total Assets (AT), into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of EM. We calculated the mean of the first quartile of AT and the fourth quartile of AT and the means of the corresponding values of EM. We ran a differences of means test (T – test) between the means of the first quartile of AT and the fourth quartile of AT. The results showed that the t-value was -0.48 and it was not statistically significant.

We divided the variable, Cash Flow (CFL), into four quartiles and grouped the first quartile and the fourth quartile separately with their corresponding values of EM. We calculated the mean of the first quartile of CFL and the fourth quartile of CFL and the means of the corresponding values of EM. We ran a differences of means test (T – test) between the means of the first quartile of CFL and the fourth quartile of CFL. The results showed that the t-value was -3.06 and it was statistically significant at 1% level. All the above results are shown in Table 32.

[Insert Table 32 here]

Therefore, the results show that EM is not determined by growth opportunities or size of the firm, but EM is determined by the amount of free cash flow in the firm. This leads to the acceptance of the Agency theory of firms regarding EM.

We ran the differences in medians test for the first quartile of MKBK and fourth quartile of MKBK and the corresponding values of EM. The results showed that the z-value was -1.9661 and it was statistically significant at 5% level.

We ran the differences in medians test for the first quartile of CHE and the fourth quartile of CHE and the corresponding values of EM. The results showed that the z-value was -2.7875 and it was statistically significant at 1% level.

We ran the differences in medians test for the first quartile of AT and the fourth quartile of AT and the corresponding values of EM. The results showed that the z-value was -1.3268 and it was statistically significant at the 10% level.

We ran the differences in medians test for the first quartile of CFL and the fourth quartile of CFL and the corresponding values of EM. The results showed that the z-value was -21.5803 and it was statistically significant at the 1% level. All the above results are shown in Table 32A.

[Insert Table 32A here]

Then we tried to find out what managers do with Earnings management (EM). We tried to determine if managers are using EM to make higher dividend payouts. Therefore, we ran the following regression equation:

Dividend payout = MH (various proxies) + EM + EM*MH + M/B + ROA + OIBDP/TA + Cash/TA + Leverage + Realsize + CEO_cash compensation + CEO_non-cash compensation + firm effect + year effect....eqn(8)

The explanation for all the terms are given in Appendix.

Table 33 shows the results with Dividend payout being the dependent variable and various combinations of MH (Age, Tenure, MH3 and MH4) and EM.

[Insert Table 33 here]

As the results exhibit, Age is not statistically significant in any of the equations. Tenure and MH4 are also not statistically significant in any of the equations. Therefore, in all the equations MH3 is the only measure of Managerial horizon that is ever statistically significant. EM is also not statistically significant in any of the equations. EM*MH (various proxies) is also never statistically significant in any of the equations. Therefore, it can be seen that EM is not leading to higher dividend payouts.

Then we ran the year fixed effect model with Dividend payout being the dependent variable.

Table 34 shows the results with Dividend payout being the dependent variable and all the proxies of MH (Age, Tenure, MH3 and MH4) and EM.

[Insert Table 34 here]

The results show that Age, Tenure and MH4 are not statistically significant. EM is also not statistically significant, and EM*MH (various proxies) are also not statistically significant.

Then we ran the firm fixed effect model with Dividend payout being the dependent variable.

Table 35 shows the results with Dividend payout being the dependent variable and all the proxies of MH (Age, Tenure, MH3 and MH4) and EM.

[Insert Table 35 here]

The results show that Age and MH3 are statistically significant at 1% level and Tenure is statistically significant at 10% level but MH4 is not statistically significant. EM is also not statistically significant, EM*MH (various proxies) are also not statistically significant. Therefore, the results show that EM was not causing higher dividend payouts in the firms.

V. CONCLUSION

In these two essays, we used four different measures of managerial horizon, two measures related to age and tenure of the CEO and two measures related to the compensation to analyze their effect on cash holding. The results clearly show that CEO Age and the proportion of CEO's compensation (current and future) do determine level of cash holding in the company. Younger CEOs hold more cash compared to older CEOs. Older CEOs hold less cash suggesting that as CEOs grow older they might be motivated by the idea of leaving a long lasting legacy. CEOs who receive more of their compensation in future payments also hold on to more cash, whereas CEOs who receive more of their compensation in current payments hold less cash. This makes intuitive sense because a CEO whose most of the compensation is going to be paid in the future is more likely to conserve cash to better facilitate its future payments. These essays also show that as companies are holding on to excess cash, the higher level of excess cash is having a significant impact on the firm value. As expected, the results show that in general firms holding more excess cash see a reduction in firm value.

In the second essay, we examine if Earnings Management (EM) is caused by changes in managerial horizon. Earnings are one of the most important measures of firm performance. It is also a fact that managers have a tendency to manipulate earnings to raise investor demand for a stock. As many researchers have previously pointed out earnings manipulation takes place quite often. We use a very good measurement of EM

as propounded by Lee and Masulis (2009) but the results do not show any effect of managerial horizon on Earnings management. We also tried various chow tests to find the various determinants of EM. The results show that EM is caused by the Agency problem in the firms and free cash flows causes EM. We also tried to find out what managers do with EM, tried to determine if EM is used for higher dividend payouts. The results show that EM does not lead to higher dividend payouts.

APPENDIX

Data was collected from Compustat for 10,204 companies over the time 1993 – 2012 (20-year period). The items for which data was collected are listed below:

CHE: Cash & Short Term Investment

AT: Assets-Total

PRCCF: Price-Close Fiscal Year

CSHO: Com Shares Outstanding

CFL: Cash Flow

WCAP: Working Capital

CAPX: Capital Expenditures

DLTT: LT Debt-Total

DLC: Debt in Current Liabilities

XRD: R&D Expense

XINT: Interest Expense

SALE: Sales-Net

DVPSX: Div per Share-Exdate

AQC: Acquisitions

MKBK: Price to Book

OIBDP: Op Income Bef Depreciation

TXT: Income Taxes-Total

LCT: Current Liabilities-Total

ACT: Current Assets-Total

LT: Liabilities-Total

IB: Income Bef Extra Items

ROA: Return on Assets

DP: Depreciation-Amortization

PPEGT: PP&E-Total Gross

PPENT: PP&E-Total Net

CEQ: Common Equity-Total

RECT: Receivables-Total

INVT: Inventories-Total

XAD: Advertising Expense

Data was collected from ExecuComp database for the time 1993 – 2012 (20-year period). The items for which data was collected are listed below:

Age: Age of the CEO

Year became CEO

Salary: The dollar value of the base salary earned by the CEO during the fiscal year

Stock_unvested_value: The aggregate market value of restricted shares held by the executive as of fiscal year end.

TDC1: Total Compensation (Salary + Bonus + Other Annual + Restricted Stock Grant + LTIP Payouts + All other + Value of Option Grants)

Explanation of different terms:

Cash = CHE

TA = AT

MB = Price to Book = MKBK

Realsize = Ln(AT) expressed in 2004 dollars.

Sigma is the measure of the volatility of a firm's cash flow over the time period. It is the mean of the standard deviation of the cash flow over assets.

Leverage: (DLTT + DLC) / AT

R&D = XRD

Divdummy = 0 when firm does not pay any dividend and is 1 when it pays a dividend

Acquisition = AQC

MH1: Age of the CEO

MH2: CEO's tenure.

CEO's tenure (MH2) is calculated by using the definition used by Karuna (2009)

Tenure = ln(1 + years as CEO)

Years as CEO = difference between current year and the year became CEO.

MH3: Salary / TDC1

Proportion of salary to total CEO compensation as defined by Sharma and Hsieh (2011).

MH4: Stock_unvested_value / TDC1

$DL2X_{t-2}$ is the change in X from time t-2 to t

DX_{t+2} is the change in X from time t to t+2

$MV_{i,t}$ = Market Value at time t = (PRCCF*CSHO) + LT

$NA_{i,t}$ = Assets net of cash at time t = AT - CHE

$Xcash_{i,t}$ = Cash at time t minus optimal cash

$Govindex_{i,t}$ = Gompers, Ishii and Metrick governance index at time t

FCF = Operating Income minus interest minus taxes = OIBDP – XINT – TXT

NWC = Current Assets – Current Liabilities – Cash = ACT – LCT – CHE

NA = Net Assets = AT – CHE

Cash = CHE

MV = (Price * Shares) + Total Liabilities = (PRCCF * CSHO) + LT

RD = R&D Expenditures.

Where CA = total current accruals = Δ current assets (ACT) – Δ current liabilities (LCT) – Δ cash (CHE) + Δ debt in current liabilities (DLC)

Δ = changes from year t to t – 1

CFO = cash flow from operations = net income before extraordinary items (IB) – total accruals

Total accruals = current accruals (CA) – depreciation and amortization expense (DP)

Sales = SALE

PPE = property, plant and equipment (PPEGT)

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Table 1: Descriptive Statistics

Variable	Mean	Std Dev	Minimum	Maximum	Lower Quartile	Median	Upper Quartile	N
AQC	20.47042	61.14561	-1	506	0	0	6.1	45829
AT	223.9929	225.3666	0.9	941	49	145	323	45829
Age	53.54244	12.96218	0	96	50	55	60	12971
CFL	60.15491	123.457	-67	783	0.5	11	62	45829
CHE	62.71457	115.5261	0.1	777	3.3	15	64	45829
CSHO	55.26925	109.548	0	998	7.6	19	52	45201
DLC	29.91102	76.72724	0.1	633	1.1	4.2	16	45829
DLTT	117.9599	184.8253	0.1	883	3.2	23	157	45829
DVPSX	0.338884	5.421875	0	705	0	0	0	43080
PRCCF	19.12503	41.45656	0	998	4.6	10	22	38770
SALE	219.504	224.6385	0.1	940	43	141	317	45829
Tenure	1.745384	0.888025	0	4.1271344	1.098612	1.79176	2.397895	11638
WCAP	93.60607	149.466	-62	826	5.1	31	119	45829
XINT	27.14584	76.84073	-6	982	0.8	4	18	43553
XRD	27.70131	82.18813	0	991	0.5	4.7	19	27122
MH3	0.321208	0.230632	0	1	0.152843	0.255405	0.428299	12872
MH4	0.466584	6.633411	-0.003779	722.11264	0	0	0.442577	12872

Table 2

Pearson Correlation Coefficients Prob > |r| under H0: Rho=0 Number of Observations	AQC	AT	Age	CFL	CHE	CSHO	DLC	DLTT	DVPSX	PRCCF
AQC	1	0.19288	0.03548	0.31387	0.21353	0.26674	0.26546	0.32906	0.01162	0.0943
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0158	<.0001
	45829	45829	12971	45829	45829	45201	45829	45829	43080	38770
AT	0.19288	1	0.03255	0.32586	0.27566	0.22172	0.20947	0.35492	0.01784	0.09724
	<.0001		0.0002	<.0001	<.0001	<.0001	<.0001	<.0001	0.0002	<.0001
	45829	45829	12971	45829	45829	45201	45829	45829	43080	38770
Age	0.03548	0.03255	1	0.06221	0.01777	0.00749	0.0187	0.05749	-0.00527	0.00966
	<.0001	0.0002		<.0001	0.043	0.3944	0.0332	<.0001	0.5492	0.2821
	12971	12971	12971	12971	12971	12945	12971	12971	12919	12400
CFL	0.31387	0.32586	0.06221	1	0.5089	0.52318	0.47944	0.49346	0.03441	0.14657
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	45829	45829	12971	45829	45829	45201	45829	45829	43080	38770
CHE	0.21353	0.27566	0.01777	0.5089	1	0.4846	0.38267	0.37601	0.01243	0.14812
	<.0001	<.0001	0.043	<.0001		<.0001	<.0001	<.0001	0.0099	<.0001
	45829	45829	12971	45829	45829	45201	45829	45829	43080	38770
CSHO	0.26674	0.22172	0.00749	0.52318	0.4846	1	0.45857	0.38217	0.02334	0.03587
	<.0001	<.0001	0.3944	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	45201	45201	12945	45201	45201	45201	45201	45201	42808	38696
DLC	0.26546	0.20947	0.0187	0.47944	0.38267	0.45857	1	0.36092	0.0208	0.09832
	<.0001	<.0001	0.0332	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	45829	45829	12971	45829	45829	45201	45829	45829	43080	38770
DLTT	0.32906	0.35492	0.05749	0.49346	0.37601	0.38217	0.36092	1	0.03092	0.10978
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	45829	45829	12971	45829	45829	45201	45829	45829	43080	38770
DVPSX	0.01162	0.01784	-0.00527	0.03441	0.01243	0.02334	0.0208	0.03092	1	0.09252
	0.0158	0.0002	0.5492	<.0001	0.0099	<.0001	<.0001	<.0001		<.0001
	43080	43080	12919	43080	43080	42808	43080	43080	43080	38642
PRCCF	0.0943	0.09724	0.00966	0.14657	0.14812	0.03587	0.09832	0.10978	0.09252	1
	<.0001	<.0001	0.2821	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	38770	38770	12400	38770	38770	38696	38770	38770	38642	38770
SALE	0.19425	0.56301	0.01906	0.32118	0.25166	0.22884	0.22004	0.35257	0.02374	0.07176
	<.0001	<.0001	0.03	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	45829	45829	12971	45829	45829	45201	45829	45829	43080	38770
Tenure	0.00362	0.02158	0.34457	-0.02727	-0.04099	-0.03933	-0.05874	-0.02731	-0.00501	-0.00866
	0.696	0.0199	<.0001	0.0033	<.0001	<.0001	<.0001	0.0032	0.5899	0.3598

