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THE ROLE OF INSTITUTIONAL INVESTORS ON EARNINGS MANAGEMENT: EMPIRICAL EVIDENCE FROM TURKEY

Doktora Tezi

ASLI AYBARS

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TEZ ONAY BELGESİ

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ÖZET

KURUMSAL YATIRIMCILARIN KAZANÇ YÖNETİMİ ÜZERİNDEKİ ROLÜ: TÜRKİYE ÖRNEĞİ

20. yüzyılın sonunda ve 21. yüzyılın başlarında ortaya çıkan şirket skandalları, finansal raporlamanın doğruluğu ve şirketlerin kurumsal yönetim uygulamalarının sağlamlığı hakkında şüpheler uyandırmıştır. Kazanç yönetimi uygulamaları, finansal tabloların şeffaflığına ve kalitesine olan zararları nedeniyle bu skandalların en önemli nedenlerinden biri olarak gösterilmiştir. Yöneticilerin muhasebe alanında sahip oldukları takdir yetkisi, şirket sahipleri ve vekillerinin amaç ve isteklerindeki uyumsuzluklardan kaynaklanan vekalet maliyetlerine sebep olarak, yatırımcıların uygun olmayan kararlar almalarına yol açmaktadır. Böylelikle, şirket paydaşlarının korunması adına uygulanan kurumsal yönetim uygulamaları, düzenleyicilerin ve profesyonellerin ilgisini çekmiş ve akademisyenler için önemli bir araştırma konusu haline gelmiştir.

Son dönemde kurumsal yatırımcıların paylarında gözlemlenen artış ve bunun beraberinde ortaya çıkan etkinlikleri, bu yatırımcıların kurumsal yönetimin dışsal bir kontrol mekanizması olarak önemini arttırmıştır. Bu nedenle, bu tezin amacı kurumsal yatırımcıların kazanç yönetimi üzerindeki rolünü vekalet teorisi çerçevesinde incelemektir. Böylece, çalışmanın iki temel hipotezi, 2005 ve 2011 yılları arasındaki 7 yıllık süreçte Borsa İstanbul'da işlem gören şirketler üzerinde panel veri analizi kullanılarak test edilmiştir. İhtiyari tahakkuk modeli ile hesaplanan kazanç yönetimi, kurumsal yatırımcı varlığının şirket yöneticilerinin muhasebe uygulamalarındaki esnekliği üzerindeki arttırıcı veya azaltıcı etkisini gözlemlemek adına kurulan sekiz modelin bağımsız değişkeni olarak belirlenmiştir. Bu tahakkukların mutlak değerinin

belirlenmesinde Kothari, Leone ve Wasley (2005) tarafından önerilen performansla düzeltilmiş sektör bazlı yatay-kesitsel regresyon yöntemi kullanılmıştır. Buna ek olarak, eşanlılık sorununu değerlendirmek ve ilgili değişkenlerin arasındaki ilişkinin yönünü daha doğru yorumlayabilmek adına ek analizler yapılmıştır. Kazanç yönetiminin ölçülmesinde karşılaşılan kısıtlamalar doğrultusunda, 177 şirketten meydana gelen örneklem İmalat, Toptan ve Perakende Ticaret ile Teknoloji sektörlerini kapsamakta ve 1.062 şirket-yıl gözlemi içermektedir.

Çalışmanın toplam kurumsal sahiplik ile ilgili olan ana sonucu, kurumsal yatırımcı varlığının şirket yöneticilerinin ihtiyarı tahakkuk davranışları üzerindeki anlamlı ve olumsuz yöndeki etkisini göstermektedir. Böylelikle, yöneticilerin kazanç yönetimi uygulamalarını gerçekleştirme eğilimlerinin kurumsal pay sahipliği ile azaldığı tespit edilmiş ve yatırımcı bilgi düzeyinin şirket yöneticilerini gözlemleme ve disipline sokma üzerindeki etkisi gösterilmiştir. Dolayısıyla, kurumsal hissedarların varsayılan kontrol etme rolü daha önce literatürde gerçekleştirilmiş olan çoğu çalışmanın sonuçlarına paralel olarak Türkiye şartlarında istatistiksel olarak anlamlı bulunmuştur.

GENERAL KNOWLEDGE

ABSTRACT

THE ROLE OF INSTITUTIONAL INVESTORS ON EARNINGS MANAGEMENT: EMPIRICAL EVIDENCE FROM TURKEY

The emergence of corporate scandals at the end of the 20th and beginning of the 21th century raised doubts regarding the integrity of financial reporting and the soundness of firms' corporate governance practices. The practice of earnings management is considered to be one of the important causes of these scandals due to its harm to the transparency and quality of financial statements. The discretion exercised by managers in accounting result in agency costs arising from the mismatch between the goals and desires of the principle and the agent causing investors to make suboptimal decisions. Thus, the application of corporate governance practices for the protection of corporate stakeholders has attracted the attention of government regulators and professionals; and has become a significant research topic for academicians.

The recent surge in institutional investors' shares and associated degree of activism increased their importance as an external control mechanism of corporate governance. Accordingly, the primary purpose of this thesis is to evaluate the role of these investors on earnings management and alignment of the interests of owners and managers within the context of agency theory. Consequently, two main hypotheses; namely, active monitoring and managerial myopia induced by institutional investors are tested by panel data analysis utilizing data belonging to the firms listed on Borsa Istanbul during the 7 year period between 2005 and 2011, inclusive. The absolute value of discretionary accruals obtained from the performance adjusted cross-sectional industry based accrual

model proposed by Kothari, Leone and Wasley (2005) is used as the proxy of earnings management of eight different models to attain an in dept evaluation of whether the presence of institutional investors mitigate or stimulate managers' discretionary accounting practices. Additionally, further analysis is conducted to evaluate the issue of endogeneity associated with the monitoring and clientele effects to better interpret the direction of the relationship between the associated variables of interest. Constrained by limitations associated with the quantification of earnings management, the final sample is made up of 177 companies resulting in 1.062 firm-year observations covering the industries named as Manufacturing, Wholesale and Retail Trade, and Technology.

The major finding of the study with respect to aggregate institutional ownership provides the significant and negative influence of institutional investor presence on managerial discretion exercised in opportunistic management of accruals. Thus, the proclivity of managers to engage in earnings management practices is found to be mitigated by institutional shareholdings demonstrating the influence of investor sophistication in monitoring and disciplining corporate managers. Therefore, the hypothesized monitoring role of institutional shareholders is found to be statistically valid within the Turkish context in line with the findings of most previous studies in literature.

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Istanbul, 2013   *Aslı AYBARS*

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ABBREVIATIONS

AMEX	American Stock Exchange
ASE	Amman Stock Exchange
BIST	Borsa Istanbul
DAC	Discretionary Accruals
EBITDA	Earnings before Interest, Tax, Depreciation, and Amortization
ISE	Istanbul Stock Exchange
FE	Fixed Effects
FGLS	Feasible Generalized Least Squares
GDP	Gross Domestic Product
GLS	Generalized Least Squares
TSPAKB	The Association of Capital Market Intermediary Institutions of Turkey
KAP	ISE Public Disclosure Platform
MENA	Middle East and North Africa
MKK	Central Securities Depository Institution of Turkey
RE	Random Effects
ROA	Return on Assets
ROE	Return on Equity
ROS	Return on Sales
OLS	Ordinary Least Squares
S&P	Standard and Poor's
NYSE	New York Stock Exchange

WLS   Weighted Least Squares

2SLS   Two Stage Least Squares

1. INTRODUCTION

The recent significant growth of institutional investors as a predominant factor in the overall financial system has received the attention of government regulators, accounting and finance professionals, and the public specifically with the corporate scandals experienced at the end of the 20th and beginning of the 21th century. The emergence of these scandals raised doubts regarding the integrity of financial reporting together with the soundness of firms' governance practices. The resulting loss of confidence in financial reporting practices increased the significance of transparency and reliable disclosure together with the application of corporate governance practices for the protection of corporate stakeholders (Fearnley and Beattie, 2004). Since institutional investors are regarded to be one of the fundamental elements of corporations' external control mechanisms, their association with the recent developments in the financial and accounting arena should not be underestimated.

The practice of earnings management undertaken by corporate managers is considered to be detrimental to the quality of financial reporting and is regarded to be one of the important causes of the above stated scandals. As reported earnings are considered to be one of the crucial investment criteria of shareholders and other stakeholders, the soundness of their investment decisions depend on the value relevance of accounting numbers. Thus, the significance of monitoring mechanisms in assuring the confidence of financial statement users in the reliability of the disclosures has become obvious. As emphasized in the study of Dechow, Sloan and Sweeney (1996), governance structure and associated monitoring mechanisms are important determinants of the degree of opportunistic earnings manipulation firms engage in.

According to the opportunistic perspective of accounting method choice, the flexibility and information advantage possessed by corporate managers enable them to manipulate accounting earnings with the intention of utility maximization at the expense of other stakeholders (Holthausen and Leftwich, 1983; Holthausen, 1990; Godfrey et al., 2010). Thus, the tendency of managers to engage in impression management with respect to earnings generates a potential for reported accounting numbers to be flawed

and not reflective of the true economic conditions of the firms. These opportunistic earnings management practices, which are defined as the choice by a manager of accounting policies so as to achieve some specific objective (Scott, 2011, pp. 423), result in agency costs causing investors to make suboptimal investment decisions. Agency theory, which provides the appropriate conceptual framework for the hypotheses generated in this thesis, deals with the contradiction that occurs in the mismatch between the goals and desires of the principle and the agent representing the owners and the managers of the firm, respectively. The conflict of interest that occurs among various parties within the organization leads to two types of information asymmetry; namely, adverse selection and moral hazard. Whereas the former is associated with the superior information the agent has in comparison to the principle, the latter is associated with hidden action problems that occur due to the inability of the principle to observe the agents' self-interested behavior. Both problems are considered to be related to the practice of earnings management undertaken by corporate managers.

Corporate governance practices are one of the major factors that mitigate agency costs arising from the separation of ownership and control together with the resulting conflict of interest. The significance of institutional investors' shares and associated degree of activism are considered to be the major reasons for the significance of institutional investors as an external control mechanism in curtailing the degree of discretion exercised by managers to opportunistically manage accruals. The significance of shareholder action in aligning the interests of owners and managers within the context of agency theory is supported by the concentration of control in the hands of institutional investors. Thus, degree of shareholder activism or passivity is considered to be utterly important for corporate governance practices to reduce agency costs through the medium of institutional ownership. Accordingly, the current study is founded on interrelation among the concepts of earnings management, institutional investors, and corporate governance based on the theoretical framework provided by agency theory.

The primary purpose of this study is to investigate and provide empirical evidence on the role of institutional investors on earnings management with an emphasis on the two main hypotheses; namely, active monitoring hypothesis and

managerial myopia induced by short-term oriented institutional investors. Therefore, numerous models have been generated and tested utilizing data belonging to the firms listed on Borsa Istanbul (BIST) in the period between 2005 and 2011, inclusive. The absolute value of discretionary accruals obtained from the performance adjusted cross-sectional industry based accrual model proposed by Kothari, Leone and Wasley (2005) is used as the proxy of earnings management to explore whether the presence institutional investors in the firms' ownership structure mitigate or stimulate managers' discretionary accounting practices. The final sample is made up of 177 companies resulting in 1.062 firm-year observations covering the industries named as Manufacturing, Wholesale and Retail Trade, and Technology mainly due to limitations associated with the measurement of earnings management.

This thesis is motivated by certain fundamental considerations. The recent trend observed in the investment environment related to the dominance of institutional investors in the ownership pattern of corporations has intrigued academicians to evaluate their influence on the practice of earnings management. Therefore, the topic has become a significant area of research in literature specifically in the international context (Rajgopal and Venkatachalam, 1997; Rajgopal, Venkatachalam and Jiambalvo, 1999; Chung, Firth and Kim, 2002; Koh, 2003; Hsu and Koh, 2005; Koh, 2007; Liu, 2005, Mitra and Cready, 2005; Cheng and Reitenga, 2009; Lin and Manowan, 2012). However, a review of literature with respect to accounting discretion in managing accruals reveals scarcity of empirical evidence within the Turkish context. It has to be noted that the existing studies are predominantly limited to detecting and quantifying discretionary accounting practices rather than evaluating the effect of certain firm, industry or country specific factors on the selected proxies of earnings management (Ayarlıoğlu, 2007; Atik, 2009; Duman, 2010; Atik and İsmail, 2011; Acar, 2011). As far as the literature review is considered, the studies of Karaibrahimoğlu (2010) and Adıgüzel (2012) constitute the most comprehensive studies performed in Turkey investigating the relationship between certain aspects of corporate governance and earnings management.

The review of literature also demonstrates the lack of empirical research in Turkey with respect to the specific influence of institutional ownership on exercising discretion in managing accruals. Based on extent research and evaluation of prior studies, this study combines the distinguishing features of those performed in developed and developing countries other than Turkey and conducts a thorough analysis by using numerous models to display in depth results. Thus, this research is regarded to provide significant insight into the role of institutional investors as an external control mechanism in improving the quality of financial reporting. Furthermore, this thesis aims to fill in a gap by highlighting the significance of the potential monitoring role undertaken by this recently large group of investors in influencing the decisions of regulators and policy-makers.

In addition to the scarcity of research in this array of empirical literature within the Turkish context, empirical evidence provided even from the international arena is insufficient in terms of the direction of the relationship between the presence of institutional investors and engagement in earnings management practices. Thus, straightforward interpretation of link between the selected variables of interest cannot be possible without emphasizing the issue of endogeneity related to the associated monitoring and clientele effects. Consequently, the documented results have to be thoroughly evaluated to decide whether it is the monitoring role of institutions that mitigate the discretionary accounting practices of managers or clientele effect that leads institutional owners to disproportionately invest in firms with certain characteristics. Thus, this thesis focuses on the causality of the relationship to deal with the observed lack of research and ambiguity experienced due to the issue of endogeneity motivated by the studies of Wahal and McConnell (2002), and Mitra and Cready (2005) and the observed lack of research holding this perspective.

This thesis contributes to existing knowledge of earnings management by providing novel evidence with respect to the role of a significant external control mechanism; namely, institutional ownership in the flexibility exercised by corporate managers regarding discretionary accruals. Even though a wide array of empirical literature using data belonging to developed countries exists, comparatively fewer

comprehensive studies have been performed on publicly available data belonging to developing countries. The situation is even worse for the case of Turkey since no thorough single research investigating the influence of a significant and recently evolving class of owners on managers' engagement in earnings management has been conducted on firms listed on BIST. As far as the Turkish literature review is concerned, this study utilizes the largest and most comprehensive dataset belonging to 177 firms listed during the seven year period from 2005 to 2011, inclusive.

The findings of the study add to growing literature on the potential monitoring or stimulating role of institutional investors in the practice of earnings management by using various proxies to represent crucial aspects of institutional ownership. Thus, the models are constructed to capture a multidimensional perspective in that they incorporate the function of the relationship as being either linear or quadratic, the origin of institutional investors, a benchmark for substantial share ownership, the type of institutional owner, and investment horizon as being either long- or short-term oriented. As to our knowledge, no recent single study based on developed or developing countries performs such an in depth evaluation of this specific and flourishing class of owners.

The prominent studies that employ a representative and sound proxy for earnings management using discretionary accrual method within the Turkish context can be named as those of Karaibrahimoğlu (2010) and Adıgüzel (2012). Whereas the former utilizes a modification of the adopted model of Dechow, Richarson and Tuna (2003), the latter uses the absolute value of discretionary accruals maintained from the performance adjusted cross-sectional industry based accrual method of Kothari, Leone and Wasley (2005), which is also the case in the current study. Due to the methodological issues that have to be taken into account with respect to abnormal accrual calculations, the studies have been confronted with sample size restrictions. However, this study extends Turkish empirical evidence by the inclusion of a larger sample covering more industries than the prior analyses.

A substantial part of the thesis is dedicated to the subsection related to methodological issues. Other than using numerous empirical models, this thesis

contributes to methodological literature by using both cross-sectional and panel data analysis together with several estimation techniques. The hypotheses are tested and the findings of the models are displayed using pooled OLS, Fixed Effects, Random Effects, and Generalized Least Squares estimators. Furthermore, additional analyses including tests for heteroskedasticity and autocorrelation have been performed by appropriate specification tests to add to the robustness of the findings. It is important to note that soundness of the methodological issues contributes to the efficiency and generalizability of the findings on the association between the presence of institutional investors and managerial discretion with respect to accruals.

This study is among the few studies that deal with the issue of endogeneity within the international context and the first to consider this significant analytical procedure within the Turkish context. Interpretation of the findings without reference to certain exogenous factors that may be drivers of institutional investment would be misleading in terms of the documented relationship between the associated variables of interest. Thus, the significance of this thesis in terms of differentiating between the monitoring and clientele effects cannot be disregarded.

As demonstrated by the above displayed outline, this thesis is composed of six sections. The current section provides an overview of the study accompanied by a summary of the contents of each section. The study's theoretical background, motivations and contributions to existing knowledge and literature are also emphasized. The research question is addressed together with the scope of the associated empirical analysis.

The remainder of the thesis is structured as follows. Section two provides the definition of institutional investors emphasizing their role and significance for the financial system as a whole. The investment attributes and characteristics that distinguish them from individual investors are explained. Furthermore, the criteria that are crucial for institutional investment choices are highlighted with supporting evidence from previous empirical studies in literature. This section also establishes an understanding of the interrelationship among institutional investors, agency theory and corporate governance practices. It has to be noted that the overall interaction among

these notions acts as the foundation for the research question addressed and gives valuable insight into hypotheses developed.

Section three initially focuses on the definition of earnings management revealing its major categories and alternative approaches utilized for its detection in empirical literature. Subsequently, theories associated with earnings management are emphasized to add to the understanding of the hypothesized relationship between accounting discretion in managing accruals and the presence of institutional investors in the firms' ownership structure. As the accrual based model is determined to be the selected method for the quantification of opportunistic earnings in this thesis, relevant literature with respect to aggregate accrual models used to measure earnings management is provided in detail together with the associated reasoning for the chosen model employed in the empirical part of the study.

Section four initially highlights prior literature separately focusing on empirical research conducted within the international and Turkish context. Then theoretical framework emphasized in prior sections is used to develop the main hypotheses of the thesis; namely, monitoring hypothesis and managerial myopia induced by institutional investors. Subsequently, this section focuses on research design providing detail as to data and sample selection, variables employed, methodology utilized and models generated to investigate the relationship between institutional ownership and managerial flexibility exerted in the practice of earnings management. Concurrently, justifications related to the choice of analytical procedures and findings of the selected proxy for discretionary accruals are revealed together with associated reasoning.

The results of preliminary empirical procedures such as descriptive statistics and correlation analysis are displayed and evaluated in the fifth section followed by the outcomes of the models utilizing cross-sectional and panel data analysis to test the hypotheses developed. Details regarding the findings of each model are discussed and justified with reference to theoretical background and prior empirical studies conducted in literature. Finally, this section focuses on the issue of endogeneity to distinguish between the clientele versus monitoring effects of institutional investors on the documented relationship between the main variables of interest.

The last section presents a summary for the overall findings of the study with reference to its significance and implications within the Turkish context. Additionally, recommendations for various parties are highlighted and discussed together with the study's potential limitations and areas of further research.

2. INSTITUTIONAL INVESTORS

2.1. DEFINITION OF INSTITUTIONAL INVESTOR

A recent trend observed in the ownership pattern of corporations is the surge in common stock holdings of institutional investors. As emphasized by Davis (1996), a crucial factor for development of institutional investment base is related to securitization related innovations, which reduce costs borne by institutions. Additionally, the ability of these investors to satisfy long-term investment needs at a high return accompanied by low risk is reported to add to their significance in the financial markets.

The dominance of institutions in equity markets has attracted the attention of academicians and practitioners; thus, made them probe the influence of these types of investors on various traits of the financial system mainly related with their asset allocation decisions. Therefore, it is proper to provide the definition of institutional investor prior to delving into the topic in detail.

As defined by Brancato (1997, pp. 21) the term institutional investor stands for '…*an investor with money under professional management in an organization that invests on behalf of a group of individuals, another organization, or a group of organizations'*.

Others have defined institutional investors as:

'...*specialized financial institutions that manage savings collectively on behalf of small investors toward a specific objective in terms of acceptable risk, return maximization, and maturity of claims.'* Davis and Steil (2001, pp. 12)

'...*an institution (such as an insurance company, pension fund or investment trust) that makes substantial investments by gathering together the small savings of others and acting collectively on their behalf".* Gibson (2003, pp. 172)

Since the monumental study of Berle and Means regarding stock ownership, which is initially published in 1932, the increase in the amount of institutional

investment has attracted considerable attention. Thus, despite the significant discretion managers possess regarding the use of corporate resources, the influence institutional investors started to have growing importance in mitigating the absolute power of managers (Berle and Means, 1991).

Increased activism of institutional investors in the firms' ownership structure has specifically fascinated academicians to focus on their characteristics with respect to major classifications. Davis (1996) summarizes some significant features of institutions as providing risk pooling for small investors, preference for liquidity, and mostly having matched assets and liabilities. They are also defined to be subject to lower transaction costs as their transactions are conducted in large volumes. Additionally, these investors are regarded to have access to more information than the individuals with their incentives to collect information increasing as their ownership patterns in the firms become more significant and concentrated (Chung, Firth and Kim, 2002; Davis 1996). Due to the advantages institutions have in gathering and processing vast amount of information, holdings by these investors have been used as an indicator of investor sophistication in academic literature (Ebrahim, 2004).

Brancato (1997, pp. 21-25) classify institutional owners into five major categories; namely, public and private pension funds, mutual funds, insurance companies, and banks. These institutional investors exhibit differences in terms of their investment objectives, transaction patterns, and tendency to engage in corporate governance practices, which in turn affect their characteristics. Majority of public pension funds interact with banks and money managers to delegate their investment authority while retaining most of their voting authority. Additionally, they are recently found to engage in 'relationship investing' taking activist roles in firms they invest in. On the other hand, corporate pension funds are not generally characterized to be shareholder activists as they do not want to engage in controversial relationships with other corporations' management. Furthermore, they are defined to delegate most of their investment and voting responsibility to banks and money managers. Mutual funds have recently become shareholder activists despite the lack of motivation they have to actively take part in corporate governance practices up to date. Because investment in

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equities represents a small part of insurance companies' assets with the majority invested in bonds, the participation of these types of institutional investors in corporate governance practices is regarded to be less obvious. The role of bank trusts in capital markets is considered to be similar to those of mutual funds and investment companies with portfolio returns being a dominant factor that shape their characteristics.

Davis and Steil (2001) argue locus of risk bearing to be one of the factors that generate differences among institution types. Whereas individuals bear the risk in a defined contribution pension fund, mutual fund, and a variable-linked life insurance plan; the sponsoring company or life insurer is the risk holder in the case of contracts with return guarantee.