	11638	11638	11638	11638	11638	11623	11638	11638	11595	11173
	0.23592	0.31644	0.05886	0.47398	0.58517	0.36291	0.25145	0.41778	0.01539	0.12504
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0014	<.0001
	45829	45829	12971	45829	45829	45201	45829	45829	43080	38770
	0.24062	0.19922	0.00951	0.46568	0.40846	0.56884	0.5169	0.44533	0.01853	0.0938
	<.0001	<.0001	0.2881	<.0001	<.0001	<.0001	<.0001	<.0001	0.0002	<.0001
	43553	43553	12484	43553	43553	42942	43553	43553	40978	36780
	0.284	0.19305	-0.00066	0.37581	0.45016	0.52184	0.41145	0.28472	0.06338	0.09751
	<.0001	<.0001	0.9523	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	27122	27122	8117	27122	27122	26853	27122	27122	25416	23022
	-0.18144	-0.01687	0.00255	-0.30321	-0.30587	-0.25857	-0.1964	-0.19272	0.03546	-0.11111
	<.0001	0.0556	0.7726	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	12872	12872	12872	12872	12872	12846	12872	12872	12822	12307
	0.00744	0.01677	-0.00153	0.01945	0.03477	0.05066	0.02224	0.03247	-0.00045	0.01459
	0.3985	0.0572	0.8618	0.0273	<.0001	<.0001	0.0116	0.0002	0.9592	0.1056
	12872	12872	12872	12872	12872	12846	12872	12872	12822	12307

Pearson Correlation Coefficients Prob > |r| under Ho: Rho=0 Number of Observations							
	SALE	Tenure	WCAP	XINT	XHD	MH3	MH4
	0.19425	0.00362	0.23592	0.24062	0.284	-0.18144	0.00744
	<.0001	0.696	<.0001	<.0001	<.0001	<.0001	0.3985
	45829	11638	45829	43553	27122	12872	12872
	0.56301	0.02158	0.31644	0.19922	0.19305	-0.01687	0.01677
	<.0001	0.0199	<.0001	<.0001	<.0001	0.0556	0.0572
	45829	11638	45829	43553	27122	12872	12872
	0.01906	0.34457	0.05886	0.00951	-0.00066	0.00255	-0.00153
	0.03	<.0001	<.0001	0.2881	0.9523	0.7726	0.8618
	12971	11638	12971	12484	8117	12872	12872
	0.32118	-0.02727	0.47398	0.46568	0.37581	-0.30321	0.01945
	<.0001	0.0033	<.0001	<.0001	<.0001	<.0001	0.0273
	45829	11638	45829	43553	27122	12872	12872
	0.25166	-0.04099	0.58517	0.40846	0.45016	-0.30587	0.03477
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	45829	11638	45829	43553	27122	12872	12872
	0.22884	-0.03933	0.36291	0.56884	0.52184	-0.25857	0.05066
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	45201	11623	45201	42942	26853	12846	12846

[illegible]	0.22004	-0.05874	0.25145	0.5169	0.41145	-0.1964	0.02224
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0116
	45829	11638	45829	43553	27122	12872	12872
[illegible]	0.35257	-0.02731	0.41778	0.44533	0.28472	-0.19272	0.03247
	<.0001	0.0032	<.0001	<.0001	<.0001	<.0001	0.0002
	45829	11638	45829	43553	27122	12872	12872
[illegible]	0.02374	-0.00501	0.01539	0.01853	0.06338	0.03546	-0.00045
	<.0001	0.5899	0.0014	0.0002	<.0001	<.0001	0.9592
	43080	11595	43080	40978	25416	12822	12822
[illegible]	0.07176	-0.00866	0.12504	0.0938	0.09751	-0.11111	0.01459
	<.0001	0.3598	<.0001	<.0001	<.0001	<.0001	0.1056
	38770	11173	38770	36780	23022	12307	12307
[illegible]	1	-0.00045	0.31385	0.20079	0.1888	-0.03151	-0.00306
		0.9617	<.0001	<.0001	<.0001	0.0003	0.7285
	45829	11638	45829	43553	27122	12872	12872
[illegible]	-0.00045	1	-0.01103	-0.06459	-0.05306	0.11324	0.02117
	0.9617		0.234	<.0001	<.0001	<.0001	0.0228
	11638	11638	11638	11223	7269	11557	11557
[illegible]	0.31385	-0.01103	1	0.24943	0.33904	-0.19635	-0.00541
	<.0001	0.234		<.0001	<.0001	<.0001	0.5394
	45829	11638	45829	43553	27122	12872	12872
[illegible]	0.20079	-0.06459	0.24943	1	0.39111	-0.21527	0.01491
	<.0001	<.0001	<.0001		<.0001	<.0001	0.097
	43553	11223	43553	43553	25396	12395	12395
[illegible]	0.1888	-0.05306	0.33904	0.39111	1	-0.23502	0.0733
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	27122	7269	27122	25396	27122	8064	8064
[illegible]	-0.03151	0.11324	-0.19635	-0.21527	-0.23502	1	-0.01183
	0.0003	<.0001	<.0001	<.0001	<.0001		0.1796
	12872	11557	12872	12395	8064	12872	12872
[illegible]	-0.00306	0.02117	-0.00541	0.01491	0.0733	-0.01183	1
	0.7285	0.0228	0.5394	0.097	<.0001	0.1796	
	12872	11557	12872	12395	8064	12872	12872

Table 3: T – tests for the differences in means

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Tenure		Cash/Sales		Cash/NA		Cash/TA	
1st quartile	4th quartile	Mean of 1st quartile	Mean of 4th quartile	Mean of 1st quartile	Mean of 4th quartile	Mean of 1st quartile	Mean of 4th quartile
		0.6711	0.5610	1.2726	1.0107	0.5912	0.5009
0 – 1.1	2.48 – 4.13	t Value 1.89*		t Value 1.33		t Value 4.25***	

Age		Cash/Sales		Cash/NA		Cash/TA	
1st quartile	4th quartile	Mean of 1st quartile	Mean of 4th quartile	Mean of 1st quartile	Mean of 4th quartile	Mean of 1st quartile	Mean of 4th quartile
		0.6806	0.5344	1.0404	0.9939	0.5231	0.5058
0 – 50	61 – 96	t Value 2.31**		t Value 0.37		t Value 0.87	

MH3		Cash/Sales		Cash/NA		Cash/TA	
1st quartile	4th quartile	Mean of 1st quartile	Mean of 4th quartile	Mean of 1st quartile	Mean of 4th quartile	Mean of 1st quartile	Mean of 4th quartile
		0.9252	0.4694	2.1451	0.5964	0.9095	0.2788
0 – 0.153	0.429 – 1	t Value 5.66***		t Value 7.87***		t Value 29.56***	

Table 3A: Differences in medians

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Tenure		Cash/Sales	Cash/NA	Cash/TA
1st quartile	4th quartile			
0 – 1.1	2.48 – 4.13	Z Value -3.9949***	Z Value -3.4194***	Z Value -4.3568***

Age		Cash/Sales	Cash/NA	Cash/TA
1st quartile	4th quartile			
0 – 50	2.48 – 4.13	Z Value -1.2848	Z Value -2.8874***	Z Value -1.0006

MH3		Cash/Sales	Cash/NA	Cash/TA
1st quartile	4th quartile			
0 – 0.153	0.429 – 1	Z Value 31.1601***	Z Value 24.0390***	Z Value 31.8082***

Table 4: Regression Analysis: The dependent variable is Cash/TA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables						
Constant	0.91940***	0.45126***	0.36700***	0.26806***	0.26992***	0.35733***
	(2.42)	(7.01)	(20.29)	(21.72)	(8.12)	(14.47)
Age	-0.00921	-0.00204*			-0.00003606	
	(-1.43)	(-1.65)			(-0.06)	
Tenure	0.03008	0.01729*				0.01166
	(0.56)	(1.71)				(1.22)
MB	0.00021781	0.00345***	0.00361***	0.00373***	0.00373***	0.00349***
	(0.13)	(10.13)	(10.97)	(11.32)	(11.32)	(10.26)
Sigma	0.17384**	0.27862***	0.27429***	0.28729***	0.28731***	0.27900***
	(2.27)	(16.81)	(17.47)	(18.39)	(18.38)	(16.84)
NWCoverTA	-0.22510***	-0.18052***	-0.17828***	-0.18141***	-0.18140***	-0.18079***
	(-7.79)	(-30.46)	(-32.03)	(-32.60)	(-32.60)	(-30.49)
CAPXoverTA	0.13055	0.06555***	0.07046***	0.07091***	0.07090***	0.06403***
	(1.62)	(4.70)	(5.34)	(5.36)	(5.36)	(4.59)
RDoverSales	0.12591**	0.04316***	0.04617***	0.04807***	0.04807***	0.04364***
	(2.13)	(5.98)	(6.57)	(6.83)	(6.83)	(6.04)
Divdummy	-0.24853***	-0.22477***	-0.22247***	-0.22544***	-0.22535***	-0.22785***
	(-2.68)	(-12.77)	(-13.72)	(-13.85)	(-13.78)	(-13.15)

AQCoverTA	0.05580	0.03889**	0.03379*	0.04161**	0.04161**	0.04015***
	(0.64)	(1.99)	(1.83)	(2.25)	(2.25)	(2.05)
Leverage	0.12810***	0.10397***	0.10020***	0.10120***	0.10122***	0.10358***
	(3.73)	(14.49)	(14.79)	(14.90)	(14.89)	(14.44)
Realsize	-0.00000175	-0.00000128*	-0.00000116*	-9.45303E-7	-9.45721E-7	-0.00000109
	(-0.55)	(-1.75)	(-1.67)	(-1.36)	(-1.36)	(-1.50)
MH3	-0.09081	-0.27055***	-0.26061***			-0.27374***
	(-0.41)	(-6.65)	(-7.08)			(-6.75)
MH4	0.03581	0.02051***		0.01833**	0.01834**	
	(0.56)	(2.73)		(2.52)	(2.52)	
Governance	-0.00975					
	(-0.56)					
Observations	360	6620	7340	7340	7340	6620
R^2	0.3837	0.3963	0.3968	0.3932	0.3932	0.3954
Adj R^2	0.3568	0.3951	0.3959	0.3923	0.3922	0.3943

Table 5: Regression Analysis: The dependent variable is Cash/Sales

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables					
Constant	0.46016	0.07292	0.27900***	0.25523***	0.23203***
	(1.27)	(0.52)	(6.08)	(9.61)	(4.33)
Age	0.00031193	0.00331			
	(0.05)	(1.23)			
Tenure	0.06534	-0.02598	-0.01323		-0.01701
	(1.28)	(-1.19)	(-0.65)		(-0.82)
MB	0.00064863	0.00022123	0.00011681	-0.00033666	0.00018133
	(0.41)	(0.30)	(0.16)	(-0.47)	(0.25)
Sigma	0.12693*	0.12223***	0.11520***	0.11731***	0.12393***
	(1.74)	(3.39)	(3.24)	(3.49)	(3.45)
NWCoverTA	-0.19901***	-0.10931***	-0.10695***	-0.10720***	-0.10930***
	(-7.24)	(-8.49)	(-8.36)	(-8.95)	(-8.49)
CAPXoverTA	0.07658	-0.23504***	-0.23401***	-0.20903***	-0.23449***
	(1.00)	(-7.76)	(-7.75)	(-7.34)	(-7.75)
RDoverSales	0.46641***	1.95290***	1.95024***	1.92395***	1.95245***
	(8.30)	(124.51)	(124.73)	(126.97)	(124.53)
Divdummy	-0.23118***	-0.11571***	-0.10403***	-0.10711***	-0.10752***
	(-2.62)	(-3.03)	(-2.78)	(-3.06)	(-2.86)

AQCoverTA	-0.12655	-0.18194***	-0.18945***	-0.19565***	-0.18243***
	(-1.53)	(-4.28)	(-4.50)	(-4.92)	(-4.29)
Leverage	0.05984*	0.03833**	0.03845**	0.03357**	0.03927**
	(1.83)	(2.46)	(2.48)	(2.30)	(2.52)
Realsize	-0.00000762**	-0.00002316***	-0.00002328***	-0.00002249***	-0.00002308***
	(-2.53)	(-14.58)	(-14.86)	(-14.99)	(-14.65)
MH3	-0.40111*	0.14477			0.15458
	(-1.92)	(1.64)			(1.76)
MH4	0.06610	-0.00069111		-0.00058450	
	(1.09)	(-0.04)		(-0.04)	
Governance	-0.00970				
	(-0.58)				
Observations	360	6620	6654	7340	6620
R^2	0.4254	0.7079	0.7073	0.6946	0.7079
Adj R^2	0.4003	0.7073	0.7068	0.6941	0.7073

Table 6: Regression Analysis: The dependent variable is Cash/NA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables					
Constant	-0.50569	0.83513**	0.47886**	0.78077	0.49636
	(-0.15)	(2.42)	(2.07)	(1.59)	(1.17)
Age	-0.02084				
	(-0.36)				
Tenure	0.40092			0.02583	0.00591
	(0.80)			(0.14)	(0.03)
MB	0.14591	0.05173***	0.05226***	0.05487***	0.05530***
	(6.75)***	(4.64)	(4.69)	(4.57)	(4.61)
Sigma	-2.52863**	0.03734	0.11307	0.13982	0.20634
	(-2.12)	(0.08)	(0.24)	(0.27)	(0.40)
NWCoverTA	-0.44922	-0.53767***	-0.54799***	-0.50998***	-0.51936***
	(-1.34)	(-3.74)	(-3.82)	(-3.15)	(-3.22)
CAPXoverTA	6.71903***	0.66307	0.66642	0.65671	0.66065
	(5.97)	(1.61)	(1.62)	(1.46)	(1.47)
RDoverSales	0.45993	0.14593	0.15222	0.13939	0.14436
	(0.47)	(1.11)	(1.16)	(1.00)	(1.04)
Divdummy	0.72446	-0.23490	-0.25302	-0.27733	-0.29719
	(0.86)	(-0.73)	(-0.79)	(-0.77)	(-0.83)

AQCoverTA	0.46245	-0.12896	-0.09558	-0.08926	-0.05832
	(0.47)	(-0.29)	(-0.22)	(-0.18)	(-0.12)
Leverage	-0.40401	0.32816**	0.32494**	0.29759*	0.29445*
	(-1.18)	(2.09)	(2.06)	(1.71)	(1.70)
Realsize	-0.00012881***	-0.00001429	-0.00001290	-0.00001425	-0.00001333
	(-3.02)	(-0.80)	(-0.72)	(-0.75)	(-0.70)
MH3	1.34115	-0.92077		-0.82733	
	(0.72)	(-1.32)		(-1.04)	
MH4	0.40923		0.05704		0.06749
	(0.72)		(0.37)		(0.41)
Governance	-0.02076				
	(0.8939)				
Observations	278	6054	6054	5402	5402
R^2	0.5074	0.0170	0.0168	0.0165	0.0163
Adj R^2	0.4791	0.0152	0.0150	0.0143	0.0141