Another perspective for the evaluation of institutional investors' characteristics is provided in the study of Brickley, Lease and Smith (1988); whereby, a classification is made as to these investors' being pressure resistant, pressure indeterminate, and pressure sensitive. Whereas the first group encompasses public pension funds, mutual funds, endowments, and foundations; the second group involves corporate pension funds, brokerage houses, investment counsel firms, and miscellaneous other. Lastly, the third group is defined to be made up of banks, insurance companies, and non-bank trusts. This three-category classification is generated on the basis of institutional investors' willingness to interact with managerial decisions.

Another issue worth emphasizing refers to the increased interaction between institutional investment and stock markets providing numerous benefits for the financial system as a whole. Emergence of institutional investors intensifies competition, which pressures commercial banks to engage in new policies of efficiency improvement and ways to improve their customer base rather than wait for any potential borrowers. The bidding process for new corporate issues also becomes more competitive as companies offer lower marketing and monitoring costs to institutional investors. Financial innovation that gains momentum specifically with the growth of institutional owners modernizes capital markets, an example of which would be the intense use of derivative instruments by pension funds as part of their immunization strategies. Furthermore, trading systems become more efficient with enhanced clearing and settlement facilities.

Market integrity improves due to the transparency brought about with information disclosure. Intensified ownership by institutional investors increases the significance of investor protection rules in areas such as insider trading, corporate control, asset valuation, and preparation of consolidated financial statements. Therefore, robust and effective regulatory policies have become dominant in most countries with improved financial institutions (Vittas, 1998).

The positive impact of institutional investors on stock prices is also put forth by Huyghebaert and Hulle (2004) together with an emphasis on the reasoning of the associated relationship. The existence of institutional investors on firms' ownership structure is determined to be a crucial element for the reduction of information asymmetries. Furthermore, shares of the firms that are dominated by institutional investors tend to have increased liquidity. Lastly, corporate governance practices are considered to be strengthened with the growing role of institutional investors in the financial system, which will be provided in detail in the forthcoming subsection.

2.2. ATTRIBUTES OF INSTITUTIONAL INVESTMENT BEHAVIOR

The differences in patterns of institutional investment behavior have been investigated by numerous studies in terms of stock characteristics with an emphasis on the classification of institutional owners. As stated by Brancato (1997, pp. 184-189), institutional investor type is a significant determinant of these investors' trading and holding patterns. Additionally, investment strategies pursued such as aggressive growth, growth, growth at a reasonable price, classic value or value-income are some of the factors that shape the decisions of institutions regarding portfolio investments. Thus, this subsection focuses on various traits of institutional investment with respect to portfolio choices. As can be seen by the below referred researches; attributes of institutional investor trading, though usually in conformity, can show variations depending on the period and institutional setting of the specific empirical study conducted.

One of the initial studies conducted in this array of institutional investment can be named as that of Badrinath, Gay and Kale (1989), which probes the effect of

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portfolio managers' fiduciary responsibilities in shaping their investment behaviors. Based on a dataset of all New York Stock Exchange (NYSE) and American Stock Exchange (AMEX) listed companies in 1985, the association of institutional ownership level with certain firm attributes is evaluated. The results are indicative of the positive influence of firm size, beta measured by CAPM, prior performance, trading liquidity and years of exchange listing on the level of institutional ownership. Contrarily, firm specific risk proxied by stock volatility is found to drive away institutional owners.

Lakonishok, Shleifer and Vishny (1992) provide reasoning for institutional investors' tendency to select glamour stocks. These stocks with past consistent earnings growth are considered to be prudent investments and are not regarded to experience financial difficulties. Additionally, Lakonishok, Shleifer and Vishny (1994) emphasize the importance of size and book to market ratio for the portfolio formation decisions of investors. The shorter investment horizons of institutional money managers in comparison to most other investors prevent them from investing in value stocks as it takes longer for value strategies to pay off generating risk of underperformance.

A pioneering study that investigates mutual funds' preferences for stock characteristics of their equity holdings is performed by Falkenstein (1996). The percentages of shares held by the mutual funds for stocks listed on NYSE and AMEX is evaluated using cross-sectional data of 1,087 and 1,174 funds in 1991 and 1992, respectively. The main results demonstrate that mutual funds tend to avoid stocks with low price and few news stories, which proxy for the degree of transaction costs and available information. Small company stocks are found to be avoided except for the small-cap sector. Additionally, securities with high volatility are documented to be preferred regardless of any mutual fund classification. The overall findings provide evidence for trend-following or herding behavior in that acquisition of certain characteristics regarding price, volatility, liquidity, information, age and size increases the tendency of mutual funds to herd into specific types of stocks.

Gompers and Metrick (2001) analyze determinants of institutional holdings using quarterly data for the 1980-1996 period. The results demonstrate the positive link between institutional investment and certain variables related with liquidity, which are

determined to be size, turnover and price. Furthermore, institutions are found to prefer value stocks with low past returns and high book-to-market ratios, which is contrary to the results of Lakonishok, Shleifer and Vishny (1994). They provide reasons for the differentiation between institutions and individuals in terms of their investment attributes. Because institutions act as agents for individuals with imperfect monitoring power and control, different demand patterns emerge between these two types of investors. The prudent-man-rule that faces institutional investors due to their responsibilities as fiduciaries also leads to divergence in investment behavior. Other factors that are considered to contribute to trading variance can be listed as the need for liquidity and low transaction costs due to large positions held by institutions together with differences in knowledge and risk-return preferences.

Ng and Wu (2006) make a comparative study on the trading choices of individual and institutional investors on Chinese listed firms covering the period between April 2001 and April 2002. The findings regarding individual investors emphasize the significance of wealth levels; thus, degree of sophistication for stock preferences. Whereas wealthier individuals prefer stocks with low book to market ratios, better past performance, high liquidity, volatility, and higher degree of state-ownership; less wealthy ones display preference for high beta and small market capitalization stocks with poor past performance, high liquidity, low price and low earnings per share. In comparison to individuals, institutional owners focus on stocks with higher price, larger market capitalization, higher earnings per share and more volatility in their investment decisions. Another investment criterion is the stocks' listing period, which is determined to be relatively shorter for institutional owners.

The comprehensive study of Binay (2011) utilizes three major categories of characteristics to evaluate institutional identities and investment preferences. The first group of characteristics is related to the market including variables of market performance such as stock age, stock turnover, market capitalization, total portfolio value managed, and volatility of portfolio returns. Indicators of financial performance make up the second group and encompass variables such as market to book ratio, debt ratio, dividends per share, and price-earnings ratio. Some of the elements of the third

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group, which involves ranking variables, can be named as Fortune 500 ranking and Standard and Poor's (S&P) common stock ranking. The findings demonstrate that institutional investors bounded by prudence restrictions such as bank trusts, endowments and pension funds invest in older stocks with lower betas, lower turnover levels, higher agency rankings and higher stability levels. On the other hand, the unrestricted group that includes investment companies and advisors are determined to invest in younger and riskier companies.

Pirinsky (2001) focuses on the differences in institutional investment behavior from another perspective and concludes that institutional trading decisions are influenced by institution types in that banks, insurance companies, and investment advisors are found to act in accordance with their peers. Whereas corporate and public pension funds are not found to be significantly influenced by previous institutional trades, mutual funds are documented to display contrary behavior. Furthermore, the finding that institutional investors act in greater conformity with their peers' trades is more strongly pronounced for investments in small volatile stocks. This result draws attention to the significance of information for the imitative behavior of institutions.

As a part of their study, Ko, Kim and Cho (2007) probe the investment attributes of institutional owners in Japan and Korea for the sample periods between April 1986 to December 2001, and January 1993 to December 2002, respectively. The stock specific characteristics are chosen to be firm size, growth, and financial performance. Institutional ownership is reported to be positively related with firm size in both countries analyzed. Additionally, foreign institutional investors are determined to have a tendency to invest in growth stocks with low book to market ratios in Japan. Whereas institutions are found to prefer high performance firms based on return on equity (ROE) in Korea, no such relationship is detected in Japan.

Based on Chinese stock market data covering the period between 2003 and 2009, Liu et al. (2011) make a comparison between the investment choices of foreign and domestic institutional investors focusing on the investee firms' characteristics together with their financial and corporate governance indicators. While domestic institutional investors are found to base their investment decisions on firm size and

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satisfaction of long-term liabilities; indicators of corporate governance are not found to have a significant influence on these types of investors' investment criteria. Furthermore, foreign institutional owners' portfolio allocation decisions are found to be positively linked to firm size and free cash flow. Additionally, managerial compensation and the percentage of shares in circulation, which are selected to be indicators of corporate governance, are determined to be positively linked to holdings by foreign institutions. Another study that focuses on the investment allocations of foreign institutional investors is conducted by Aggarwal, Klapper and Wysocki (2005) utilizing the data of 174 U.S. mutual funds' portfolio holdings as of 2002. The results regarding firm level characteristics demonstrate that large growth firms with low levels of leverage and high analyst following are preferred by the associated type of institutional owners. Additionally, discretionary policies such as voluntary accounting disclosures show that transparent accounting policies are drivers of mutual fund investment.

A cross country study based on foreign and domestic mutual fund stock holdings of 11 developed countries for the years 1999 and 2000 distinguishes between investment preferences of these two types of investors with an evaluation of stock characteristics and firm attributes. The findings reveal that investment criteria of foreign funds depend on firm size and liquidity, whereby they select stocks with large market capitalization and high turnover. Furthermore, they invest in stocks with wide analyst coverage and stock index membership, which represent investor recognition and firm visibility respectively. On the other hand, domestic funds are documented to invest in stocks of firms that distribute high dividends, have high market-to-book equity ratios and high turnover (Covrig, Lau and Ng, 2006).

A prominent study that probes the significance of prudent investment within the context of institutional investors is that of Del Guercio (1996). Different types of institutions are investigated with respect to the variations of their sensitivity to prudent-man laws by utilizing data of 941 institutional managers' portfolio holdings. Whereas bank managers are found to invest in high quality stocks within the prudent sector of the equity market during the 1968-1989 period, mutual fund managers are not documented to display such a trait. This finding is justified by the fact of bank managers' being more

prone to stringent and restrictive legal standards than those of mutual funds. Another study that gauges whether institutional investors base their investment decisions according to prudent investment policy is conducted by Kandır (2009) on ISE with portfolios generated by institutional investors for the years 2005, 2006, and 2007. The evaluated firm characteristics can be listed as firm size, risk level, liquidity, and financial performance, which are measured by market value, standard deviation of stock returns and leverage ratio, turnover ratio, return on assets (ROA), respectively. Findings of the study demonstrate that institutional investors base portfolio selection decisions in line with prudent investment policy in that they are found to select companies that are large scale, demonstrate high financial performance, have low level of total risk, and low liquidity.

The empirical studies provided above together with those given in the subsection numbered as 5.3.3, which evaluate the existence of clientele on monitoring effects of institutional investors, clearly demonstrate the significance of institutions' trading patterns as an intensively researched topic. Even though numerous studies have been performed, contradictory results may emerge with respect to certain firm specific characteristics due to differences in dataset, methodology, and institutional background of the selected countries.

2.3. IMPACT OF INSTITUTIONAL INVESTORS ON THE DEVELOPMENT OF CAPITAL MARKETS

The indispensible role played by institutional investors in the functioning of financial system is emphasized by Davis and Steil (2001), and Davis (1996) within the framework of six major functions proposed by Merton and Bodie (1995). These functions are clearing and settling payments for trade facilitation, pooling of resources and subdivision of shares, transferring economic resources, risk management, providing price information, and dealing with incentive problems. As emphasized by these studies, institutions affect market structure by means of trading and transaction settlement systems. Some important traits of institutions are listed as providing ways for pooling of funds and optimization of funds' transfer across time, which is mostly attributable to the development of pension funds. Expertise of institutions in risk control

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through hedging, diversification, and insurance also increases their significance in the functions performed by the financial system. Additionally, the advantages they have in terms of acquisition and use of information together with handling issues related to corporate governance adds to their important role in the development of financial system.

Besides the prominence they have for the well functioning of the financial system as a whole, the presence and growth of institutional investors play a dynamic role for capital market development. However, Vittas (1998) comments on an interactive process between institutional investors and securities markets, whereby bidirectional rather than a unidirectional relationship exists. Because it takes certain time for the benefits and efficiency gains of institutional investment to materialize, patience is needed to observe the dynamic process between the two notions. Furthermore, type of institutional ownership is emphasized to be a significant factor for the evolution of the associated relationship. Whereas development of debt and equity markets are not required for the promotion and development of private pension funds and insurance companies, mutual funds demonstrate a contrary trait in that it is a prerequisite for markets in which their specialized instruments are traded to be developed before they can prosper or grow.

As emphasized by Catalan, Impavido and Musalem (2000), pension funds and life insurance companies, which are categorized as contractual savings institutions, are the most effective institutions in promoting financial development though the growth of capital markets. Based on the results of the cross-country analysis conducted, growth in contractual savings is found to granger cause the development of capital markets, measured by market capitalization divided by gross domestic product (GDP) and stock value traded divided by GDP. Therefore, countries with more developed contractual savings sectors are found to be the ones with more developed stock markets. The major reason for the prominence of pension funds and life insurance companies among other institutions in facilitating stock market growth and development stems from their having long-term liabilities that prevent investors' unexpected withdrawal of funds unlike banks and open-end funds.

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Catalan (2004) adds to contemporary literature regarding the impact of pension reforms on stock market development by focusing on the channels through which the associated relationship can materialize. Whereas the stated channels are listed as corporate governance, liquidity, innovation and transaction cost reduction; the article mainly argues on the role of the first channel. As pension funds become larger shareholders of listed firms, they are confronted with increased incentives to monitor insiders and improve legal protections. These actions, which focus extensively on corporate governance practices, are considered to increase shareholder value and improve stock markets. However, more accurate knowledge is needed to understand whether fund managers act in conformity with the interests of the pensioners and whether they play active roles in the legislation of pro-investor laws in order to make more precise conclusions on the channels through which institutions improve stock market.

Walker and Lefort (2002) evidence that pension fund reform fosters capital market development through accumulation of institutional capital, improvements in transparency and integrity, increase in transaction volumes, achievement of innovations in financial instruments, and reduction in firms' cost of capital and security price volatility. All of these channels add to the overall improvement in savings, growth, and welfare of the society as a whole. As a part of their study, they perform panel data analysis on 33 emerging economies to evaluate two hypotheses with respect to the influence of pension fund reform on cost of capital, and volatility. Findings demonstrate that the increase in the importance of a country's pension funds reduces cost of capital, which is captured by the decline in average dividend yields and increase in price to book ratio. Furthermore, market volatility is found to demonstrate a significant association with pension fund importance.

Due to the significant role pension funds play in the Chilean domestic capital market with respect to the substantial savings they accumulate, Raddatz and Schmukler (2008) also explore the interaction between the portfolios of aforementioned funds and capital market development using monthly data for the ten year period between 1995 and 2005. The findings refer to pension funds' pursuing momentum strategies with bank

deposits, government papers and short-term assets, which constitute the majority of their portfolios. Regulations are not found to be the drivers of their investment patterns; thus, even though it is not proper to conclude that they do not contribute to capital market development, they are not considered to be the driving force for secondary market enhancement as they demonstrate little effect on market trading, price formation and provision of longer maturity funds. However, the study provides limited evidence in favor of their contribution to growth of primary markets, whereby authors recommend engaging in further studies to provide more clear results.

The comprehensive study of Demirgüç-Kunt and Levine (1996) evaluates the relationship between indicators of stock market and financial intermediary development with data pertaining to 44 developing and industrial countries for the 1986-1993 period. A wide array of indicators including stock market size, liquidity, concentration, volatility, asset pricing efficiency, integration with world capital markets, features of the regulatory system, and institutional development are utilized together with certain indices constructed. Additionally, measures of financial intermediary development such as the size of financial intermediaries including banks, insurance companies, private insurance, and private pension funds together with the efficiency of the banking system are incorporated into the cross-country analysis. The results are indicative of high correlations between different measures of stock market development and financial intermediary development.

Another study that focuses specifically on the development of stock market is performed by Aras and Müslomov (2005) with the compilation of a panel dataset from 23 OECD countries for the period between 1982 and 2000. Whereas the ratio of stock market capitalization to GDP and stock market transactions to GDP are used as indicators of stock market development, the ratio of financial assets to GDP is utilized as the proxy for institutional investor development. This research evaluates the existence of two hypotheses; namely, supply-leading hypothesis and demand following hypothesis. The first hypothesis emphasizes the direction of causality as being from institutional investors to the development of the stock market. Contrarily, the second hypothesis states just the opposite with the causality being from the stock market to the

development of institutional investors. The findings for the overall sample of OECD countries refer to the existence of a 3 year lag period for the development of institutional investors to Granger cause the development of stock markets. However, emerging economies are found the display just the opposite pattern with demand-following hypothesis being the case.

A study performed by Kandır (2010) utilizes data spanning from the first quarter of 1998 to the second quarter of 2009 belonging to ISE and institutional investors' investments. Whereas the selected stock market indicators for determining the development of ISE are the ratio of market capitalization to GDP, trade volume to GDP, and trade volume to market capitalization; the selected proxy to determine the importance of institutional investors within the economy is the ratio of institutional investments to GDP. The results of the analyzes based on cointegration and error correction models reveal the existence of a bidirectional relationship in that while institutional investors are found to increase stock market development measured by market capitalization to GDP and trade volume to GDP, a developed market is found to increase institutional investment.

The recent empirical analysis of Mohanasundaram and Karthikeyan (2012) focuses on the growth of the Indian equity market with an emphasis on the impact of selected macroeconomic variables during the ten year period between 2003 and 2011. An index is constructed to quantify stock market development by the using the averages of market capitalization relative to GDP, total traded shares relative to GDP, and total shares traded to market capitalization. Additionally, the indicator of institutional investment is evaluated on the basis of foreign and domestic investments. The findings display inconsistency with respect to these two groups of institutional investors with domestic ones withdrawing from the market whenever the market is growing and foreign ones contrarily having more confidence in the market during periods of economic development.

In a concurrent cross-country research, Yartey (2010) employs data pertaining to 42 emerging economies to identify institutional and macroeconomic determinants, which enhance stock market development for the period between 1990 and 2004.

However, the relationship between institutionalization and stock market development is examined from another perspective in that the components of political risk, which are law and order, democratic accountability, bureaucratic quality and corruption, are utilized as measures of institutional quality. Good quality institutions are determined to be significant elements of stock market development due to their role in political risk reduction, regulatory capacity improvement and external finance attraction. Another recent study employs a similar perspective and explores the association between financial development, measured by private sector credit and stock market capitalization, and institutional quality on 51 countries with the period spanning from 1996 to 2004 (Law and Azman-Saini, 2012). Institutional quality is found to have a positive impact on stock market development; however, a certain level of this indicator has to be attained before the impact can be observed, which is mostly the case in low-income economies. Contrarily, Cherif and Kaouther (2008) document opposite conclusions with political index utilized as institutional environment quality proxy regarding its influence on stock market capitalization on a sample of 14 Middle East and North Africa (MENA) countries for the 1990-2007 period. Thus, the findings are mostly representative of the positive association, even though no definite conclusion can be drawn with respect to the link between institutional quality and stock market development. The divergence in the results can be due to sample and period selection issues together with the selected estimation procedure.

2.4. INSTITUTIONAL INVESTORS AND AGENCY THEORY

The divergence of interest between ownership and control gained importance in management literature with the milestone study of Berle and Means (1932/1991, pp. 112-116). Prior to industrial revolution, the three functions performed by the owner-worker are named as having interests in an enterprise, having power over the enterprise, and acting with respect to the enterprise. However, the nineteenth century is marked by the emergence of a production system; whereby, the owner performed the first two functions with the managers performing the third function due to the occurrence of division within the enterprise. The evolution of the corporate system further separated the second function from the first with the owner having interest in the enterprise and

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the control group having power over it. Therefore, two new groups, which are owners without appreciable control and control without appreciable ownership, emerged (Berle and Means, 1991, pp. 113).

The foundations of agency theory rest upon the early works of Alchian and Demsetz (1972) and Jensen and Meckling (1976). In line with these seminal papers, Fama (1980) describes the firm as a nexus of contracts that encompasses the transformation of inputs into outputs and distribution of the receipts from these outputs among the inputs. Thus, irrelevance of ownership is emphasized.

Agency relationships are defined as *'...a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. If both parties to the relationship are utility maximizers, there is good reason to believe that the agent will not always act in the best interests of the principal.'* (Jensen and Meckling, 1976, pp. 5). Thus, agency costs are described to encompass monitoring and structuring costs by the principle, bonding expenditures by the agent together with the incurred residual loss. While monitoring costs represent those costs undertaken to appoint appropriate agents and design mechanisms to prevent their deviant behavior, bonding costs represent those incurred to ensure that the agents engage in decisions that are in favour of principal's wealth and make up for any harm the principle faces due to conflict of interest between the two parties. Lastly, residual loss represents the dollar equivalent loss of reduction in principle's welfare resulting from the divergence of decisions that arise between the principle and the agent. The major reason for the rise of these costs rests upon the contracts' not being written and enforced in a costless manner (Jensen and Meckling, 1976; Fama and Jensen, 1983a, Fama and Jensen 1983b). As argued by Ross (1973, pp. 134), components of agency are encompassed by contractual arrangements with numerous examples, such as those between the employer and the employee, the state and the governed.

Eisenhardt (1989) emphasizes that agency theory focuses on two major issues. The first one refers to dealing with the contradiction that occurs in the mismatch between the goals and desires of the principle and agent; whereby, the principle does

not have full confirmation of the agent's actions. The second one tackles with resolving the problem of risk sharing that emerges due to the different courses of actions that are preferred with respect to divergent risk perception levels of the principle and agent.

Two arrays of literature that emerge from agency theory are named as 'positive theory of agency' and 'principle-agent' by Jensen (1983). Even though both streams focus on contracting mechanisms and are built around certain common assumptions, they demonstrate major differences in terms of mathematical background and empirical orientation. Whereas the principle-agent literature is mathematical but not empirically oriented, the positive agency literature demonstrates just the opposite attributes. Principle-agent literature attempts to deal with the impact of structural preferences of the associated parties, uncertainty, and informational structure on the agreed upon contracts focusing on issues like risk sharing and identification of the optimal contract. However, positive theory of agency focuses on the interaction of additional attributes like capital intensity, asset specialization, and capital markets with the monitoring and bonding costs (Jensen, 1983, pp. 334-335).