Table 7: Regression Analysis: The dependent variable is log(Cash/TA)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables						
Constant	-0.36306	-2.20548***	-1.76511***	-2.22254***	-1.73081***	-2.14073***
	(-0.63)	(-32.71)	(-48.59)	(-88.46)	(-35.54)	(-50.02)
Age	-0.02324**	-0.00002168				
	(-2.40)	(-0.02)				
Tenure	0.07823				0.00059662	-0.03261*
	(0.97)				(0.03)	(-1.72)
MB	0.00005084	0.00480***	0.00414***	0.00471***	0.00398***	0.00454***
	(0.02)	(7.13)	(6.27)	(7.02)	(5.93)	(6.66)
Sigma	0.35055***	0.59398***	0.53090***	0.59252***	0.53263***	0.59670***
	(3.04)	(18.64)	(16.84)	(18.63)	(16.30)	(18.12)
NWCoverTA	-0.23715***	-0.24362***	-0.22747***	-0.24226***	-0.22268***	-0.23825***
	(-5.46)	(-21.54)	(-20.35)	(-21.39)	(-19.04)	(-20.12)
CAPXoverTA	0.25964**	0.07579***	0.07719***	0.07839***	0.06849**	0.07119**
	(2.14)	(2.81)	(2.91)	(2.91)	(2.49)	(2.55)
RDoverSales	0.20562**	0.13795	0.12767***	0.13671***	0.11941***	0.12759***
	(2.31)	(9.60)***	(9.05)	(9.54)	(8.38)	(8.82)
Divdummy	-0.43210***	-0.45302***	-0.44522***	-0.45728***	-0.45796***	-0.47658***
	(-3.09)	(-13.62)	(-13.67)	(-13.80)	(-13.40)	(-13.71)

AQCoverTA	0.10461	0.06210*	0.02352	0.06069	0.04886	0.08777**
	(0.80)	(1.66)	(0.63)	(1.61)	(1.26)	(2.24)
Leverage	0.21845***	0.23354***	0.22733***	0.23224***	0.23078***	0.23472***
	(4.23)	(16.87)	(16.71)	(16.79)	(16.31)	(16.32)
Realsize	0.00000176	0.00000648***	0.00000451***	0.00000568***	0.00000439**	0.00000539***
	(0.37)	(4.59)	(3.24)	(4.01)	(3.07)	(3.69)
MH3	-1.19024***		-1.21547***		-1.25995***	
	(-3.61)		(-16.45)		(-15.76)	
MH4	0.05320			0.06799***		0.07722***
	(0.55)			(4.59)		(5.12)
Governance	-0.00765					
	(-0.29)					
Observations	360	7384	7340	7340	6620	6620
R^2	0.4428	0.3335	0.3580	0.3362	0.3606	0.3391
Adj R^2	0.4185	0.3325	0.3570	0.3352	0.3594	0.3379

Table 8: Regression Analysis: The dependent variable is log(Cash/NA)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables						
Constant	-0.22580	-1.68172***	-2.13935***	-1.64001***	-2.08248***	-1.62203***
	(-0.26)	(-34.78)	(-65.42)	(-17.34)	(-23.46)	(-24.64)
Age	-0.02891**			-0.00081296	-0.00110	
	(-1.97)			(-0.51)	(-0.69)	
Tenure	0.12420					-0.01313
	(0.98)					(-0.51)
MB	0.00544	0.01204***	0.01275***	0.01202***	0.01272***	0.01190***
	(1.00)	(7.72)	(8.09)	(7.71)	(8.07)	(7.41)
Sigma	0.26437	0.59613***	0.69494***	0.59757***	0.69680***	0.61789***
	(0.88)	(8.91)	(10.34)	(8.92)	(10.36)	(8.84)
NWCoverTA	-0.22782***	-0.25735***	-0.27092***	-0.25702***	-0.27046***	-0.25376***
	(-2.69)	(-12.81)	(-13.35)	(-12.78)	(-13.32)	(-11.74)
CAPXoverTA	0.62874**	0.09091	0.09462	0.09035	0.09388	0.06167
	(2.22)	(1.58)	(1.62)	(1.57)	(1.61)	(1.02)
RDoverSales	0.54217**	0.16018***	0.16824***	0.16014***	0.16819***	0.15028***
	(2.20)	(8.71)	(9.05)	(8.71)	(9.05)	(8.10)
Divdummy	-0.22567	-0.51626***	-0.53906***	-0.51426***	-0.53634***	-0.54462***
	(-1.07)	(-11.45)	(-11.82)	(-11.36)	(-11.71)	(-11.38)

AQCoverTA	0.15058	-0.02476	0.01896	-0.02445	0.01934	0.03861
	(0.60)	(-0.40)	(0.31)	(-0.40)	(0.31)	(0.60)
Leverage	0.16840*	0.24637***	0.24232***	0.24648***	0.24246***	0.24835***
	(1.96)	(11.19)	(10.88)	(11.19)	(10.88)	(10.69)
Realsize	0.00000735	0.00001147***	0.00001341***	0.00001147***	0.00001341***	0.00001095***
	(0.68)	(4.57)	(5.28)	(4.57)	(5.28)	(4.29)
MH3	-1.09943**	-1.18979***		-1.18926***		-1.23052***
	(-2.34)	(-12.22)		(-12.21)		(-11.61)
MH4	0.02395		0.06180***		0.06208***	
	(0.17)		(2.83)		(2.84)	
Governance	-0.00258					
	(-0.07)					
Observations	278	6054	6054	6054	6054	5402
R^2	0.3304	0.2426	0.2249	0.2426	0.2249	0.2450
Adj R^2	0.2920	0.2412	0.2235	0.2411	0.2234	0.2433

Table 9: Regression Analysis: The dependent variable is log(Cash/Sales)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables					
Constant	-0.35509	-1.43979***	-1.96550***	-1.42373***	-1.89747***
	(-0.58)	(-35.83)	(-70.63)	(-26.39)	(-39.96)
Age	-0.01545				
	(-1.49)				
Tenure	0.08628			0.02077	-0.01768
	(1.00)			(1.00)	(-0.84)
MB	-0.00013512	0.00295***	0.00361***	0.00282***	0.00347***
	(-0.05)	(4.04)	(4.86)	(3.79)	(4.59)
Sigma	0.26753**	0.32915***	0.40007***	0.32936***	0.40379***
	(2.18)	(9.44)	(11.36)	(9.10)	(11.05)
NWCoverTA	-0.23226***	-0.23222***	-0.24924***	-0.23082***	-0.24888***
	(-5.02)	(-18.78)	(-19.87)	(-17.82)	(-18.94)
CAPXoverTA	0.19165	0.06930**	0.07063**	0.06027**	0.06318**
	(1.48)	(2.37)	(2.37)	(1.98)	(2.04)
RDoverSales	0.45045***	0.27457***	0.28498***	0.26123***	0.27073***
	(4.76)	(17.60)	(17.95)	(16.55)	(16.86)
Divdummy	-0.45264***	-0.35537***	-0.36912***	-0.37664***	-0.39782***
	(-3.04)	(-9.87)	(-10.06)	(-9.95)	(-10.31)

AQCoverTA	-0.13556	-0.06759*	-0.02480	-0.05195	-0.00673
	(-0.97)	(-1.65)	(-0.60)	(-1.21)	(-0.15)
Leverage	0.07767	0.08637***	0.09204***	0.08987***	0.09447***
	(1.41)	(5.74)	(6.01)	(5.73)	(5.92)
Realsize	2.016737E-7	0.00000577***	0.00000713***	0.00000589***	0.00000709***
	(0.04)	(3.75)	(4.54)	(3.72)	(4.38)
MH3	-1.47865***	-1.39767***		-1.45911***	
	(-4.20)	(-17.10)		(-16.48)	
MH4	0.11463		0.07697***		0.08563***
	(1.12)		(4.69)		(5.12)
Governance	-0.02326				
	(-0.83)				
Observations	360	7340	7340	6620	6620
R^2	0.3663	0.2491	0.2215	0.2506	0.2229
Adj R^2	0.3387	0.2480	0.2203	0.2492	0.2215

Table 10: Regression Analysis: The dependent variable is Cash/TA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables						
Constant	1.02931***	0.40308***	0.31082***	0.32197***	0.31834***	0.26567***
	(2.77)	(5.98)	(16.19)	(8.70)	(12.28)	(11.89)
Age(t-1)	-0.00845	-0.00186		-0.00021561		
	(-1.35)	(-1.44)		(-0.35)		
Tenure(t-1)	0.01679	0.00952			0.00398	0.00032028
	(0.33)	(0.90)			(0.40)	(0.03)
MB	0.00043358	0.00304***	0.00319***	0.00318***	0.00308***	0.00312***
	(0.27)	(8.74)	(9.51)	(9.50)	(8.86)	(8.99)
Sigma	0.20588***	0.28563***	0.28504***	0.28516***	0.28524***	0.29059***
	(2.75)	(17.03)	(17.97)	(17.97)	(17.02)	(17.41)
NWCoverTA	-0.22281***	-0.18120***	-0.17875***	-0.17868***	-0.18164***	-0.18318***
	(-7.78)	(-29.80)	(-31.47)	(-31.44)	(-29.89)	(-30.22)
CAPXoverTA	0.13298*	0.04888***	0.05657***	0.05655***	0.04783***	0.04883***
	(1.73)	(3.43)	(4.21)	(4.21)	(3.35)	(3.42)
RDoverSales	0.13329**	0.15827***	0.15240***	0.15236***	0.15907***	0.16335***
	(2.33)	(10.81)	(11.04)	(11.04)	(10.87)	(11.19)
Divdummy	-0.23481**	-0.22762***	-0.22550***	-0.22492***	-0.23059***	-0.23368***
	(-2.57)	(-12.38)	(-13.40)	(-13.30)	(-12.80)	(-12.94)

AQCoverTA	0.01666	0.03446*	0.03309*	0.03315*	0.03567*	0.03988**
	(0.17)	(1.71)	(1.73)	(1.74)	(1.77)	(1.98)
Leverage	0.10707***	0.10792***	0.10416***	0.10422***	0.10751***	0.10816***
	(3.24)	(14.67)	(15.04)	(15.05)	(14.63)	(14.71)
Realsize	-0.00000135	-0.00000232***	-0.00000216***	-0.00000216***	-0.00000220***	-0.00000217***
	(-0.45)	(-3.06)	(-3.03)	(-3.03)	(-2.92)	(-2.87)
MH3(t-1)	-0.08451	-0.14575***	-0.13489***	-0.13499***	-0.15067***	
	(-0.42)	(-3.49)	(-3.58)	(-3.58)	(-3.62)	
MH4(t-1)	0.01106	0.01608*				0.01650**
	(0.18)	(1.95)				(2.00)
Governance	-0.02311					
	(-1.36)					
Observations	354	6242	6961	6961	6242	6242
R2	0.3837	0.4037	0.4043	0.4043	0.4031	0.4022
Adj R2	0.3564	0.4023	0.4034	0.4033	0.4020	0.4011

Table 11: Regression Analysis: The dependent variable is Cash/Sales

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables					
Constant	0.35906	0.57259***	0.42252***	0.50437***	0.47034***
	(0.99)	(6.42)	(9.28)	(19.55)	(13.71)
Age(t-1)	0.00133	-0.00221	-0.00006697		
	(0.22)	(-1.29)	(-0.08)		
Tenure(t-1)	0.04835	0.03461**			0.02811**
	(0.98)	(2.48)			(2.14)
MB	0.00034033	0.00050221	0.00071429	0.00058788	0.00054167
	(0.22)	(1.09)	(1.59)	(1.31)	(1.18)
Sigma	0.16244**	0.08954***	0.09399***	0.08343***	0.08890***
	(2.23)	(4.03)	(4.43)	(3.92)	(4.01)
NWCoverTA	-0.19746***	-0.16723***	-0.16187***	-0.15968***	-0.16764***
	(-7.11)	(-20.77)	(-21.33)	(-20.92)	(-20.84)
CAPXoverTA	0.10808	-0.01241	-0.00493	-0.00623	-0.01346
	(1.45)	(-0.66)	(-0.27)	(-0.34)	(-0.71)
RDoverSales	0.47458***	0.68410***	0.68798***	0.68610***	0.68510***
	(8.56)	(35.28)	(37.35)	(37.00)	(35.36)
Divdummy	-0.24250***	-0.15629***	-0.16090***	-0.16085***	-0.16040***
	(-2.74)	(-6.42)	(-7.10)	(-7.11)	(-6.72)

AQCoverTA	-0.10302	-0.08097***	-0.07317***	-0.07764***	-0.07971***
	(-1.11)	(-3.03)	(-2.88)	(-3.03)	(-2.98)
Leverage	0.05203	0.04102***	0.04002***	0.03903***	0.04050***
	(1.62)	(4.21)	(4.31)	(4.20)	(4.16)
Realsize	-0.00000690**	-0.00000707***	-0.00000655***	-0.00000696***	-0.00000697***
	(-2.38)	(-7.04)	(-6.86)	(-7.26)	(-7.01)
MH3(t-1)	-0.07372	-0.23851***		-0.22628***	-0.24419***
	(-0.38)	(-4.31)		(-4.46)	(-4.43)
MH4(t-1)	0.07834	0.01476			
	(1.30)	(1.35)			
Governance	-0.01413				
	(-0.86)				
Observations	354	6242	7002	6961	6242
R2	0.4188	0.2926	0.2804	0.2834	0.2922
Adj R2	0.3931	0.2910	0.2793	0.2823	0.2908