Jensen and Smith (1985) emphasize that all costs covering contracting, transaction, moral-hazard, and information are included among agency costs. According to agency theory, the synergistic relationship that occurs among agents and the intentions of these agents to maximize their personal welfare results in moral hazard (Ramakrishnan and Thakor, 1982). As also stated by Holmström (1979), individual incentives, which are encountered in risk sharing, add to the severity of the aforementioned problems. One example that is also in line with the content of this thesis is encountered in the delegation of decision making process. Information asymmetries that occur among the parties due to the invisibility and lack of contractibility of individual actions are further considered as catalysers of this problem.

Kwon (2005) emphasizes incentive contract distortions and suboptimal decisions as two major reasons of agency costs within the context of moral hazard problem. Different amount of information possessed by the individuals within the organization results in incentive problems. Holmström (1977) distinguishes between incentives that arise due to the processes of decision making and supply of productive

inputs. The first case, which is also the category suitable for the case studied in this thesis, is related to delegation whereby agents are given a set of choices for deciding on the final course of action though bounded by the principle's constraints.

With reference to managerial reporting incentives and moral hazard, Evans and Sridhar (1996) focus on the principle-agent model to evaluate the trade-off faced by the owner between financial reporting system and contracting system in affecting managerial choice as to truthful reporting or earnings management. Earnings management, which will be described in detail in the following section, is defined by the authors as discretion utilized by the managers in reporting earnings with accruals-based manipulation. Whereas contracting system is used by the principle to tackle the moral hazard problem, financial reporting system is used as a disciplinary tool for managerial reporting in the model developed. As also emphasized in the study of Rohaida (2011), unobservable decisions and actions that are undertaken by the agents in line with their own interests demonstrate the significance of moral hazard problems within the principle-agent relationships. Additionally, adverse selection problem, which is associated with the principle's lack of information in comparison to the agents, is considered to be another cornerstone of agency theory. Thus, both problems are determined to be important elements of earnings management activities incurred by the managers.

The role of institutional investors in mitigating agency costs is among the important lines of research with an emphasis on the significance of their shares and degree of activism. The need for shareholder action to align the interests of owners and managers within the context of agency theory is supported by the concentration of control in the hands of institutional shareholders. The two basic assumptions of this theory, namely self-interest and associated emergence of agency costs are found to be applicable to institutional settings as well. However, the complexity of institutional investors' agency contract requires incorporation of related parties' different levels of power into the analysis to improve the theory's predictive power. Nevertheless, the theory is stated to be suitable to institutional settings with simple modifications (Schneider and Ryan, 2003).

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Early 1990s mark the era when the inevitability of shareholder passivity stared to give way to shareholder activism, which is also referred to as relationship investing. Passivity story assumes that managerial discretion is considered to be restrained by market forces and the benign legal settings. Furthermore, small fractions of shareholdings that lead to a dispersed ownership structure are assumed to result in collective action problems. However, this idea is doubted to become insignificant as institutional owners start to become an important class of shareholders possessing sizeable blocks of corporate stock. Additionally, emergence of public pension funds and mutual funds as dominant institutional investors in the ownership structure instead of corporate pension funds and bank trusts, resolves the contradiction faced in monitoring of corporate managers (Black, 1990).

Public pension funds' activism starts to take place in 1987 as they begin to abandon their passive role as institutional investors. The substantial amount of shares they possess prevents them from liquidating their position in the case of underperformance, which may induce significant losses on their behalf due to further price reductions. Thus, these funds adopted a performance oriented approach for targeting companies (Gillan and Starks, 2000).

As also emphasized in the work of Thomas (2008), relationship investing by institutional investors is soon faced with criticism following the concepts' introduction. Within the context of free rider problem, it is possible for only large shareholders to engage in costly monitoring or control activities, which would otherwise have a potential negative impact on their portfolio returns. Thus, agency cost mitigation activities are only undertaken by investors who attain returns sufficient to cover up the related costs (Gillan and Starks, 2000). Monks (1994) also states shareholder inactivity or rational ignorance as being the case at certain times since small fractions of shares held are not sufficient to cover the costs of information and activism.

Thus, this thesis evaluates the role of institutional investors in overseeing managerial actions with respect to earnings management within the framework of agency theory and associated moral hazard problems. Institutional owners together with their classifications are considered to be representatives of shareholders' interests and

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act as control mechanisms for the execution of managerial discretion. Therefore, agency theory is considered to be fundamental to the hypothesis generated and models developed for the empirical analyses.

2.5. INSTITUTIONAL INVESTORS AND CORPORATE GOVERNANCE

The interrelationship between agency costs and institutional investors is emphasized in the prior subsection. It has to be noted that corporate governance together with the involvement of institutional investors play a dominant role in mitigating agency costs arising from the separation of ownership and control, and resulting conflict of interest. This subsection emphasizes that institutional investors may act as active players in reducing agency costs by alleviating incentive conflicts associated with accounting practices; namely, earnings management.

The problems arising from the separation of ownership and control have been a subject of management literature as early as the eighteenth century when Smith stated that *'...the directors of such companies (joint-stock companies), however, being the managers rather of other people's money than of their own, it cannot well be expected that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own'* (Smith, 1776).

Corporate governance is regarded to have an ongoing nature and has been accepted as a significant issue since the society started to organize itself to achieve a common purpose. The concept's evolution is closely associated with the development of industrial capitalism; whereby, different corporate forms lead to the emergence of divergent governance structures (Clarke, 2004, pp. 1-3).

Even though corporate governance is a significant topic studied in numerous areas of academic literature during the last few decades, a specific definition has not yet been accepted. According to Turnbull (1997), the attribution of different meanings to words such as control, regulate, manage, govern and governance generates ambiguity in the terminology related to corporate governance. The functional definition of corporate governance provided by OECD can be seen as below:

'...procedures and processes according to which an organisation is directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the organisation – such as the board, managers, shareholders and other stakeholders – and lays down the rules and procedures for decision-making' (stats.oecd.org/glossary/detail.asp?ID=6778).

Monks and Minow (2004, pp. 2) describe corporate governance as *'...the structure that is intended to make sure that right questions get asked and that checks and balances are in place to make sure that answers reflect what is best for the creation of long-term sustainable value'*.

As defined by Denis (2001, pp. 192), corporate governance *'...encompasses the set of institutional and market mechanisms that induce self-interested managers (the controllers) to maximize the value of the residual cash flows of the firm on behalf of its shareholders (the owners)'*.

The degree of shareholder activism or passivity is utterly important for corporate governance practices to reduce agency costs through the medium of institutional ownership. Even though a specific definition of shareholder activism does not exist, Gillan and Starks (1998, pp. 3-4) define shareholder activist *as '... an investor who tries to change the status quo through 'voice', without a change in control of the firm'*. The term voice covers a wide range of activities including shareholders' proposals to the proxy statement, negotiations with managers, and distribution of information to the firms' other investors known as a corporation's public targeting. Kim and Nofsinger (2004) state that shareholders are being active whenever they express their opinions with the intention of influencing a firm. Possessing a speculative or short-term view of the stock markets induces the decisions taken to be short horizon oriented, which further distorts shareholder activism. Other reasons have been provided for preventing shareholders, including individual and institutional investors, from becoming monitoring forces. In the case of individual investors, small amount of share ownership prevents them from affecting management together with efficiency concerns in terms of time and effort spent to exercise their voice. Private pension fund advisors constitute an example for the case of institutional investors. As they are being hired by corporate

managers, it is not in their best interests to follow courses of actions that challenge management.

Formation of the Council of Institutional Investors by the California state treasurer in January 1985 is considered to mark the beginning of institutional activism by Gillan and Starks (1998). Depending on their significant role and power in the capital markets, institutional investors are regarded to exert the most crucial influence on corporate governance practices besides regulatory bodies (Bassen, 2004). The collective action problems that arise due to fragmented ownership structure associated with agency problems can partially be overcome by these types of investors. However, their affect on corporate policies differ as they do not demonstrate the properties of a monolithic group. They may demonstrate the properties of investors who are either long- or short-term oriented. They can even be arbitrageurs, demonstrating properties of short-term investors with sophisticated trading strategies (Porter, 2009). The homogenous view of institutional investors, which considers that they are short-term oriented, is also opposed by Brancato (1997) with the argument that they demonstrate varied trading and turnover patterns based on their type, investment objective together with the investment segments of their portfolios.

Institutional investors like pension funds and mutual funds have started to change from passive, largely fragmented, and faceless shareholders of the Berle and Means model to monitoring institutions that scrutinize and challenge management during the last three decades. Institutional investor activism is found to be more strongly pronounced on performance related issues after having passed through certain stages of development. The stages of development are social investing, opposing takeover initiatives, urging corporations for structural governance changes, monitoring corporate performance for detecting underperforming companies to be targeted for further shareholder activism, and focusing on nonfinancial measures of corporate performance besides the financial ones. Thus, increased institutional presence has a significant potential to affect worldwide corporate governance practices (Brancato, 1997, pp. 81-89). Furthermore, the benefits of shareholder activism are more strongly pronounced on

the condition that it is the institutional shareholders who are playing active roles (Adams, 2009).

Short and Keasey (1997) espouse that it is necessary for institutional investors to consider themselves as owners of the corporations they have stakes in to undertake proactive monitoring roles rather than engaging in short-term investment policies. They focus on the ways by which institutional investors can intervene with corporate management and exercise their power in governance issues. Some of the actions are listed as refusal of taking part in rights issues for raising additional equity, the threat of adverse public comment, threat of selling firms' shares, removing directors by direct actions, and using their voting rights at the annual general meeting.

The recent application of passive indexation strategies by institutional investors is shown as an important factor that prevents them from exiting companies with poor financial performance. Therefore, they are more closely partaking in the monitoring of corporate performance and engaging in issues that improve corporate managers' accountability (Vittas, 1998).

As hypothesized by Rose (2007), institutional presence may act as a disciplinary factor on corporate management and can mitigate the free rider problem, which generates from a dispersed ownership structure. In this case, costs arising from monitoring will not be such a large burden on these investors in comparison to individuals due to the substantial amount of shares possessed. Contrarily, the tendency of small investors to play active roles in monitoring can be reduced as they may believe that institutional owners will perform the task, which further increases the free rider problem. Thus, existence of institutional shareholdings can act as a double-edged sword in monitoring managers.

According to the report prepared by Financial Economists Roundtable (1998), institutional investors should play a proactive role in corporate governance; whereby, increased institutional presence improves the effectiveness of corporate governance by alleviating agency problems. Voting of shares in a responsible manner, improving

communication with managers, and introduction of proxy resolutions are all considered as cornerstones of institutional investor activism.

Coffee (1991) argues on a heretical perspective regarding the monitoring role of institutional owners. Focusing on the trade-off between liquidity and control, institutional investors are separated as to their being poor or good corporate monitors. Whereas those that are frequently trading prefer to exit rather than exercise their voice, those that are indexed take part in corporate governance practices by exercising their voice and demonstrating shareholder activism. Ambiguity may arise even in the case of active monitoring. While monitors may inhibit agency costs by acting in line with the benefits of minority shareholders, they may sometimes work in line with managers as a reaction against the free rider problem caused by these minority shareholders. Lastly, they may shift coalition by acting on behalf of one or another from time to time.

As part of their study, Black and Coffee (1994, pp. 2055-2073) focus on the factors that curb institutional oversight of corporate managers. Direct and indirect costs of shareholder activism, conflicts of interest, potential institutional exist risk encountered while forming coalitions, rivalry between different types of institutional investors such as insurance companies or pension funds in forming coalitions, different amount of shareholdings leading to underweighted or overweighted institutions, legal barriers, political issues such as industry specific regulations, organization specific monitoring capabilities are all listed among institutional activism inhibiting factors.

The overall interaction among agency theory, corporate governance and institutional investors together with a perspective of shareholder activism act as the foundation for the hypotheses developed and models generated to evaluate the impact of institutional investors on earnings management practices. As can be seen by the literature provided above, institutional shareholding can act as either remedies or catalysts with respect to agency costs and associated information asymmetry problems. Therefore, whether institutional presence will mitigate or increase discretionary practices of managers within the boundaries of additional theories will be provided in detail within the subsection devoted to hypothesis generation.

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3. EARNINGS MANAGEMENT

3.1. DEFINITION OF EARNINGS MANAGEMENT

Scott (2011, pp. 423) defines earnings management as '*…the choice by a manager of accounting policies so as to achieve some specific objective.*' and further states that contracting and financial reporting perspectives are the two major views that are used to evaluate earnings management. The former view refers to the utilization of earnings management to protect the firm from results of unpredictable state realizations in the existence of rigid and incomplete contracts in a low cost manner; whereas, the latter view refers to the potential ability of managers to influence their firms' market value by the mean of earnings management (Scott, 2011).

Numerous other definitions of earnings management have been provided in literature dating to back to 1980s. Some of these definitions are provided below:

'*…a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to say, merely facilitating the neutral operation of the process)…*' (Schipper, 1989, pp.92).

'*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 reporting accounting numbers.*' (Healy and Wahlen, 1999, pp. 368).

Several important implications of the Healy and Wahlen (1999)'s definition are worth emphasizing. First, managers have the potential to exercise judgment in financial reporting in various ways such as estimation of expected lives, deferred taxes and bad debt losses. The second issue focuses on the purpose of earnings management as misleading stakeholders or a significant class of stakeholders about the firms' underlying economic performance. They note that the above definition of earnings management do not encompass decisions that are undertaken to generate more informative financial reports.

Based on Beneish (2001), the major difference between the definition of Healy and Wahlen (1999) and fraud arises from the tendency of stakeholders to anticipate managerial behaviors and; thus, engage in arrangements directed to enhance price protection regarding contractual terms.

Ronen and Yaari (2007) develop an alternative definition where they combine white, gray, and black classifications of earning management that have been previously suggested in literature. Thus, they note that;

'Earnings management is a collection of managerial decisions that result in not reporting the true short-term, value-maximizing earnings as known to management. Earnings management can be;

Beneficial: it signals long-term value;

Pernicious: it conceals short- or long-term value;

Neutral: it reveals the short-term true performance.

The managed earnings result from taking production/investment actions before earnings are realized, or making accounting choices that affect the earnings numbers and their interpretation after the true earnings are realized.' (Ronen and Yaari, 2007, pp. 27).

The two major perspectives of accounting method choice, which have been defined in literature, are named as opportunistic perspective and information perspective as first emphasized in the work of Holthausen and Leftwich (1983) and further stressed and extended in Holthausen (1990). The below Figure 3.1 uncovers the choice of the managers, who are regarded to have insider knowledge as to the firms' performance quality, in either using accounting numbers to reach fundamental value by the informational perspective or getting away from fundamental value by the opportunistic perspective. As can be seen, fraud is considered as the most extreme variant of earnings management; whereby, managers have the intention to deceive users of financial statements. It is followed by industry regulations that are usually aimed to benefit from government subsidies. The other variants of earnings management listed under the

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opportunistic perspective are conducted during equity offerings, dealing with debt covenants or manipulation of accounts to achieve the most beneficial management compensation. The two major breakdowns of the informational perspective refer to signaling and fair value. Signaling is the use of insider information by managers to reveal economic information regarding the firm to the various interested parties. Under fair value accounting, managers aim to reflect business' underlying fundamentals without complying with the accounting standards (Godfrey et al., 2010, pp.430-431).
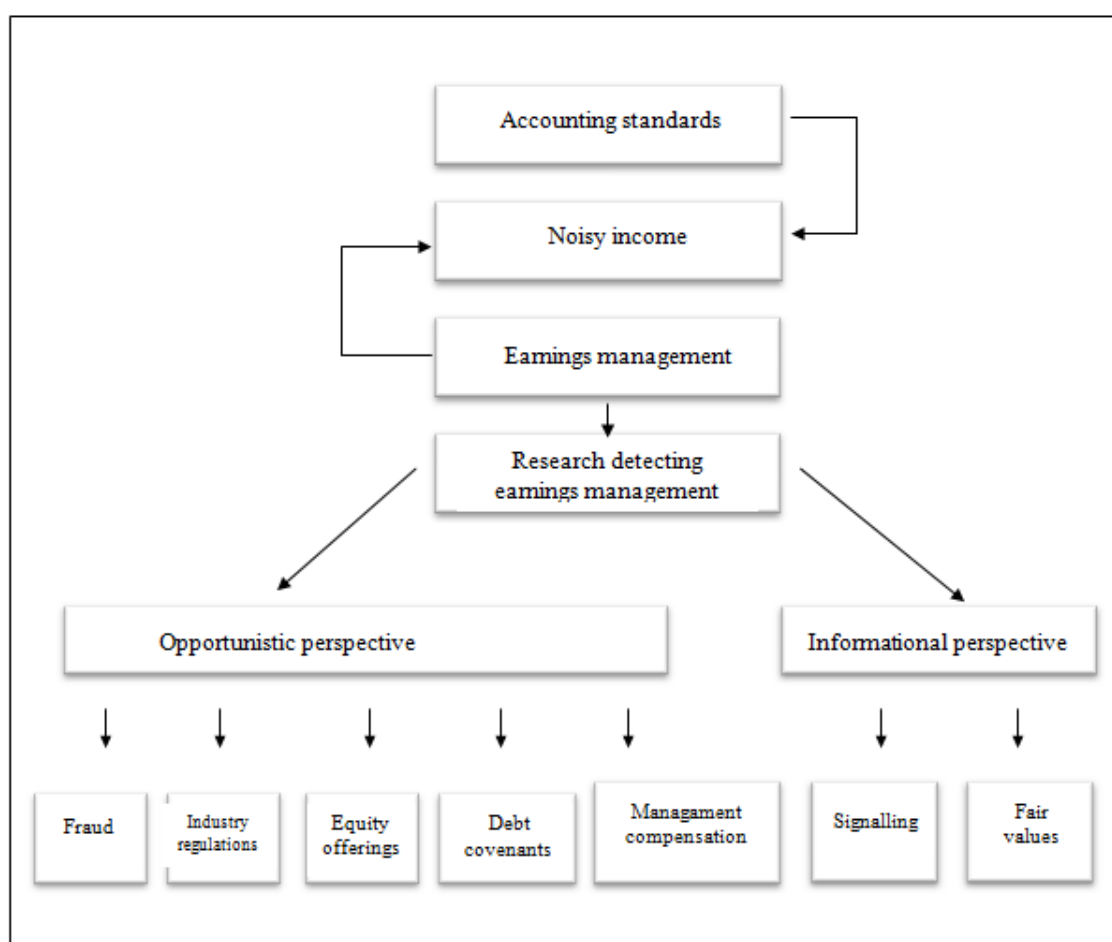
Figure 3.1: Two Viewpoints of Accounting Manipulation

Source: Godfrey et al., 2010, pp. 431

In their study, Dechow and Skinner (2000) express their comments related to the characterization of managerial choices; however, they make a distinction between actions that comprise fraudulent accounting and those that are considered as aggressive

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but acceptable ways of exerting accounting discretion. The below Figure 3.2, which is adapted from the work of Dechow and Skinner (2000) illustrates the distinction between fraud and earnings management.

	Accounting Choices	Real Cash Flow Choices
	Within GAAP	
Conservative Accounting	Overly aggressive recognition of provisions or reserves	Delaying sales
	Overvaluation of acquired in-process R&D activities	Accelerating R&D or advertising expenditures
	Overstatement of restructuring charges and asset write-offs	
Neutral Earnings	Earnings that result from a process with a neutral operation	
Aggressive Accounting	Understating bad debt provisions	Postponement of R&D or advertising expenditures
	Aggressively drawing down provisions or reserves	Accelerating sales
	Violates GAAP	
Fraudelent Accounting	Recording sales before satisfaction of the criteria for being 'realizable'	
	Recording fictitious sales	
	Overstatement of inventory	
	Backdating sales invoices	

Figure 3.2: The Distinction between Fraud and Earnings Management

Source: Dechow and Skinner, 2000, pp. 239

Dechow and Skinner (2000) argue for the existence of a clear-cut distinction between fraudulent accounting practices, which are conducted to deceive, and estimates, which are acceptable under GAAP, demonstrating the characteristics of earnings management conducted within the scope of managerial discretion. Schroeder, Clark and Cathey (2011) also share the same view in that financial statement fraud is manipulation of earnings with the purpose of deceiving stakeholders; whereas, earnings management encompass activities that are conducted with judgments and estimates in line with GAAP.

The ways of earnings management can generally be classified under two main categories; namely, accounting earnings management and operating earnings management. Whereas the former relates to intentional accounting number manipulations, the latter refers to modification of operating activities to achieve desired financial report outcomes. The latter category is also referred to as real earnings management activities. Therefore, a classification of earnings management techniques

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as real and non-real will also be appropriate. Managing actual transactions through timing such as asset write-offs or recognition of R&D expenses constitute examples of real earnings management activities (Merchant and Rockness 1994; Xu, 2007; Ebrahim, 2004). Based on the literature review provided by Xu (2007), the following areas are listed as some of the real business activities to manage earnings: discretionary expenditures, stock repurchases, sales of long-term assets, financial instruments, structuring of business transactions, production, inventory and sales. On the other hand, utilizing different accounting classification schemes or accounting choices and changes can be regarded as examples of non-real earnings management. Some methods could be stated as depreciation and inventory accounting, intentionally recording transactions in the wrong periods.

Alternative approaches have been defined in literature for the detection of earnings management. The three major methods, which are described in the study of Beneish (2001), can be named as models based on aggregate accruals, specific accruals and discontinuities in the distribution of earnings. As the empirical part of this thesis evaluates the existence of earnings management by the use of an accrual based model, literature related to this topic will be provided in detail in the following section.

In the alternative method, the behavior of specific accruals are modeled as in the work of McNichols and Wilson (1988), who utilize the provision for bad debts as the specific accounting number and distinguish between the discretionary and nondiscretionary components. Various other studies that apply the specific accrual approach can be named as those of Marquadart and Wiedman (2004), Philips, Pincus and Rego (2003), and Nelson (2000). The advantages and disadvantages of this method are emphasized by McNichols and Wilson (1988), and McNichols (2000). One of the potential benefits can be noted as the ability of the researcher to focus on the key factors that affect the accrual under question. Furthermore, it will be easier to determine the control variables since the method is usually applied in a specific industry, where the chosen accrual is of material amount. Lastly, the link between accruals and various explanatory variables can be estimated directly. The drawbacks can be stated as the issue of reliability with which the specific accrual demonstrates managerial discretion,

the need for enhanced institutional knowledge and data together with the issues regarding sample size as the specific accrual chosen should exist in all the firms chosen (McNichols, 2000). One of the disadvantages stressed in the study of McNichols and Wilson (1988) adhere to the noise introduced by the selected proxy due to the relative size of the mean and variation of the nondiscretionary component relative to the discretionary one. Furthermore, the comprehensiveness of the discretionary accrual with respect to the total discretionary part of income can also affect the accuracy with which the model detects earnings management.