Table 12: Regression Analysis: The dependent variable is Cash/NA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables					
Constant	1.06480	1.41754**	1.08579	0.78626	0.48022
	(0.31)	(1.95)	(1.63)	(1.52)	(1.09)
Age(t-1)	-0.02714	-0.01245	-0.01244		
	(-0.47)	(-1.03)	(-1.03)		
Tenure(t-1)	0.13515			0.01215	-0.00236
	(0.29)			(0.06)	(-0.01)
MB	0.16729***	0.05025***	0.05028***	0.05295***	0.05290***
	(7.95)	(4.25)	(4.25)	(4.25)	(4.24)
Sigma	-2.29182*	0.11582	0.16578	0.22978	0.27170
	(-1.87)	(0.23)	(0.33)	(0.43)	(0.51)
NWCoverTA	-0.56437	-0.52831***	-0.53719***	-0.56837***	-0.57533***
	(-1.65)	(-3.53)	(-3.59)	(-3.45)	(-3.50)
CAPXoverTA	5.22188***	0.59184	0.59604	0.52885	0.53912
	(5.02)	(1.38)	(1.39)	(1.15)	(1.18)
RDoverSales	0.27171	0.36122	0.39212	0.43415	0.46734
	(0.28)	(1.11)	(1.21)	(1.25)	(1.34)
Divdummy	0.62798	-0.19802	-0.22062	-0.35342	-0.38089
	(0.73)	(-0.57)	(-0.64)	(-0.95)	(-1.02)

AQCoverTA	-0.14220	-0.08424	-0.05118	0.07198	0.10320
	(-0.12)	(-0.18)	(-0.11)	(0.14)	(0.21)
Leverage	-0.54384	0.32859**	0.32739**	0.27332	0.27218
	(-1.59)	(2.01)	(2.00)	(1.55)	(1.54)
Realsize	-0.00008571**	-0.00001692	-0.00001626	-0.00001893	-0.00001907
	(-2.14)	(-0.89)	(-0.86)	(-0.96)	(-0.96)
MH3(t-1)	0.47181	-0.81289		-0.79036	
	(0.25)	(-1.10)		(-0.96)	
MH4(t-1)	-0.41623		0.10271		0.15442
	(-0.72)		(0.61)		(0.86)
Governance	-0.04158				
	(-0.27)				
Observations	277	5683	5683	5048	5048
R^2	0.4869	0.0167	0.0166	0.0168	0.0168
Adj R^2	0.4575	0.0146	0.0145	0.0145	0.0145

Table 13: Regression Analysis: The dependent variable is log(Cash/TA)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables						
Constant	-0.82597	-1.89568***	-2.25137***	-1.84171***	-2.19956***	-1.83099***
	(-1.44)	(-50.19)	(-86.42)	(-25.29)	(-32.44)	(-36.57)
Age(t-1)	-0.01668*			-0.00104	-0.00101	
	(-1.72)			(-0.87)	(-0.83)	
Tenure(t-1)	0.03026					-0.00712
	(0.38)					(-0.37)
MB	-0.00001015	0.00336***	0.00368***	0.00335***	0.00367***	0.00335***
	(-0.00)	(5.10)	(5.53)	(5.09)	(5.51)	(5.00)
Sigma	0.46552***	0.57060***	0.60604***	0.57118***	0.60661***	0.56039***
	(4.03)	(18.29)	(19.32)	(18.30)	(19.33)	(17.31)
NWCoverTA	-0.24669***	-0.21848***	-0.22876***	-0.21817***	-0.22846***	-0.21417***
	(-5.58)	(-19.55)	(-20.33)	(-19.51)	(-20.29)	(-18.24)
CAPXoverTA	0.27909**	0.03401	0.03799	0.03390	0.03789	0.02338
	(2.35)	(1.29)	(1.42)	(1.28)	(1.42)	(0.85)
RDoverSales	0.24538***	0.38498***	0.41055***	0.38481***	0.41040***	0.37885***
	(2.78)	(14.18)	(15.01)	(14.17)	(15.01)	(13.40)
Divdummy	-0.40032***	-0.42876***	-0.43864***	-0.42592***	-0.43593***	-0.42609***
	(-2.84)	(-12.95)	(-13.09)	(-12.80)	(-12.95)	(-12.24)

AQCoverTA	0.10286	0.01161	0.03864	0.01192	0.03894	0.02470
	(0.70)	(0.31)	(1.02)	(0.32)	(1.03)	(0.63)
Leverage	0.19862***	0.23206***	0.23602***	0.23237***	0.23631***	0.23265***
	(3.90)	(17.04)	(17.16)	(17.05)	(17.18)	(16.39)
Realsize	0.00000200	0.00000159	0.00000231	0.00000160	0.00000231	0.00000126
	(0.43)	(1.14)	(1.62)	(1.14)	(1.62)	(0.87)
MH3(t-1)	-0.53218*	-0.91804***		-0.91854***		-1.00527***
	(-1.71)	(-12.37)		(-12.37)		(-12.49)
MH4(t-1)	0.07033		0.05880***		0.05902***	
	(0.74)		(3.76)		(3.78)	
Governance	-0.01760					
	(-0.67)					
Observations	354	6961	6961	6961	6961	6242
R^2	0.4301	0.3677	0.3551	0.3677	0.3551	0.3699
Adj R^2	0.4048	0.3667	0.3540	0.3666	0.3540	0.3687

Table 14: Regression Analysis: The dependent variable is log(Cash/NA)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables						
Constant	-0.87180	-1.84036***	-2.20794***	-1.71259***	-2.08309***	-1.74953***
	(-1.02)	(-36.40)	(-64.92)	(-17.60)	(-23.11)	(-25.89)
Age(t-1)	-0.01717			-0.00248	-0.00244	
	(-1.20)			(-1.54)	(-1.50)	
Tenure(t-1)	-0.01946					-0.02489
	(-0.17)					(-0.96)
MB	0.00676	0.00776***	0.00799***	0.00773***	0.00795***	0.00813***
	(1.31)	(4.90)	(5.00)	(4.88)	(4.98)	(4.99)
Sigma	0.40964	0.70162***	0.76147***	0.70278***	0.76265***	0.69304***
	(1.36)	(10.49)	(11.37)	(10.51)	(11.38)	(9.87)
NWCoverTA	-0.29182***	-0.25006***	-0.26167***	-0.24855***	-0.26019***	-0.24859***
	(-3.47)	(-12.45)	(-12.97)	(-12.36)	(-12.88)	(-11.55)
CAPXoverTA	0.66015**	0.05344	0.05743	0.05310	0.05710	0.03972
	(2.58)	(0.93)	(0.99)	(0.93)	(0.99)	(0.66)
RDoverSales	0.59824**	0.60163***	0.63600***	0.60049***	0.63493***	0.59828***
	(2.51)	(13.82)	(14.56)	(13.80)	(14.54)	(13.14)
Divdummy	-0.23994	-0.49970***	-0.52068***	-0.49232***	-0.51349***	-0.49757***
	(-1.14)	(-10.86)	(-11.23)	(-10.64)	(-11.02)	(-10.22)

AQCoverTA	0.17194	-0.03929	0.00009024	-0.03795	0.00143	-0.02142
	(0.58)	(-0.63)	(0.00)	(-0.61)	(0.02)	(-0.33)
Leverage	0.13711	0.25132***	0.24995***	0.25212***	0.25073***	0.25627***
	(1.63)	(11.45)	(11.31)	(11.48)	(11.34)	(11.13)
Realsize	0.00000751	0.00000630**	0.00000755***	0.00000635**	0.00000760***	0.00000452*
	(0.76)	(2.48)	(2.95)	(2.49)	(2.96)	(1.75)
MH3(t-1)	-0.27022	-0.92674***		-0.92771***		-1.01014***
	(-0.58)	(-9.36)		(-9.37)		(-9.40)
MH4(t-1)	0.00447		0.06587***		0.06622***	
	(0.03)		(2.90)		(2.91)	
Governance	-0.01383					
	(-0.36)					
Observations	277	5683	5683	5683	5683	5048
R^2	0.3363	0.2599	0.2496	0.2602	0.2499	0.2622
Adj R^2	0.2981	0.2585	0.2481	0.2586	0.2483	0.2605

Table 15: Regression Analysis: The dependent variable is log(Cash/Sales)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables					
Constant	-0.88776	-1.61897***	-2.02704***	-1.59366***	-1.98108***
	(-1.45)	(-39.54)	(-71.66)	(-29.41)	(-41.90)
Age(t-1)	-0.01004				
	(-0.97)				
Tenure(t-1)	0.03112			0.01994	-0.00935
	(0.37)			(0.96)	(-0.45)
MB	-0.00047844	0.00158**	0.00196***	0.00160**	0.00201***
	(-0.18)	(2.22)	(2.71)	(2.20)	(2.74)
Sigma	0.37819***	0.38086***	0.42206***	0.37497***	0.41808***
	(3.06)	(11.26)	(12.39)	(10.70)	(11.84)
NWCoverTA	-0.24242***	-0.21187***	-0.22394***	-0.21191***	-0.22502***
	(-5.13)	(-17.49)	(-18.33)	(-16.68)	(-17.55)
CAPXoverTA	0.22949*	0.00057045	0.00484	-0.00519	-0.00004228
	(1.81)	(0.02)	(0.17)	(-0.17)	(-0.00)
RDoverSales	0.49510***	0.74564***	0.77517***	0.73693***	0.76918***
	(5.25)	(25.33)	(26.10)	(24.09)	(24.91)
Divdummy	-0.41935***	-0.31718***	-0.32712***	-0.31744***	-0.33408***
	(-2.79)	(-8.84)	(-8.99)	(-8.43)	(-8.74)

AQCoverTA	-0.04255	-0.09120**	-0.05967	-0.09137**	-0.05693
	(-0.27)	(-2.24)	(-1.45)	(-2.17)	(-1.34)
Leverage	0.07291	0.08956***	0.09419***	0.08724***	0.09253***
	(1.34)	(6.07)	(6.31)	(5.68)	(5.95)
Realsize	1.625994E-8	1.742675E-7	0.00000111	-3.40132E-8	7.569823E-7
	(0.00)	(0.11)	(0.72)	(-0.02)	(0.47)
MH3(t-1)	-0.66339**	-1.05871***		-1.14975***	
	(-2.00)	(-13.16)		(-13.20)	
MH4(t-1)	0.13736		0.05762***		0.07193***
	(1.35)		(3.39)		(4.12)
Governance	-0.02601				
	(-0.93)				
Observations	354	6961	6961	6242	6242
R^2	0.3537	0.2811	0.2644	0.2856	0.2676
Adj R^2	0.3250	0.2800	0.2633	0.2842	0.2662

Table 16: Regression Analysis: Year fixed effect

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	Cash/NA	Cash/TA	Cash/sales	Log(cash/sale)	Log(cash/TA)	Log(cash/NA)
Age	0.0082459577	-.0020008237	0.003183053	0.002399178	0.002099758	0.001131476
	(0.33)	(-1.63)	(1.19)	(0.91)	(0.88)	(0.35)
Tenure	-.0043832286	0.0165968719*	-0.028554798	0.015503964	-0.004165973	-0.012529752
	(-0.02)	(1.66)	(-1.30)	(0.72)	(-0.21)	(-0.47)
MB	0.0525051584***	0.0032844470***	-0.000059260	0.002294853***	0.003494668***	0.010273138***
	(4.34)	(9.69)	(-0.08)	(3.13)	(5.32)	(6.49)
Sigma	0.1013209962	0.2781205605***	0.121868042***	0.323123950***	0.524783438***	0.607667212***
	(0.19)	(16.92)	(3.38)	(9.08)	(16.47)	(8.84)
NWCoverTA	-.4809655076***	-.1754195792***	-0.105900559***	-0.214809745***	-0.205637888***	-0.236898737***
	(-2.97)	(-29.79)	(-8.21)	(-16.86)	(-18.02)	(-11.17)
CAPXoverTA	0.7539486943*	0.0771961542***	-0.223001684***	0.102997221***	0.110963368***	0.148851906**
	(1.66)	(5.56)	(-7.33)	(3.43)	(4.12)	(2.50)
RDoverSales	0.1509737766	0.0443865471***	1.955880354***	0.264992660***	0.122539478***	0.157728133***
	(1.09)	(6.19)	(124.60)	(17.09)	(8.82)	(8.66)
Divdummy	-.2438790002	-.2103022623***	-0.099598618**	-0.342712675***	-0.424917681***	-0.500728605***
	(-0.67)	(-11.97)	(-2.59)	(-9.01)	(-12.48)	(-10.47)

AQCoverTA	-.1126096746	0.0373489726*	-0.182920162***	-0.060840256	0.039657274	0.041468684
	(-0.23)	(1.92)	(-4.29)	(-1.44)	(1.05)	(0.65)
Leverage	0.2947064415*	0.1000945734***	0.035392706**	0.073771694***	0.215789929***	0.234905775***
	(1.68)	(14.02)	(2.26)	(4.78)	(15.59)	(10.25)
Realsize	-.0000170984	-.0000014021*	-0.000023119***	0.000004248***	0.000002840**	0.000008760***
	(-0.89)	(-1.93)	(-14.56)	(2.71)	(2.02)	(3.47)
MH3	-.5114080157	-.2136040318***	0.206538248**	-1.314576764***	-1.105267825***	-1.086435387***
	(-0.63)	(-5.22)	(2.31)	(-14.85)	(-13.94)	(-10.27)
MH4	-.0052739605	0.0088622134	-0.009705502	0.060328952***	0.048290309***	0.040018019*
	(-0.03)	(1.17)	-0.59	(3.68)	(3.29)	(1.81)
Observations	5402	6620	6620	6620	6620	5402
R^2	0.020569	0.409523	0.709565	0.282489	0.396971	0.279474

Table 17: Regression Analysis: Firm (Company) fixed effect

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	Cash/NA	Cash/TA	Cash/sales	Log(cash/sale)	Log(cash/TA)	Log(cash/NA)
Age	0.0085546959	-.0020416194*	0.003309226	0.002155674	0.001815629	0.001031172
	(0.35)	(-1.65)	(1.23)	(0.80)	(0.75)	(0.31)
Tenure	0.0039870341	0.0172891374*	-0.025976845	0.015382675	-0.003918353	-0.014664712
	(0.02)	(1.71)	(-1.19)	(0.70)	(-0.20)	(-0.54)
MB	0.0549643400***	0.0034490033***	0.000221234	0.002761825***	0.003925978***	0.011828992***
	(4.57)	(10.13)	(0.30)	(3.72)	(5.86)	(7.37)
Sigma	0.1241384169	0.2786189671***	0.122227439***	0.321556010***	0.525685073***	0.608124344***
	(0.24)	(16.81)	(3.39)	(8.89)	(16.10)	(8.70)
NWCoverTA	-.5091206135***	-.1805172062***	-0.109314714***	-0.229616149***	-0.221603214***	-0.251911405***
	(-3.15)	(-30.46)	(-8.49)	(-17.76)	(-18.99)	(-11.66)
CAPXoverTA	0.6588790331	0.0655519459***	-0.235037375***	0.065443438**	0.073151249***	0.065382329
	(1.46)	(4.70)	(-7.76)	(2.15)	(2.67)	(1.09)
RDoverSales	0.1405197861	0.0431624084***	1.952896785***	0.260572973***	0.118804548***	0.150715176***
	(1.01)	(5.98)	(124.51)	(16.54)	(8.36)	(8.13)
Divdummy	-.3012026318	-.2247711034***	-0.115710836***	-0.391189840***	-0.470737670***	-0.550496699***
	(-0.83)	(-12.77)	(-3.03)	(-10.19)	(-13.58)	(-11.36)

AQCoverTA	-.0928544249	0.0388854802**	-0.181942002***	-0.056131159	0.045090006	0.032859179
	(-0.19)	(1.99)	(-4.28)	(-1.31)	(1.17)	(0.51)
Leverage	0.2945775848*	0.1039725598***	0.038330793**	0.088376421***	0.229471825***	0.247877623***
	(1.69)	(14.49)	(2.46)	(5.65)	(16.24)	(10.67)
Realsize	-.0000155037	-.0000012803*	-0.000023159***	0.000004711***	0.000003337**	0.000009808***
	(-0.81)	(-1.75)	(-14.58)	(2.95)	(2.32)	(3.82)
MH3	-.8692947715	-.2705478775***	0.144768286	-1.478803156***	-1.277285464***	-1.250574927***
	(-1.09)	(-6.65)	(1.64)	(-16.66)	(-15.94)	(-11.75)
MH4	0.0760166855	0.0205112561***	-0.000691106	0.093116909***	0.083680576***	0.085424607***
	(0.46)	(2.73)	(-0.04)	(5.68)	(5.65)	(3.87)
Observations	5402	6620	6620	6620	6620	5402
R^2	0.016529	0.396331	0.707937	0.254269	0.363670	0.247114

Table 18: Regression Analysis: The dependent variable is log(Cash/NA)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	
Intercept	0.75679***
	(29.65)
NAlog	-0.52432***
	(-91.67)
FCFNA	-0.00227*
	(-1.88)
NWCNA	-0.00287**
	(-2.20)
Sigma	0.20287***
	(21.28)
MVNA	-0.00010256***
	(-3.28)
RDNA	0.08482***
	(28.73)
Observations	33227
R^2	0.2524
Adj. R^2	0.2523

Table 19: Regression Analysis: The dependent variable is MVNA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables							
Constant	-202.82205	-172.34712	74.00052	12.99647	19.51352	-31.87285	-19.50478
	(-0.94)	(-0.78)	(1.14)	(0.39)	(0.62)	(-1.64)	(-1.16)
Age	3.46538	4.20006	-2.08078*	-0.6908	-0.73202		
	(0.95)	(1.12)	(-1.7)	(-1.24)	(-1.32)		
Tenure	-41.36659	-46.96199	1.56853			-1.18391	-0.1816
	(-1.13)	(-1.26)	(0.16)			(-0.13)	(-0.02)
MH3		-115.15039	34.39287	21.81865		26.55527	
		(-0.93)	(0.84)	(0.58)		(0.65)	
MH4		10.24686	2.97142		2.35297		-9.94903
		(0.28)	(0.41)		(0.38)		(-1.51)
Governance	4.06368	1.1135					
	(0.51)	(0.13)					
ExcessCash	0.55115	0.46335	-1.82516***	-0.23409***	-0.22101***	0.01082***	-0.05360**
	(0.32)	(0.27)	(-5.83)	(-6.32)	(-6.74)	(3.22)	(-2.41)
EXCASHAGE	0.03996	0.03525	0.03402***	0.00406***	0.00554***		
	(1.26)	(1.09)	(6.02)	(6.32)	(6.75)		
EXCASHTenure	-0.47853*	-0.43336	0.06409**			0.09012***	0.07791**
	(-1.77)	(-1.57)	(1.97)			(3.21)	(2.42)
EXCASHMH3	-2.69762**	-2.48575*	0.43273***	0.07397***		-0.07497***	
	(-2.33)	(-1.97)	(4.4)	(6.36)		(-3.2)	
EXCASHMH4	-0.07215	-0.07922	-0.12455**		-0.09625***		0.06197**

	(-0.49)	(-0.4)	(-2.47)		(-6.78)		(2.41)
EXCASHGover	-0.12615**	-0.10978*					
	(-2.38)	(-1.93)					
MVNA2	5615.06153	5673.58778	22465***	19106***	19059***	21537***	21649***
	(1.15)	(1.15)	(21.44)	(18.44)	(18.45)	(20.65)	(20.75)
IBNA	30.41780***	30.38152***	22.06238***	26.57633***	25.88360***	21.99948***	22.58101***
	(5.4)	(5.36)	(9.79)	(12.3)	(12.15)	(9.69)	(10.04)
IBNA2	-83.33684	-172.54572	-0.52926	5.85312	5.6588	0.76751	0.74147
	(-0.28)	(-0.52)	(-0.03)	(0.37)	(0.35)	(0.05)	(0.05)
IBNAneg2	-526.4354	-517.86615	19.45488	121.45206	123.10447	16.00314	19.16123
	(-1.51)	(-1.48)	(0.24)	(1.48)	(1.51)	(0.2)	(0.24)
RDNA	39.79660***	39.00242***	24.21743***	19.60827***	21.00705***	24.85767***	23.11938***
	(3.93)	(3.8)	(10.33)	(10.27)	(11.66)	(10.6)	(10.61)
RDNA2	20270***	20034***	-7635.67125***	-10968***	-10821***	-7111.98080***	-7255.00941***
	(4.4)	(4.31)	(-10.4)	(-15.55)	(-15.37)	(-9.71)	(-9.93)
XINTNA	-7.29594	-8.14286	18.03482***	25.42718***	25.32165***	17.85878***	17.97651***
	(-0.69)	(-0.76)	(17.92)	(27.18)	(27.14)	(17.61)	(17.73)
XINTNA2	2590.43531***	2555.43316***	-172.14485	329.97637	297.21833	-198.69743	-170.06358
	(4.73)	(4.63)	(-0.54)	(1.09)	(0.98)	(-0.61)	(-0.53)
XINTNAneg2	109.26653	103.45513	202.87277***	87.68966	82.75966	228.00639**	233.30161***
	(0.27)	(0.26)	(2.28)	(1.32)	(1.25)	(2.55)	(2.61)
DVPSXNA	2595.79220**	2760.84004**	292.52926***	442.86540***	432.78278***	300.70492***	309.80029***
	(2.04)	(2.14)	(5.01)	(7.49)	(7.34)	(5.12)	(5.28)
DVPSXNA2	24290***	24244***	-203.539	-1415.07780***	-1433.28658***	-181.87451	-161.36245
	(5.56)	(5.49)	(-0.61)	(-4.23)	(-4.29)	(-0.54)	(-0.48)

DVPSXNAneg2	-6581.33900***	-6637.75847***	-1523.27701***	238.95705	170.79126	-1413.03062***	-1365.49134***
	(-4.35)	(-4.36)	(-3.28)	(0.52)	(0.37)	(-3.03)	(-2.93)
NANA2	-37860***	-37349***	-4821.29719***	-1077.51896	-1183.82106	-4267.73340***	-4178.68381***
	(-3.44)	(-3.37)	(-5.38)	(-1.22)	(-1.34)	(-4.75)	(-4.65)
NANAneg2	-3619.74859	-3648.96718	-4546.05811***	-4282.22254***	-4137.05055***	-4965.56133***	-5106.60723***
	(-0.92)	(-0.92)	(-6.41)	(-6.48)	(-6.29)	(-6.99)	(-7.21)
Observations	120	120	2095	2312	2312	2095	2095
R^2	0.8554	0.8571	0.6368	0.6747	0.6755	0.6302	0.6295
Adj. R^2	0.8208	0.8191	0.6328	0.6720	0.6728	0.6268	0.6261

Table 20: Regression Analysis: The dependent variable is log(Cash/TA)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	
Intercept	-1.08320***
	(-41.18)
TAlog	-0.15554***
	(-28.69)
FCFTA	0.00717
	(1.25)
NWCTA	-0.09732***
	(-24.44)
Sigma	0.25616***
	(40.92)
MVTA	0.00085684***
	(8.57)
RDTA	0.54961***
	(43.34)
Observations	36079
R^2	0.1179
Adj. R^2	0.1178

Table 21: Regression Analysis: The dependent variable is MVTA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables							
Constant	-2.1186	2.07509	4.51004	5.04625	-0.70412	6.37755***	1.47869
	(-0.05)	(0.05)	(0.68)	(1.46)	(-0.22)	(2.67)	(0.7)
Age	0.0715	0.26805	0.00718	0.03536	0.01926		
	(0.1)	(0.38)	(0.06)	(0.65)	(0.35)		
Tenure	-0.22957	-2.01774	0.9697			0.84291	0.03185
	(-0.03)	(-0.3)	(0.96)			(0.92)	(0.04)
MH3		-32.7083	-17.43808***	-16.81085***		-18.72318***	
		(-1.28)	(-4.01)	(-4.31)		(-4.37)	
MH4		3.85182	1.29374**		1.28001**		1.22274**
		(0.71)	(2.22)		(2.29)		(2.09)
Governance	-0.10179	-0.52398					
	(-0.07)	(-0.33)					
ExcessCash	0.09842	0.11054	-0.04071*	0.03275**	0.02956**	0.02202***	0.01858***
	(0.53)	(0.6)	(-1.73)	(2.48)	(2.25)	(3.09)	(2.94)
EXCASHAGE	-0.00125	-0.0022	0.00152***	-0.00034853	-0.00032968		
	(-0.41)	(-0.7)	(2.79)	(-1.35)	(-1.26)		
EXCASHTenure	-0.00727	-0.00186	-0.01323**			-0.00489	-0.0044
	(-0.24)	(-0.06)	(-2.38)			(-1.09)	(-0.97)
EXCASHMH3	-0.2641	-0.26199	-0.04314	-0.02318		-0.02996	
	(-1.4)	(-1.38)	(-1.52)	(-0.88)		(-1.07)	

EXCASHMH4	0.0172	0.01091	-0.00515		-0.00132		-0.00264
	(0.62)	(0.37)	(-1.31)		(-0.36)		(-0.69)
EXCASHGover	0.00323	0.00578					
	(0.39)	(0.68)					
MVTA2	395.49594	331.29663	306.10799**	273.55922**	244.33937*	269.29213*	243.58226*
	(0.13)	(0.11)	(2.17)	(2.04)	(1.82)	(1.93)	(1.74)
IBTA	18.64210**	16.31563*	9.64454***	10.64016***	11.82736***	9.99527***	11.15002***
	(2.24)	(1.92)	(7.12)	(8.38)	(9.68)	(7.45)	(8.41)
IBTA2	19.56933	-8.91071	-5.20697	-6.04	-7.22544	-5.75418	-7.32175
	(0.25)	(-0.11)	(-0.78)	(-0.93)	(-1.11)	(-0.87)	(-1.1)
IBTAneg2	11.81957	4.93678	-1.66289	0.22168	-0.2846	-0.86092	-1.0899
	(0.23)	(0.1)	(-0.17)	(0.02)	(-0.03)	(-0.09)	(-0.11)
RDTA	15.85116***	12.53450**	23.23730***	22.42500***	22.74383***	22.92485***	23.28579***
	(3.01)	(2.15)	(20.26)	(21.28)	(21.51)	(20.57)	(20.71)
RDTA2	2741.27669	2775.1029	-209.58781***	-196.85337***	-182.44269**	-194.81785**	-182.53680**
	(1.15)	(1.17)	(-2.67)	(-2.63)	(-2.43)	(-2.49)	(-2.32)
XINTTA	23.85639***	24.69764***	19.46789***	19.61051***	20.04586***	19.79951***	20.37671***
	(3.11)	(3.11)	(13.7)	(14.66)	(15.02)	(14.02)	(14.4)
XINTTA2	-394.34832	-432.69341	38.12663	29.14873	22.91674	35.46426	33.07263
	(-0.69)	(-0.76)	(0.71)	(0.63)	(0.49)	(0.66)	(0.62)
XINTTAneg2	-62.26998	-24.0432	-2.59961	-1.87835	-1.66832	-2.97541	-2.15839
	(-0.2)	(-0.08)	(-0.26)	(-0.24)	(-0.21)	(-0.3)	(-0.21)
DVPSXTA	-72.17913	-5.65574	169.04856**	164.17632**	162.99016**	167.47934**	161.68777*
	(-0.18)	(-0.01)	(2.02)	(2.06)	(2.05)	(2)	(1.92)
DVPSXTA2	818.77008	1134.70457	-25.82845	-23.9464	-22.60238	-22.85155	-22.62319
	(0.26)	(0.35)	(-0.59)	(-0.56)	(-0.53)	(-0.52)	(-0.51)

DVPSXTAneg2	-289.48098	-390.48068	14.85586	24.35673	23.65509	19.20069	18.8693
	(-0.28)	(-0.37)	(0.22)	(0.36)	(0.35)	(0.28)	(0.27)
TATA2	-3.556	-3.04334	-0.7304	-0.87241		-0.91344	-1.14491
	(-0.85)	(-0.73)	(-0.76)	(-0.94)		(-0.95)	(-1.19)
TATAneg2	-3.73001*	-3.90095*	0.32257	0.33896		0.3588	0.32158
	(-1.67)	(-1.74)	(0.68)	(0.76)		(0.76)	(0.68)
Observations	154	154	2662	2909	2909	2662	2662
R^2	0.4921	0.5003	0.4586	0.4615	0.4583	0.4561	0.4525
Adj. R^2	0.4022	0.4027	0.4539	0.4580	0.4551	0.4522	0.4485

Table 22 (Opler method)