As stated by Beneish (2001), the third method utilized for the detection of earnings management examines discontinuities in the distribution of earnings after management. Studies that investigate the existence of earnings manipulation evaluate the distribution of earnings around various benchmarks like zero earnings, last year's earnings or analysts' forecasts. Some of the empirical studies that apply this method can be named as those of Burgstahler and Dichev (1997), Myers, Myers and Skinner (2006), and Prawitt, Jason and Wood (2009). McNichols (2000) emphasizes the advantage of this approach as its ability to allow the researcher to strongly predict the frequency of earnings realizations which is not likely to happen due to the nondiscretionary part of earnings. However, this approach is not found to be very informative in terms of the type and degree of earnings management. Furthermore, it does not provide evidence related to managerial incentives for the attainment of certain earnings thresholds. As these incentives differ from firm to firm, determination of targets stays as an important question to be dealt with (McNichols, 2000).

3.2. THEORIES ASSOCIATED WITH EARNINGS MANAGEMENT

This subsection focuses on the theoretical foundations of earnings management to have a better understanding of the hypotheses developed with respect to the relationship between institutional presence and earnings management. Therefore, explanations and discussions regarding agency theory, stewardship theory, stakeholder theory, and income smoothing theory are to be provided. However, this thesis depends on agency theory as the major source of reference for the hypothesized relationship due

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to its superiority in the interpretation of both institutional investor behavior and earnings management practice.

3.2.1. Agency Theory

The emergence and foundations of agency theory have been revealed in the above subsection numbered as 2.4., which also evaluates the association of this theory with institutional ownership. While studying the relation between owners and managers of a corporation, Scott (2011 pp. 327-361) refers to agency theory by considering some models from the game theory to comprehend managerial interests in financial reporting. Game theory is used to model the conflict of interest that occurs between two or more rational individuals, who are attempting to maximize their expected utilities, in the presence of uncertainty and information asymmetry. Thus, Scott (2011, pp. 340) defines agency theory as *'... a branch of game theory that studies the design of contracts to motivate a rational agent to act on behalf of a principle when the agent's interests would otherwise conflict with those of the principle'*.

There is a potential for reported accounting numbers to be flawed and not reflective of the true economic conditions when the managers of a company try to engage in impression management with respect to earnings. It is an inevitable fact that these earnings management practices constitute agency costs on the condition that financial reports that do not demonstrate the accurate economic value cause shareholders to make the investment decisions that are not optimal. Thus, Davidson III et al. (2004, pp. 268) maintain that earnings management practices cause or aggravate agency costs.

The conflict of interest among various parties within the organization, which is fundamental to agency theory, lead to information asymmetry since some parties are more advantageous in terms of the information possessed in comparison to others. Two major types of information asymmetry are named as adverse selection and moral hazard. Whereas the former focuses on hidden information with the agent having superior information than the principle, the latter is associated with hidden action problems that occur when the principle is unable to observe the agents' behavior as they

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pursue self-interested strategies. Both problems are assumed to be associated with earnings management (Rohaida, 2011).

Scott (2011, pp. 21-22) emphasizes that there are various ways, in which managers and other insiders can use their information advantage. Opportunistic behaviors to bias and manage information released, delaying and providing information to certain selected parties obscuring timely and proper investment decisions are among numerous examples. Financial accounting and reporting can be used as means to prevent cases of adverse selection. Additionally, the impossibility shareholders and creditors face in complete observation of managerial behaviors lead to moral hazard problems. The managers may be manipulating accounting numbers so that their efforts to shirk will not be discovered. Measuring managerial performance by the use of accounting net income can alleviate these problems since managers will be motivated for better performance and managerial labor market will be more informed with respect to managerial shirking.

The crucial role financial reports play in reducing opportunistic managerial behavior and associated agency costs is also denoted by Rajgopal and Venkatachalam (1997, pp. 1-2). However, the discretion that managers possess in the choice of accounting policies distorts the extent to which financial reports can alleviate agency costs, which are detrimental to shareholder wealth. Being able to use judgment in financial report preparation allows managers to prepare financial reports in line with their self interests. Thus, institutional shareholders' monitoring incentives have a potential to mitigate agency costs by dealing with accounting-related incentive conflicts through corporate governance practices.

The recent study of Hadani, Goranova and Khan (2010) focuses on the interaction among shareholder proposals, institutional ownership, and earnings management, which is considered to distort financial statement quality resulting in information asymmetries between the owners and managers. Increased shareholder activism measured by shareholder proposals is found to increase public scrutiny facing the firm resulting in attempts to improve earnings quality. However, largest institutional owner holding informational advantage is found to curb earnings management.

The theoretical foundations based on the milestone studies, but not limited to, those of Jensen and Meckling (1976), Eisenhardt (1989), and Baiman (1990) and the reasoning provided in this subsection together with that in subsection numbered as 2.4 demonstrate that agency theory provides the appropriate conceptual framework to evaluate accounting related information asymmetries and incentives with reference to earnings management and institutional ownership.

3.2.2. Stewardship Theory

Stewardship theory evolved as an alternative approach to agency theory based on the reasoning that the individualistic assumptions of agency theory may not prove to be existent for all managers. Thus, this latter theory is documented to provide a different model of management. Whereas agency theory is founded upon econometric models, stewardship theory has its roots in psychology and social literature (Albrecht, Albrecht and Albrecht 2004). Therefore, various psychological factors such as desire for achievement, altruism, collectivism instead of individualism, and commitment to meaningful work are all incorporated into this subsequent theory (Clarke, 1998a; Clarke 2004, pp.117).

The wide range of motives possessed by managers prevents them from being bounded by self-interested behaviors leading to the rationale that conflict may not exist even though ownership and control are separated. Thus control mechanisms developed to oversee managerial actions cannot be remedies to problems associated with corporate performance and protection of shareholder interests (Muth and Donaldson, 1998).

Agency theory is assumed to be proper for the evaluation of relationships among parties with conflicts of interest, which can be aligned by monitoring and appropriate compensation schedules. Contrarily, stewardship theory is suitable for situations without inherent conflict or interest. According to this theory, even though the steward and the principle have divergent interests, the steward will act in accordance to cooperative rather than self-serving behavior choosing cooperation instead of defection. Furthermore, the steward acts in a collective and organizationally centered manner

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making decisions that are in the best interests of the overall group (Davis, Schoorman and Donaldson, 1997, pp. 22-25).

This theory assumes that the executive manager desires to act as a good steward of corporate assets other than demonstrating the properties of an opportunistic shirker. This notion eliminates problems associated with executive motivation. (Donaldson and Davis, 1991, pp. 51). Thus, managers are regarded to be trustworthy stewards, whose motivations are in line with the principles' objectives irrespective of individualistic goals. Organizational structures that facilitate and empower managers rather than those that monitor and control are chosen by those who prefer stewardship theory (Davis, Schoorman and Donaldson, 1997, pp. 26). Therefore other than emphasizing control mechanisms, stewardship theory focuses on trust, longer-term orientation and power enhancement in terms of management philosophy (Davis, Schoorman and Donaldson, 1997, pp. 37).

As the foundations of this theory suggest; managers, who are assumed to be self-actualizing, collectively serving, and oriented towards higher organization needs with a commitment towards high value, are less likely to engage in earnings management practices. However, as argued by Albrecht, Albrecht and Albrecht (2004, pp. 127), executives who demonstrate behavior in line with stewardship theory in corporations with stewardship-based structures and agency-based rewards and incentives, may have a low tendency to commit fraud.

3.2.3. Stakeholder Theory

Other than focusing on the property conception or finance model of the corporation, Blair (1995) espouses a broader perspective with respect to corporations in terms of value creation, risk sharing, and gain attainment. Shareholders should not be seen as the ones earning all the returns and bearing all the risks as in the primitive model of the corporation. It is the ability of the whole organization, the skills and knowledge of the employees that contribute to the modern firms' wealth generating capacity. Therefore, the corporation is seen as institutional arrangement; whereby, the relationship among all parties including shareholders, employees, suppliers, customers,

those with specialized investments and competitors have to be managed to maximize wealth for the stakeholders of the firm.

Freeman (1984, pp. 46) provides a broad definition; whereby, a stakeholder is defined as *'... any group or individual who can affect or is affected by the achievement of the organization's objectives'*. It has to be noted that Mitchell, Agle and Wood (1997)[1] provide a chronological demonstration of numerous other definitions in literature.

The significance of stakeholder groups in corporate performance increased with the growing importance of professional management and declining role of shareholders in business management. Thus, elements of stakeholder approach are being adopted by managers in that relationships with each stakeholder group prove to be of crucial importance for the companies' survival. This indicates that interests of more complex constituencies than what is suggested by agency theory have to be satisfied (Clarke, 1998b).

All persons and groups that have legal interests in an enterprise both contribute to and receive benefits from the firm with no priority established among the associated sets of interests or benefits. The stakeholder theory is emphasized to be different from other theories of the firm in various aspects. Even though this theory is general and comprehensive, it is broader than the descriptive notion that organizations have shareholders. Additionally, it aims to define and guide the corporation, which satisfies multiple but sometimes dissimilar purposes of numerous diverse participants, with the going concern assumption (Donaldson and Preston, 1995, pp. 70).

Earnings management practices are likely to affect not only the owners but also all other stakeholders of the firm (Prior, Surroca and Tribo, 2008). Management fraud, which is deliberate managerial actions to deceive investors or other key stakeholders, may have serious consequences on shareholders, employees, the local communities in which firms work, and the society as a whole. It has to be noted that shareholders are the first to be affected by the negative consequences of management fraud pronounced

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[1] See Mitchell, Agle and Wood (1997, pp. 858) for a detailed chronogical evolution of the term's definition.

through the reduction in market value of the firm. (Zahra, Priem and Rasheed, 2005). Therefore, stakeholder theory is assumed to be considered to add to the theoretical foundations of earnings management practice.

3.2.4. Income Smoothing Theory

The incentives and ability of managers to manipulate reported profits may cause accounting earnings not to be a realistic measure of actual economic income. Earnings management encompasses income smoothing which is defined as *'... the dampening of fluctuations about some level of earnings that is considered normal for the company.'* (Schroeder, Clark and Cathey, 2011, pp. 159). Because managers prefer a relatively constant compensation, they may smooth reported earnings based on a contracting perspective (Scott, 2011). Thus, managers' self interested behaviors can boost income smoothing consistent with the foundations of agency theory. Furthermore, firms can utilize income smoothing as a tool of external reporting, in which way they can make their expected persistent earnings power public and reveal private information (Matsuura, 2008). Another motivation is emphasized by Li and Richie (2009), whereby managers engage in these practices known as garbling to deceive analysts and others.

Other definitions of income smoothing have been provided in earlier academic literature. Trueman and Titman (1988, pp. 129) define the term as *'... as the manager shifting the recognition of some of the firm's income, if there is that flexibility within the firm, from the second period to the first (the first period to the second), whenever the first period's economic earnings are less than (greater than) the expected per period economic earnings'*.

Fudenberg and Tirole (1995, pp. 75-76) express income smoothing as *'... the process of manipulating the time profile of earnings or earnings reports to make the reported income stream less variable, while not increasing reported earnings over the long run'*. Two methods are indentified by Fudenberg and Tirole (1995) as tools to smooth earnings. Whereas the first one refers to the change of reported earnings without altering the underlying cash flows by the use of flexibility in generally accepted accounting procedures, the second one adheres to changing operations to smooth the

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cash flows themselves. Bitner and Dolan (1996, pp.20-21) name these two methods as artificial smoothing and real smoothing, respectively. Using discretionary accounting procedures to smooth earnings is a means of applying the first method and is regarded to be easier to detect than the second due to its being based on changes in accounting estimates or procedures disclosed in the financial statements. On the other hand, real income smoothing is associated with the occurrence or recognition of actual transactions that are not subject to disclosure rules. Thus, their empirical detection is pronounced to be more difficult.