Regression Analysis: The dependent variable is Cash/TA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	
Intercept	0.23908***
	(39.96)
MB	-0.00039736***
	(-5.16)
Sigma	0.03684***
	(5.98)
NWCoverTA	-0.17161***
	(-43.29)
CAPXoverTA	0.23307***
	(31.35)
RDoverSales	0.00172***
	(3.30)
Divdummy	-0.08958***
	(-7.50)
AQCoverTA	0.03108**
	(2.53)
Leverage	0.16315***
	(40.85)
Realsize	-0.00000138*
	(-1.90)
Observations	23379
R^2	0.3656
Adj. R^2	0.3653

Table 23: Regression Analysis: The dependent variable is MVNA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables							
Constant	-1616.68705***	-746.34043	-652.51237***	-254.68238***	-241.94399***	-49.96346*	-83.60148***
	(-2.78)	(-1.2)	(-8.74)	(-5.52)	(-5.76)	(-1.73)	(-3.14)
Age	43.72192***	36.14037***	10.67074***	3.75919***	3.81973***		
	(4.22)	(3.42)	(8.14)	(5.29)	(5.53)		
Tenure	-263.90556***	-283.10333***	-14.96224			33.25087**	45.63863***
	(-4.01)	(-4.56)	(-1.02)			(2.48)	(3.3)
MH3		-873.79917***	28.38959	30.61447		-107.43606**	
		(-3.47)	(0.53)	(0.63)		(-2.05)	
MH4		-65.2211	-2.88521		-5.70844		-4.86177
		(-0.87)	(-0.56)		(-1.11)		(-0.91)
Governance	-34.64367**	-52.96208***					
	(-2.08)	(-3.28)					
ExcessCash	-2.46638**	-1.07451	-1.29363***	-0.46137***	-0.45303***	-0.05656	-0.12006***
	(-2.44)	(-1.02)	(-11.45)	(-6.19)	(-6.84)	(-1.14)	(-2.63)
EXCASHAGE	0.06700***	0.05577***	0.02227***	0.00788***	0.00798***		
	(3.77)	(3.12)	(11.98)	(7.1)	(7.53)		
EXCASHTenure	-0.36045***	-0.40514***	-0.03684			0.05962**	0.08753***
	(-3.14)	(-3.76)	(-1.46)			(2.57)	(3.62)
EXCASHMH3	-0.07364	-1.45074***	0.04944	0.00716		-0.18767**	
	(-0.4)	(-3.43)	(0.56)	(0.09)		(-2.17)	

EXCASHMH4	-0.0455	-0.15615	-0.00416*		-0.00437*		-0.00606**
	(-0.84)	(-1.04)	(-1.71)		(-1.91)		(-2.47)
EXCASHGover	-0.05458*	-0.08784***					
	(-1.98)	(-3.28)					
MVNA2	2362.3261	4527.34345	22397***	22638***	22686***	22387***	22353***
	(0.5)	(1)	(30.63)	(30.63)	(30.76)	(29.37)	(29.38)
IBNA	23.22095***	18.83119***	11.54468***	12.10812***	11.86665***	11.08256***	11.17063***
	(3.75)	(3.18)	(7.09)	(7.26)	(7.17)	(6.52)	(6.61)
IBNA2	190.87164	20.94192	-11.74616	-7.58481	-7.85679	-8.09417	-7.77496
	(0.62)	(0.07)	(-1.17)	(-0.74)	(-0.76)	(-0.77)	(-0.74)
IBNAneg2	-884.03519**	-674.76462*	118.35582**	154.96474***	157.72937***	109.81761*	107.93461*
	(-2.39)	(-1.94)	(2.05)	(2.61)	(2.66)	(1.82)	(1.79)
RDNA	34.62556**	27.07509*	7.68877***	-5.60876***	-5.26552***	3.29236**	3.98282**
	(2.3)	(1.9)	(4.67)	(-4.04)	(-3.8)	(1.96)	(2.37)
RDNA2	26353***	28073***	-4022.45052***	-4981.65933***	-4959.62848***	-4280.60038***	-4276.95343***
	(4.18)	(4.79)	(-5.27)	(-6.5)	(-6.48)	(-5.38)	(-5.38)
XINTNA	24.02434	36.43831**	28.85785***	61.92967***	61.83746***	37.90937***	38.27706***
	(1.4)	(2.25)	(10)	(41.58)	(41.55)	(13.02)	(13.2)
XINTNA2	2746.42353***	2488.93375***	85.73063	152.69171	126.61597	207.82213	175.24811
	(4.05)	(3.9)	(0.32)	(0.59)	(0.49)	(0.74)	(0.62)
XINTNAneg2	1612.23047	1194.098	-59.06079	-32.43366	-37.619	-16.57793	-24.92211
	(1.66)	(1.32)	(-0.78)	(-0.66)	(-0.76)	(-0.21)	(-0.32)
DVPSXNA	2609.14519**	3726.97098***	-147.47393***	-123.93926**	-131.35599***	-93.67676*	-95.77985*
	(2.04)	(3.04)	(-2.99)	(-2.48)	(-2.63)	(-1.84)	(-1.88)

DVPSXNA2	22278***	21030***	603.95182***	576.93768**	559.44061**	642.56732***	624.36468***
	(5.13)	(5.2)	(2.61)	(2.43)	(2.36)	(2.66)	(2.59)
DVPSXNAneg2	-5329.45285***	-5426.82018***	-381.50888	209.50912	180.76778	-162.4938	-177.89771
	(-3.46)	(-3.79)	(-1.14)	(0.62)	(0.53)	(-0.47)	(-0.51)
NANA2	-47183***	-49146***	-12184***	-9688.84733***	-9840.62627***	-10605***	-10641***
	(-4.22)	(-4.73)	(-15.75)	(-12.67)	(-12.88)	(-13.47)	(-13.54)
NANAneg2	-336.19275	-99.01364	-1757.45118***	-4728.97371***	-4551.19877***	-3675.15448***	-3599.12649***
	(-0.07)	(-0.02)	(-2.82)	(-8.52)	(-8.13)	(-5.93)	(-5.77)
Observations	107	107	1669	1836	1836	1669	1669
R^2	0.8209	0.8501	0.6472	0.7719	0.7722	0.6141	0.6144
Adj. R^2	0.7712	0.8039	0.6423	0.7695	0.7698	0.6096	0.6099

Table 24 (Opler method)

Regression Analysis: The dependent variable is Cash/TA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	
Intercept	0.23908***
	(39.96)
MB	-0.00039736***
	(-5.16)
Sigma	0.03684***
	(5.98)
NWCoverTA	-0.17161***
	(-43.29)
CAPXoverTA	0.23307***
	(31.35)
RDoverSales	0.00172***
	(3.30)
Divdummy	-0.08958***
	(-7.50)
AQCoverTA	0.03108**
	(2.53)
Leverage	0.16315***
	(40.85)
Realsize	-0.00000138*
	(-1.90)
Observations	23379
R^2	0.3656
Adj. R^2	0.3653

Table 25 (Opler method): Regression Analysis: The dependent variable is MVTA

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables							
Constant	-99.66083	-162.57858**	-6.44108	5.94564	0.36679	-2.55579	-6.32907***
	(-1.41)	(-2.47)	(-0.92)	(1.61)	(0.11)	(-0.97)	(-2.59)
Age	3.07569***	4.13657***	0.07236	0.00366	-0.00378		
	(2.72)	(3.99)	(0.55)	(0.06)	(-0.06)		
Tenure	-15.94457	-16.45999	4.06328***			4.52590***	3.75916***
	(-1.42)	(-1.64)	(3.29)			(4.15)	(3.41)
MH3		-30.10752	-7.50779	-12.85132**		-7.63261	
		(-0.66)	(-1.31)	(-2.49)		(-1.35)	
MH4		44.12074***	1.22763**		1.49810***		1.25195**
		(5.32)	(2.39)		(2.96)		(2.43)
Governance	-4.14662	-5.61602**					
	(-1.53)	(-2.29)					
ExcessCash	-0.25902**	-0.37957***	-0.02986***	-0.00492	-0.0047	-0.02090***	-0.01671***
	(-2.21)	(-3.49)	(-4.21)	(-1.54)	(-1.52)	(-6.32)	(-5.72)
EXCASHAGE	0.00552***	0.00824***	0.00018096	0.00004216	0.00004885		
	(3.08)	(4.89)	(1.39)	(0.8)	(0.92)		
EXCASHTenure	-0.02048	-0.02919	0.00774***			0.00861***	0.00799***
	(-1.03)	(-1.63)	(4.51)			(5.83)	(5.25)

EXCASHMH3	0.04523	-0.02731	0.02134**	0.00549		0.02154**	
	(1.17)	(-0.36)	(2.36)	(0.67)		(2.4)	
EXCASHMH4	0.01814**	0.07571***	-0.00009828		0.00011879		-0.00010982
	(2.18)	(5.76)	(-0.36)		(0.46)		(-0.41)
EXCASHGover	-0.00435	-0.00764*					
	(-0.99)	(-1.91)					
MVTA2	-1005.78587	-23.37141	48.68131	97.52432	63.05966	58.42635	48.71454
	(-0.31)	(-0.01)	(0.41)	(0.83)	(0.54)	(0.49)	(0.41)
IBTA	13.69522	13.11575*	8.08132***	10.04001***	11.07445***	8.34464***	9.96592***
	(1.66)	(1.7)	(5.96)	(7.72)	(8.95)	(6.19)	(7.6)
IBTA2	-10.82214	15.12679	-2.0327	-1.82878	-2.53433	-2.09514	-2.57765
	(-0.14)	(0.22)	(-0.36)	(-0.32)	(-0.45)	(-0.37)	(-0.46)
IBTAneg2	-119.03032	-244.33734***	2.2753	0.84433	0.69961	2.64217	2.23345
	(-1.5)	(-3.22)	(0.26)	(0.1)	(0.08)	(0.3)	(0.25)
RDTA	9.03223*	9.29621**	19.83205***	19.25058***	19.13992***	20.14370***	20.17918***
	(1.81)	(2.08)	(17.52)	(17.96)	(17.94)	(17.88)	(17.82)
RDTA2	2894.23069	3530.78265	-84.49504	-106.0484	-87.75431	-90.74692	-85.82137
	(1.21)	(1.64)	(-1.27)	(-1.61)	(-1.34)	(-1.36)	(-1.29)
XINTTA	29.66632***	28.99011***	21.79274***	21.13712***	21.82877***	21.84071***	22.35246***
	(2.92)	(3.18)	(14.97)	(15.31)	(15.96)	(15)	(15.36)
XINTTA2	-314.61421	-414.50239	14.9425	19.67437	14.24616	16.44829	17.93532
	(-0.58)	(-0.86)	(0.33)	(0.46)	(0.34)	(0.36)	(0.4)
XINTTAneg2	120.28678	230.50491	-6.66133	-2.5897	-2.59668	-7.10359	-5.96085
	(0.33)	(0.7)	(-0.53)	(-0.32)	(-0.32)	(-0.56)	(-0.47)

DVPSXTA	58.47228	220.31334	92.99993	101.44269	100.00114	100.53938	114.69064
	(0.16)	(0.67)	(1.27)	(1.43)	(1.42)	(1.38)	(1.57)
DVPSXTA2	1704.83071	467.60714	-39.73459	-42.52107	-39.23174	-40.45315	-40.5393
	(0.54)	(0.16)	(-1.12)	(-1.19)	(-1.1)	(-1.14)	(-1.13)
DVPSXTAneg2	346.82249	1171.992	69.98046	62.62541	62.84415	67.48053	74.19065
	(0.36)	(1.31)	(1.25)	(1.12)	(1.13)	(1.21)	(1.32)
TATA2	-5.14178	-4.99345	0.03482	-0.23356		-0.0041	-0.05143
	(-1.03)	(-1.12)	(0.04)	(-0.26)		(0)	(-0.06)
TATAneg2	-6.57761**	-7.75581***	-0.21305	-0.29466		-0.25206	-0.23607
	(-2.56)	(-3.33)	(-0.51)	(-0.74)		(-0.61)	(-0.56)
Observations	132	132	2061	2253	2253	2061	2061
R^2	0.5505	0.6452	0.4907	0.4865	0.4840	0.4885	0.4835
Adj. R^2	0.4548	0.5615	0.4849	0.4822	0.4801	0.4837	0.4786

Table 26: Descriptive Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
ACT	80635	156.3203	202.5202	12604888	0	549
AP	23003	53.47259	12.60563	1230030	0	96
AT	82367	215.5888	232.1816	17757404	0.90	941
CEQ	82415	153.9054	199.4124	12684116	-56	916
CFL	82415	60.38902	128.7707	4976961	-67	783
CHE	82204	73.47277	140.3202	6039755	0.1	777
DLC	82247	29.81614	97.61206	2452288	0.1	631
DLTT	80809	104.561	191.6477	8449466	0.1	883
DP	82228	43.60531	109.6555	3585577	-4	429
IB	82415	33.05772	91.32886	2724452	-76	688
INVT	81597	66.42142	143.5055	5419789	0	529
LCT	80827	109.2518	176.7253	8830496	0	659
LT	82197	158.5705	216.3866	13034016	0	789
MB3	22839	0.31636	0.23694	7225	0	1
MB4	22839	616.1726	93052	14072765	-0.00378	722.11
MKBK	71813	4.07609	22.51573	292717	-98	844
PPEGT	81882	152.4493	212.6997	12482852	0	679
PPENT	82233	120.3019	194.2453	9892788	0	399
RECT	81772	85.13804	155.2315	6961908	0	999
ROA	82309	-2.62752	22.20647	-216268	-99	832
SALE	82383	206.4784	232.9288	17010312	0.1	940
Tenure	20507	1.76227	0.88877	36139	0	4.12713
XAD	24786	35.02696	98.23795	868178	0	699
XINT	75226	26.50775	81.22687	1994072	0	993
XRD	49981	31.19463	87.74606	1559139	0	991

Table 27: Correlation matrix

	ACT	Age	AT	CEQ	CFL	CHE	DLC	DLTT	DP	IB
ACT	1	0.04124	0.46086	0.62708	0.45172	0.4677	0.29727	0.45984	0.3905	0.38957
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80635	22473	80630	80635	80635	80481	80527	79053	80457	80635
Age	0.04124	1	0.03164	0.05439	0.05815	0.00877	0.03048	0.0488	0.0273	0.06592
	<.0001		<.0001	<.0001	<.0001	0.1837	<.0001	<.0001	<.0001	<.0001
	22473	23003	23003	23003	23003	22996	22995	22609	23002	23003
AT	0.46086	0.03164	1	0.47378	0.35816	0.30507	0.18907	0.34414	0.25851	0.27806
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80630	23003	82367	82367	82367	82191	82201	80766	82180	82367
CEQ	0.62708	0.05439	0.47378	1	0.40304	0.39578	0.24428	0.41894	0.34994	0.3573
	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80635	23003	82367	82415	82415	82204	82247	80809	82228	82415
CFL	0.45172	0.05815	0.35816	0.40304	1	0.50326	0.43095	0.50267	0.58595	0.82544
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
	80635	23003	82367	82415	82415	82204	82247	80809	82228	82415
CHE	0.4677	0.00877	0.30507	0.39578	0.50326	1	0.33072	0.33601	0.44248	0.46725
	<.0001	0.1837	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
	80481	22996	82191	82204	82204	82204	82041	80614	82025	82204
DLC	0.29727	0.03048	0.18907	0.24428	0.43095	0.33072	1	0.34167	0.50457	0.39759
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
	80527	22995	82201	82247	82247	82041	82247	80657	82061	82247
DLTT	0.45984	0.0488	0.34414	0.41894	0.50267	0.33601	0.34167	1	0.45697	0.39902
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
	79053	22609	80766	80809	80809	80614	80657	80809	80632	80809
DP	0.3905	0.0273	0.25851	0.34994	0.58595	0.44248	0.50457	0.45697	1	0.4971
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
	80457	23002	82180	82228	82228	82025	82061	80632	82228	82228
IB	0.38957	0.06592	0.27806	0.3573	0.82544	0.46725	0.39759	0.39902	0.4971	1
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	
	80635	23003	82367	82415	82415	82204	82247	80809	82228	82415
INVT	0.44939	0.06166	0.30544	0.38314	0.53211	0.36193	0.4201	0.44355	0.43928	0.48228
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	79974	22817	81551	81597	81597	81391	81443	80014	81410	81597
LCT	0.62792	0.04019	0.36298	0.48517	0.61344	0.47699	0.41797	0.53505	0.51416	0.5169
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80617	22518	80785	80827	80827	80625	80719	79240	80641	80827
LT	0.56981	0.03704	0.52587	0.51611	0.43215	0.34896	0.27945	0.52576	0.38726	0.3611

	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80419	22927	82151	82197	82197	81988	82032	80803	82010	82197
MB3	-0.18554	0.01642	-0.05157	-0.14002	-0.29912	-0.284	-0.17644	-0.19791	-0.23293	-0.29434
MB3	<.0001	0.0131	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	22311	22839	22839	22839	22839	22832	22831	22449	22838	22839
MB4	0.02778	0.00185	-0.00653	-0.00611	0.00009	0.00347	0.00007	-0.00578	-0.00361	0.00243
MB4	<.0001	0.7802	0.3238	0.3562	0.9886	0.5997	0.9915	0.3865	0.5855	0.7135
	22311	22839	22839	22839	22839	22832	22831	22449	22838	22839
	-0.01839	-0.02566	-0.03067	-0.03195	-0.00801	0.00004	-0.01005	-0.01913	-0.01261	0.00105
MKBK	<.0001	0.0001	<.0001	<.0001	0.0318	0.9918	0.0072	<.0001	0.0007	0.7774
	70279	22479	71783	71813	71813	71688	71680	70693	71704	71813
	0.49513	0.04727	0.53839	0.50256	0.46862	0.33591	0.28085	0.48509	0.40173	0.37409
PPEGT	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80249	22917	81838	81882	81882	81683	81723	80308	81717	81882
	0.45792	0.04027	0.42079	0.51049	0.52641	0.35141	0.3348	0.55107	0.46818	0.44183
PPENT	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80515	22980	82188	82233	82233	82031	82069	80634	82072	82233
	0.50072	0.05438	0.35891	0.43527	0.63891	0.44826	0.449	0.50635	0.53263	0.56295
RECT	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80127	22888	81731	81772	81772	81576	81618	80172	81608	81772
	0.20094	0.07144	0.21433	0.22333	0.26061	0.12256	0.07294	0.12768	0.09854	0.28263
ROA	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80531	23000	82263	82309	82309	82100	82143	80713	82123	82309
	0.42666	0.04189	0.56564	0.45071	0.36188	0.27852	0.20322	0.36839	0.27304	0.30325
SALE	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	80604	23003	82336	82383	82383	82173	82215	80779	82197	82383
Tenure	-0.00802	0.34958	0.01012	0.02918	-0.039	-0.03012	-0.06002	-0.05534	-0.06845	-0.02614
Tenure	0.2562	<.0001	0.1475	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0002
	20044	20507	20507	20507	20507	20501	20501	20334	20506	20507
	0.30555	0.00901	0.18262	0.262	0.50908	0.37803	0.46467	0.3654	0.57661	0.50856
XAD	<.0001	0.4072	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	24260	8467	24771	24786	24786	24741	24745	24203	24759	24786
	0.30882	0.02462	0.19275	0.244	0.46345	0.37175	0.53235	0.45493	0.61779	0.40891
XINT	<.0001	0.0003	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	73529	21423	75181	75226	75226	75030	75085	73861	75079	75226
	0.31445	-0.01062	0.23154	0.29641	0.43434	0.47232	0.40031	0.3066	0.5475	0.41546
XRD	<.0001	0.1972	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	49609	14730	49966	49981	49981	49883	49904	49019	49921	49981

Pearson Correlation Coefficients
Prob > \|r\| under H0: Rho=0

Number of Observations										
	INVT	LCT	LT	MH3	MH4	MH5K	PPEGT	PPENT	RECT	ROA
ACT	0.44939	0.62792	0.56981	-0.18554	0.02778	-0.01839	0.49513	0.45792	0.50072	0.20094
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
	79974	80617	80419	22311	22311	70279	80249	80515	80127	80531
AM	0.06166	0.04019	0.03704	0.01642	0.00185	-0.02566	0.04727	0.04027	0.05438	0.07144
AM	<.0001	<.0001	<.0001	0.0131	0.7802	0.0001	<.0001	<.0001	<.0001	<.0001
	22817	22518	22927	22839	22839	22479	22917	22980	22888	23000
AT	0.30544	0.36298	0.52587	-0.05157	-0.00653	-0.03067	0.53839	0.42079	0.35891	0.21433
	<.0001	<.0001	<.0001	<.0001	0.3238	<.0001	<.0001	<.0001	<.0001	<.0001
	81551	80785	82151	22839	22839	71783	81838	82188	81731	82263
CEQ	0.38314	0.48517	0.51611	-0.14002	-0.00611	-0.03195	0.50256	0.51049	0.43527	0.22333
	<.0001	<.0001	<.0001	<.0001	0.3562	<.0001	<.0001	<.0001	<.0001	<.0001
	81597	80827	82197	22839	22839	71813	81882	82233	81772	82309
CFL	0.53211	0.61344	0.43215	-0.29912	0.00009	-0.00801	0.46862	0.52641	0.63891	0.26061
	<.0001	<.0001	<.0001	<.0001	0.9886	0.0318	<.0001	<.0001	<.0001	<.0001
	81597	80827	82197	22839	22839	71813	81882	82233	81772	82309
CHE	0.36193	0.47699	0.34896	-0.284	0.00347	0.00004	0.33591	0.35141	0.44826	0.12256
	<.0001	<.0001	<.0001	<.0001	0.5997	0.9918	<.0001	<.0001	<.0001	<.0001
	81391	80625	81988	22832	22832	71688	81683	82031	81576	82100
DLC	0.4201	0.41797	0.27945	-0.17644	0.00007	-0.01005	0.28085	0.3348	0.449	0.07294
	<.0001	<.0001	<.0001	<.0001	0.9915	0.0072	<.0001	<.0001	<.0001	<.0001
	81443	80719	82032	22831	22831	71680	81723	82069	81618	82143
DLTT	0.44355	0.53505	0.52576	-0.19791	-0.00578	-0.01913	0.48509	0.55107	0.50635	0.12768
	<.0001	<.0001	<.0001	<.0001	0.3865	<.0001	<.0001	<.0001	<.0001	<.0001
	80014	79240	80803	22449	22449	70693	80308	80634	80172	80713
DP	0.43928	0.51416	0.38726	-0.23293	-0.00361	-0.01261	0.40173	0.46818	0.53263	0.09854
	<.0001	<.0001	<.0001	<.0001	0.5855	0.0007	<.0001	<.0001	<.0001	<.0001
	81410	80641	82010	22838	22838	71704	81717	82072	81608	82123
IB	0.48228	0.5169	0.3611	-0.29434	0.00243	0.00105	0.37409	0.44183	0.56295	0.28263
	<.0001	<.0001	<.0001	<.0001	0.7135	0.7774	<.0001	<.0001	<.0001	<.0001
	81597	80827	82197	22839	22839	71813	81882	82233	81772	82309
INVT	1	0.57484	0.40701	-0.17689	0.0176	-0.01737	0.39252	0.44491	0.59689	0.14544
		<.0001	<.0001	<.0001	0.008	<.0001	<.0001	<.0001	<.0001	<.0001
	81597	80155	81382	22657	22657	71096	81081	81425	80970	81493
LCT	0.57484	1	0.52345	-0.26171	0.02103	-0.0187	0.51115	0.53689	0.66888	0.16721
	<.0001		<.0001	<.0001	0.0017	<.0001	<.0001	<.0001	<.0001	<.0001
	80155	80827	80617	22354	22354	70432	80435	80703	80302	80724

LT	0.40701	0.52345	1	-0.16887	-0.00042	-0.02393	0.57275	0.57016	0.44639	0.17435
	<.0001	<.0001		<.0001	0.949	<.0001	<.0001	<.0001	<.0001	<.0001
	81382	80617	82197	22765	22765	71631	81667	82018	81557	82093
MB3	-0.17689	-0.26171	-0.16887	1	0.01909	-0.04544	-0.1322	-0.16607	-0.24722	-0.09374
MB3	<.0001	<.0001	<.0001		0.0039	<.0001	<.0001	<.0001	<.0001	<.0001
	22657	22354	22765	22839	22839	22321	22753	22816	22724	22836
MB4	0.0176	0.02103	-0.00042	0.01909	1	-0.00075	-0.00316	-0.00359	-0.00003	0.00337
MB4	0.008	0.0017	0.949	0.0039		0.9113	0.6337	0.5879	0.996	0.6101
	22657	22354	22765	22839	22839	22321	22753	22816	22724	22836
MKBK	-0.01737	-0.0187	-0.02393	-0.04544	-0.00075	1	-0.0305	-0.02583	-0.01713	-0.03868
	<.0001	<.0001	<.0001	<.0001	0.9113		<.0001	<.0001	<.0001	<.0001
	71096	70432	71631	22321	22321	71813	71377	71676	71314	71750
PEBOT	0.39252	0.51115	0.57275	-0.1322	-0.00316	-0.0305	1	0.62772	0.44129	0.18706
	<.0001	<.0001	<.0001	<.0001	0.6337	<.0001		<.0001	<.0001	<.0001
	81081	80435	81667	22753	22753	71377	81882	81836	81298	81779
PPENT	0.44491	0.53689	0.57016	-0.16607	-0.00359	-0.02583	0.62772	1	0.4898	0.16854
	<.0001	<.0001	<.0001	<.0001	0.5879	<.0001	<.0001		<.0001	<.0001
	81425	80703	82018	22816	22816	71676	81836	82233	81609	82129
RECT	0.59689	0.66888	0.44639	-0.24722	-0.00003	-0.01713	0.44129	0.4898	1	0.16354
	<.0001	<.0001	<.0001	<.0001	0.996	<.0001	<.0001	<.0001		<.0001
	80970	80302	81557	22724	22724	71314	81298	81609	81772	81668
ROA	0.14544	0.16721	0.17435	-0.09374	0.00337	-0.03868	0.18706	0.16854	0.16354	1
	<.0001	<.0001	<.0001	<.0001	0.6101	<.0001	<.0001	<.0001	<.0001	
	81493	80724	82093	22836	22836	71750	81779	82129	81668	82309
SALE	0.34065	0.36964	0.48169	-0.03724	0.00775	-0.03372	0.42552	0.37625	0.37893	0.24871
	<.0001	<.0001	<.0001	<.0001	0.2414	<.0001	<.0001	<.0001	<.0001	<.0001
	81565	80796	82166	22839	22839	71796	81852	82201	81743	82277
Tenure	-0.05491	-0.05946	-0.03657	0.12848	-0.0012	-0.0142	-0.04298	-0.04488	-0.05778	0.06876
Tenure	<.0001	<.0001	<.0001	<.0001	0.8636	0.044	<.0001	<.0001	<.0001	<.0001
	20344	20089	20443	20373	20373	20109	20435	20485	20421	20504
XAD	0.42684	0.41872	0.28731	-0.1992	0.01024	0.01534	0.30283	0.39291	0.48321	0.11659
	<.0001	<.0001	<.0001	<.0001	0.3479	0.0222	<.0001	<.0001	<.0001	<.0001
	24608	24292	24698	8409	8409	22221	24726	24765	24673	24770
XINT	0.38113	0.42098	0.27311	-0.20859	0.01787	-0.00772	0.29404	0.35687	0.45934	0.06598
	<.0001	<.0001	<.0001	<.0001	0.0091	0.0482	<.0001	<.0001	<.0001	<.0001
	74456	73706	75105	21276	21276	65444	74779	75066	74646	75129
XRD	0.35374	0.39945	0.30233	-0.23503	-0.00434	0.00135	0.31774	0.35322	0.44043	0.08316
	<.0001	<.0001	<.0001	<.0001	0.5997	0.7772	<.0001	<.0001	<.0001	<.0001
	49774	49676	49833	14637	14637	44096	49815	49923	49703	49953

Pearson Correlation Coefficients Prob > |r| under H0: Rho=0 Number of Observations	SALE	Tenure	XAD	XINVT	XRD
ACT	0.42666 <.0001 80604	-0.00802 0.2562 20044	0.30555 <.0001 24260	0.30882 <.0001 73529	0.31445 <.0001 49609
Age	0.04189 <.0001 23003	0.34958 <.0001 20507	0.00901 0.4072 8467	0.02462 0.0003 21423	-0.01062 0.1972 14730
AT	0.56564 <.0001 82336	0.01012 0.1475 20507	0.18262 <.0001 24771	0.19275 <.0001 75181	0.23154 <.0001 49966
CEQ	0.45071 <.0001 82383	0.02918 <.0001 20507	0.262 <.0001 24786	0.244 <.0001 75226	0.29641 <.0001 49981
CFL	0.36188 <.0001 82383	-0.039 <.0001 20507	0.50908 <.0001 24786	0.46345 <.0001 75226	0.43434 <.0001 49981
CHE	0.27852 <.0001 82173	-0.03012 <.0001 20501	0.37803 <.0001 24741	0.37175 <.0001 75030	0.47232 <.0001 49883
DLC	0.20322 <.0001 82215	-0.06002 <.0001 20501	0.46467 <.0001 24745	0.53235 <.0001 75085	0.40031 <.0001 49904
DLTT	0.36839 <.0001 80779	-0.05534 <.0001 20334	0.3654 <.0001 24203	0.45493 <.0001 73861	0.3066 <.0001 49019
DP	0.27304 <.0001 82197	-0.06845 <.0001 20506	0.57661 <.0001 24759	0.61779 <.0001 75079	0.5475 <.0001 49921
IB	0.30325 <.0001 82383	-0.02614 0.0002 20507	0.50856 <.0001 24786	0.40891 <.0001 75226	0.41546 <.0001 49981
INVT	0.34065 <.0001 81565	-0.05491 <.0001 20344	0.42684 <.0001 24608	0.38113 <.0001 74456	0.35374 <.0001 49774

LCT	0.36964 <.0001 80796	-0.05946 <.0001 20089	0.41872 <.0001 24292	0.42098 <.0001 73706	0.39945 <.0001 49676
LT	0.48169 <.0001 82166	-0.03657 <.0001 20443	0.28731 <.0001 24698	0.27311 <.0001 75105	0.30233 <.0001 49833
MH3	-0.03724 <.0001 22839	0.12848 <.0001 20373	-0.1992 <.0001 8409	-0.20859 <.0001 21276	-0.23503 <.0001 14637
MH4	0.00775 0.2414 22839	-0.0012 0.8636 20373	0.01024 0.3479 8409	0.01787 0.0091 21276	-0.00434 0.5997 14637
MKBK	-0.03372 <.0001 71796	-0.0142 0.044 20109	0.01534 0.0222 22221	-0.00772 0.0482 65444	0.00135 0.7772 44096
PPEGT	0.42552 <.0001 81852	-0.04298 <.0001 20435	0.30283 <.0001 24726	0.29404 <.0001 74779	0.31774 <.0001 49815
PPENT	0.37625 <.0001 82201	-0.04488 <.0001 20485	0.39291 <.0001 24765	0.35687 <.0001 75066	0.35322 <.0001 49923
RECT	0.37893 <.0001 81743	-0.05778 <.0001 20421	0.48321 <.0001 24673	0.45934 <.0001 74646	0.44043 <.0001 49703
ROA	0.24871 <.0001 82277	0.06876 <.0001 20504	0.11659 <.0001 24770	0.06598 <.0001 75129	0.08316 <.0001 49953
SALE	1 82383	0.00746 0.2851 20507	0.20921 <.0001 24779	0.21638 <.0001 75199	0.21595 <.0001 49971
Tenure	0.00746 0.2851 20507	1 20507	-0.08996 <.0001 7694	-0.06474 <.0001 19128	-0.04982 <.0001 13175
XAD	0.20921 <.0001 24779	-0.08996 <.0001 7694	1 24786	0.50198 <.0001 22445	0.36774 <.0001 17531
XINT	0.21638 <.0001 75199	-0.06474 <.0001 19128	0.50198 <.0001 22445	1 75226	0.39183 <.0001 44548
XRD	0.21595 <.0001 49971	-0.04982 <.0001 13175	0.36774 <.0001 17531	0.39183 <.0001 44548	1 49981

Table 28: T – tests for the differences in means

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Tenure		Earnings Management (EM)	
1st Quartile	4th Quartile	Mean of 1st Quartile	Mean of 4th Quartile
		2.7008	0.1380
0 – 1.1	2.48 – 4.13	t Value = 1.26	

Age		Earnings Management (EM)	
1st Quartile	4th Quartile	Mean of 1st Quartile	Mean of 4th Quartile
		0.4504	1.1408
0 – 50	61 – 96	t Value = -0.87	

MH3		Earnings Management (EM)	
1st Quartile	4th Quartile	Mean of 1st Quartile	Mean of 4th Quartile
		1.8046	1.3516
0 – 0.145	0.423 – 1	t Value = 0.23	

Table 28A: Differences in medians

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Tenure		Earnings Management (EM)
1ST Quartile	4th Quartile	
0 – 1.1	2.48 – 4.13	Z value -2.1893**

Age		Earnings Management (EM)
1st Quartile	4th Quartile	
0 – 50	61 – 96	Z value 2.8422***

MH3		Earnings Management (EM)
1st Quartile	4th Quartile	
0 – 0.145	0.423 – 1	Z value 4.7754***

Table 29: Regression Analysis: The dependent variable is EM

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables							
Constant	-0.01916	0.45160	-0.03151	1.23584	1.74984*	1.24656	-0.29624
	(-0.02)	(0.33)	(-0.02)	(1.45)	(1.84)	(1.46)	(-0.13)
Age	0.01085	0.01196	0.01109				0.04253
	(0.49)	(0.53)	(0.50)				(0.97)
Tenure				-0.30506	-0.25184	-0.31080	-0.37707
				(-0.89)	(-0.72)	(-0.90)	(-1.01)
MH3		-1.41907			-1.66905		-1.75865
		(-1.16)			(-1.21)		(-1.27)
MH4			0.00408			0.00518	0.00553
			(0.08)			(0.10)	0.11
SALE	-0.00192*	-0.00196*	-0.00192*	-0.00199	-0.00203	-0.00198	-0.00210*
	(-1.69)	(-1.72)	(-1.68)	(-1.61)	(-1.63)	(-1.59)	(-1.68)
ROA	0.05279**	0.05082**	0.05347**	0.05002*	0.04696*	0.05053*	0.04619
	(2.07)	(1.97)	(2.08)	(1.78)	(1.64)	(1.78)	(1.62)
Leverage	-0.14658	-0.18232	-0.15129	-0.14999	-0.18753	-0.15520	-0.20668
	(-0.80)	(-0.98)	(-0.82)	(-0.75)	(-0.93)	(-0.78)	(-1.02)
Realsize	0.00008652***	0.00008239***	0.00008605***	0.00007308***	0.00006855***	0.00007254***	0.00006686***
	(3.76)	(3.53)	(3.73)	(2.93)	(2.72)	(2.90)	(2.64)
Observations	18521	18385	18385	16678	16563	16563	16563
R^2	0.0012	0.0012	0.0012	0.0009	0.0010	0.0009	0.0010
Adj. R^2	0.0009	0.0009	0.0008	0.0006	0.0006	0.0005	0.0006

Table 30: Regression Analysis: Year fixed effect (Dependent variable is EM)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	
Age	0.045887863
	(1.05)
Tenure	-0.391070685
	(-1.05)
MH3	-1.864095787
	(-1.32)
MH4	0.003742690
	(0.07)
SALE	-0.002051256
	(-1.64)
ROA	0.051670312*
	(1.79)
Leverage	-0.215798771
	(-1.06)
Realsize	0.000067477***
	(2.67)
Observations	16563
R^2	0.002291

Table 31: Regression Analysis: Firm fixed effect (Dependent variable is EM)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	
Age	-0.153833059**
	(-2.00)
Tenure	0.068013258
	(0.12)
MH3	-3.197785897*
	(-1.67)
MH4	0.002610262
	(0.05)
SALE	-0.002174294
	(-1.30)
ROA	0.071003950*
	(1.89)
Leverage	-0.175354164
	(-0.60)
Realsize	0.000107742*
	(1.86)
Observations	16563
R^2	0.079636

Table 32: T – tests for the differences in means

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

MKBK		Earnings Management (EM)	
Mean of 1st Quartile	Mean of 4th Quartile	Mean of 1st Quartile	Mean of 4th Quartile
-1.4676372	13.8912177	-0.1804315	0.0770876
		t Value = -0.19	

CHE		Earnings Management (EM)	
Mean of 1st Quartile	Mean of 4th Quartile	Mean of 1st Quartile	Mean of 4th Quartile
1.3876800	245.8854060	-0.3281706	0.9489223
		t Value = -1.42	

AT		Earnings Management (EM)	
Mean of 1st Quartile	Mean of 4th Quartile	Mean of 1st Quartile	Mean of 4th Quartile
16.2711173	559.2278137	-0.1335274	0.1231320
		t Value = -0.48	

CFL		Earnings Management (EM)	
Mean of 1st Quartile	Mean of 4th Quartile	Mean of 1st Quartile	Mean of 4th Quartile
-11.9409502	225.2851085	-0.8686869	2.0920629
		t Value = -3.06***	

Table 32A: Differences in medians

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

MKBK		Earnings Management (EM)
1ST Quartile	4th Quartile	Z value -1.9661**

CHE		Earnings Management (EM)
1st Quartile	4th Quartile	Z value -2.7875***

AT		Earnings Management (EM)
1st Quartile	4th Quartile	Z value -1.3268*

CFL		Earnings Management (EM)
1st Quartile	4th Quartile	Z value -21.5803***

Table 33: Regression Analysis: The dependent variable is Dividends

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables						
Constant	0.44841	0.44878	0.44942	0.44954	0.44938	0.54709
	(0.89)	(0.89)	(0.89)	(0.90)	(0.89)	(2.11)**
Age	-0.00743	-0.00744	-0.00744	-0.00744	-0.00744	-0.00197
	(-0.79)	(-0.80)	(-0.80)	(-0.80)	(-0.80)	(-0.44)
Tenure	-0.04706	-0.04695	-0.04694	-0.04688	-0.04692	
	(-0.61)	(-0.61)	(-0.61)	(-0.61)	(-0.61)	
MH3	1.21654	1.21704	1.21594	1.21599	1.21624	
	(3.97)***	(3.97)***	(3.97)***	(3.97)***	(3.97)***	
MH4	-0.0008099	-0.0010673	-0.0035300	-0.0035262	-0.0035278	
	(-0.01)	(-0.01)	(-0.05)	(-0.05)	(-0.05)	
EM	0.00127	-0.0000891	0.0013303	0.0014231	-0.0002780	-0.0054474
	(0.07)	(-0.01)	(0.06)	(0.04)	(-0.00)	(-0.13)
EMAGE	-0.0001840				1.575016E-7	0.0001046
	(-0.05)				(0.00)	(0.13)
EMTenure	0.0001355			-0.00008185		
	(0.01)			(-0.05)		
EMMH3	-0.0085590		-0.0035741			
	(-0.09)		(-0.07)			

EMMH4	-0.0012154	-0.0011037				
	(-0.15)	(-0.14)				
MKBK	0.00828	0.00825	0.00829	0.00828	0.00827	0.0098710
	(0.46)	(0.45)	(0.46)	(0.46)	(0.46)	(0.06)
ROA	0.00841	0.00849	0.00841	0.00844	0.00847	0.00695
	(1.21)	(1.22)	(1.21)	(1.21)	(1.22)	(1.12)
OIBDPAT	0.11408	0.11393	0.11395	0.11388	0.11381	0.04946
	(1.16)	(1.16)	(1.16)	(1.16)	(1.15)	(0.56)
CHEAT	-0.06428	-0.06443	-0.06433	-0.06434	-0.06440	-0.09994
	(-0.89)	(-0.89)	(-0.89)	(-0.89)	(-0.89)	(-1.52)
Leverage	0.06604	0.06607	0.06615	0.06614	0.06617	0.06677
	(1.32)	(1.32)	(1.32)	(1.32)	(1.32)	(1.46)
Realsize	0.0001008	0.0001013	0.0000999	0.0001002	0.0001003	0.0000712
	(2.08)**	(2.10)**	(2.08)**	(2.09)**	(2.09)**	(1.64)
Observations	12640	12640	12640	12640	12640	14101
R^2	0.0020	0.0020	0.0020	0.0020	0.0020	0.0007
Adj. R^2	0.0008	0.0010	0.0010	0.0010	0.0010	0.0001

Table 34: Regression Analysis: Year fixed effect (Dependent variable is Dividend payout)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	
Age	-0.007544760
	(-0.81)
Tenure	-0.048245699
	(-0.62)
MH3	1.035521825
	(3.32)***
MH4	-0.000051416
	(-0.01)
EM	0.002035024
	(0.10)
EMAGE	-0.000031444
	(-0.09)
EMTenure	0.000010083
	(0.00)
EMMH3	-0.001173762
	(-0.13)
EMMH4	-0.000093369
	(-0.11)
MKBK	0.007011430
	(0.38)
ROA	0.007148115

	(1.01)
OIBDPAT	0.098000378
	(0.99)
CHEAT	-0.041763055
	(-0.57)
Leverage	0.070274764
	(1.40)
Realsize	0.000010015
	(2.07)**
Observations	12640
R^2	0.003753

Table 35: Regression Analysis: Firm fixed effect (Dependent variable is Dividend payout)

t values are reported in parentheses

*, **, and *** denote significance levels at 10%, 5%, and 1% respectively.

Variables	
Age	-0.051377124
	(-3.11)***
Tenure	0.220197933
	(1.85)*
MH3	1.873451615
	(4.51)***
MH4	-0.001609054
	(-0.20)
EM	-0.004370919
	(-0.21)
EMAGE	0.000079315
	(0.22)
EMTenure	-0.000147838
	(-0.06)
EMMH3	0.001451469
	(0.15)
EMMH4	0.000044104
	(0.04)
MKBK	0.012186598
	(0.51)
ROA	0.008361373

	(0.92)
OIBDPAT	-0.049513835
	(-0.38)
CHEAT	0.004030278
	(0.04)
Leverage	0.025666008
	(0.39)
Realsize	0.000006119
	(0.58)
Observations	12640
R^2	0.138734

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