The implications of income smoothing for earnings management practice are expressed by DeFond and Park (1997) with an emphasis on the theoretical foundations of the study put forth by Fudenberg and Tirole (1995). Managers demonstrate a tendency to increase current period discretionary accruals by borrowing earnings from the future on the condition that current earnings are relatively low. Contrarily, managers are likely to reduce current year discretionary accruals by saving current earnings for the future if current earnings are relatively high.

3.3. MEASUREMENT OF EARNINGS MANAGEMENT BASED ON AGGREGATE ACCRUAL MODELS

The two components that comprise accounting earnings are cash and accruals, which are further decomposed into nondiscretionary and discretionary parts. Based on Healy (1985), whereas accounting standard-setting organizations have the authority in the determination of adjustments on the cash flows of the firm, managers have the flexibility in the choice of accounting methods that have the potential to affect cash flows by the use of discretionary accruals. This is further stressed in the pioneering study of McNichols and Wilson (1988), which developed a framework for discretionary accruals that is utilized in most of the early works of earnings management. They emphasize that management can exert discretion over most of the revenue and expense items depending on the selected method of accounting choice and associated estimates together with policies related to operating, investing and financing activities of the firm.

The timing discrepancy between cash flows and accounting recognition of associated transactions results in the generation of accruals just as in the common case of revenue recognition. As defined and further illustrated by Ronen and Yaari (2007, p. 372, 373):

'Non-discretionary accruals are accruals that arise from transactions made in the current period that are normal for the firm given its performance level and business strategy, industry conventions, macro-economic events, and other economic factors. Discretionary accruals are accruals that arise from transactions made or accounting treatments chosen in order to manage earnings. Reversals are accruals originating from transactions made in previous periods.' According to the definition, the total accrued balances of firm *i* in period *t* can be demonstrated as in Equation 3.1 below;

$$EBTA_{it} = DA_{it} + NA_{it} + \text{Reversal}_{it} + EBTA_{i,t-1}$$

(Eq. 3.1)

where;

$EBTA_{ik}$ = ending accrued balances of firm *i* in period *k*, *k = t, t − 1*;

DA_{it} = discretionary accruals of firm *i* resulting from transactions and events occurring in period *t*;

NA_{it} = nondiscretionary accruals of firm *i* resulting from transactions and events occurring in period *t*;

Reversal $_{it}$ = reversal in period *t* of balances accrued by firm *i* in previous periods.

i = firm index

t = period index

Numerous models have been developed in literature to distinguish nondiscretionary accruals from discretionary ones for the quantification of earnings

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management. The comprehensive study of Dechow, Sloan and Sweeney (1995) provides an evaluation of these alternative earnings management measurement models starting with the simplest ones, in which total accruals are used as a proxy for discretionary accruals. However, most of the more sophisticated models initially develop a model to estimate the nondiscretionary component. The discretionary component is eventually determined by finding the difference between total and nondiscretionary accruals. Petroni, Ryan and Wahlen (2000) design an alternative approach in an attempt to deal with the issue of biased coefficients and misestimated components of accruals in the event that the determinants of discretionary and nondiscretionary components are interrelated. They model discretionary accruals directly with the reasoning that even though nondiscretionary accruals demonstrate the economic conditions and strategic choices faced by the firm, these factors have a potential to affect managerial incentives regarding flexibility over accruals. Another important issue to note is that reversals have not been integrated into most of the models due to the difficulty encountered in their detection despite their significant importance (Ronen and Yaari, 2007).

Firm-year observations with no earnings management together with an estimation and test period have to be identified for discretionary accrual models, which mostly require the estimation of one parameter at minimum. The basic assumption is that systematic earnings management occurs in the test period and it is not predicted during the estimation period (McNichols, 2000; Dechow, Sloan and Sweeney, 1995). Major accrual based models of earnings management are summarized below with their distinguishing features focusing on the differences and similarities among the models.

3.3.1. The Healy Model (1985)

Literature focusing on the determination of discretionary accruals begins with the preliminary study of Healy (1985). Based on a sample of 94 U.S. industrial corporations, managerial behavior related to bonus-maximizing hypothesis is tested; whereby, bonus contracts are evaluated to examine the link between managerial decisions related to income reporting incentives and the discretion observed in the choice of accrual and accounting procedures.

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Total accruals defined as the difference between reported accounting earnings and cash flows from operations; and voluntary changes in accounting procedures are utilized as two proxies for discretionary accruals and accounting procedures, respectively (Healy, 1985, p. 94). One of the distinguishing characteristics of this study from the other works of earnings management arises from the prediction that every period demonstrates systematic earnings management (Dechow, Sloan and Sweeney, 1995). However, several drawbacks of using accruals as a proxy of managerial discretion have been mentioned by certain academicians, namely Healy (1983) and McNichols and Wilson (1988). The former focuses on the fact that accruals also encompass non-accounting issues such as demand and inventory level changes. Thus, Healy (1983) states that findings can be affected by omitted variables that are correlated with the partitioning variable. Furthermore, McNichols and Wilson (1988) emphasize the potential noise problem that may arise on the condition that the mean and variation of the nondiscretionary component can be relatively large in comparison to the discretionary accrual. They also focus on the economic conditions that can generate variation on the nondiscretionary component in the same manner as in the case of discretionary accruals. Besides these drawbacks, DeAngelo (1986) denotes an advantage of accrual based approach as its tendency to expose managerial incentives that are difficult to be captured by outsiders.

In the Healy Model (1985), nondiscretionary accruals are simply represented by the mean total accruals from the estimation period. Thus, the model can be demonstrated by Equation 3.2 as below;

$$NDA_\tau = \Sigma_t TA_t / T$$

(Eq. 3.2)

where;

NDA = estimated nondiscretionary accruals;

TA = total accruals scaled by lagged total assets;

t = a year subscript for years included in the estimation period;

τ = a year subscript indicating a year in the event period.

Ronen and Yaari (2007) conduct a simulation test using the Healy Model and their findings fail to demonstrate zero discretionary accruals even though the simulation has no earnings management. Thus, they conclude that normal accruals associated with abnormal performance are classified as discretionary by Healy's methodology.

3.3.2. The DeAngelo Model (1986)

Based on her review of the Healy model, DeAngelo (1986) asserts utilization of prior period total accruals as a benchmark for the current period's accruals in the event that there are no income manipulations. She justifies this by focusing on the possible existence of large and systematically negative nondiscretionary accruals just as in the case of a material amount of depreciation expense, which could erroneously result in the false impression of earnings understatement by management. Therefore, the DeAngelo Model defines nondiscretionary accruals as prior period's total accruals scaled by lagged total assets as can be seen in Equation 3.3 below;

$$NDA_{t} = TA_{t-1}$$

(Eq. 3.3)

where;

all notations are defined as before.

The difference between current total accruals and normal total accruals, which is defined by last period's total accruals, is determined as the total abnormal accrual (Jones, 1991). The characterization of the above equation fits a constant growth mean reverting process and all changes in accruals are regarded to be discretionary since current year's expected accruals are taken to be equal to those of the prior year (Ronen and Yaari, 2007).

In both Healy Model and DeAngelo Model, nondiscretionary accruals are measured by total accruals with the major difference stemming from the latter model's

utilization of prior year's observation as the estimation period. As stated by Dechow, Sloan and Sweeney (1995), both models will measure earnings management without error if the assumptions that nondiscretionary accruals are constant overtime and discretionary accruals have a mean of zero in the estimation period are satisfied. However, if fluctuation is observed among periods in terms of nondiscretionary accruals, the two models will provide erroneous results in the measurement of nondiscretionary accruals. They further indicate the appropriateness of the DeAngelo Model on the condition that nondiscretionary accruals exhibit a random walk. However, if a white noise process around a constant mean is followed by nondiscretionary accruals, Healy Model is found to be a better fit.

3.3.3. The Jones Model (1991)

Jones (1991) enhances the methodology developed in the prior studies by generating firm specific expectations models to estimate total nondiscretionary accruals; thus, incorporating the impact of changing economic conditions. Therefore, the assumption that considers nondiscretionary accruals as constant has been relaxed by this more sophisticated model. This model controls for the changes in the level of revenues and gross property, plant, and equipment to take into account changing economic circumstances faced by a firm. First, total nondiscretionary accruals are estimated by time-series models and then tests of hypothesis concerning earnings management are applied. The Jones Model developed the below expectations model for total accruals;

$$TA_{it}/A_{it-1} = \alpha_i [1/A_{it-1}] + \beta_{1i}[\Delta REV_{it}/A_{it-1}] + \beta_{2i}[PPE_{it}/A_{it-1}] + \epsilon_{it}$$

(Eq. 3.4)

where;

TA_{it} = total accruals in year *t* for firm *i;*

ΔREV_{it} = revenues in year *t* less revenues in year *t-1* for firm *i;*

PPE_{it} = gross property, plant, and equipment in year *t* for firm *i;*

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A_{it-1} = total assets in year *t-1* for firm *i;*

ϵ_{it} = error term in year *t* for firm *i;*

i = firm index

t = year index

Ordinary Least Squares estimates of α_i, β_{1i}, and β_{2i} of the above Equation 3.4 are used to obtain firm-specific estimates of $a_i, b_{1i},$ and b_{2i} respectively in the Equation 3.5 below;

$$u_{ip} = TA_{ip}/A_{ip-1} - (a_i \left[1/A_{ip-1}\right] + b_{1i}\left[\Delta REV_{ip}/A_{iP-1}\right] + b_{2i}[PPE_{ip}/A_{iP-1}])$$

(Eq. 3.5)

where;

p = year index for years included in the prediction period,

and all other notations are defined as before.

The reason for all of the variables to be scaled by lagged total assets is justified by the resulting reduction in heteroscedasticity. As Jones' analyses demonstrate the properties of an event study, it is assumed that earnings are not managed during the estimation period, which takes place before the event period. This assumption has been tested by Ronen and Yaari (2007), who conduct a simulation with the assumption that depreciation is managed during the estimation period. Their findings demonstrate that even though earnings management is underestimated by the Jones Model in the simulation, it is efficient at determining the direction of earnings management. Sample size can be considered as a problem that has to be taken into account as the analysis encompasses only 23 firms, which leads to a reduction in test power since large standard errors arise due to small sample sizes. Another criticism directed against the work of Jones (1991) by the aforementioned authors relates to the assumption regarding the stability of expenses. They argue that the model can be contaminated by the omitted variables issue as it does not employ expenses as an independent regressor.

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Furthermore, the assumption inherent in the Jones Model that revenues are nondiscretionary has been criticized by the work of Dechow, Sloan and Sweeney (1995). However, this deficiency has already been emphasized by Jones (1991) based on the reasoning that managers may demonstrate attempts in reducing reported earnings during years of import relief, which is the major subject of her study.

Cross-sectional versions of the above stated time-series model of Jones have been conducted in literature as in the study of DeFond and Jiambalvo (1994). The reason why the latter version is preferred can be justified by various statistical problems encountered (Ebrahim, 2004). One important issue to consider is the estimation period since time-series models require at least 8 to 10 years for each firm in the sample, which results in disregarding industries with fewer firms. Furthermore, serial correlation can generate problems as the model may be misspecified because of being non-stationary. Lastly, there may be a possibility of reduction in test power due to the overlapping nature of estimation and event periods. However, one drawback of the cross-sectional Jones model is the potential for nondiscretionary accruals to be overstated and discretionary accruals to be understated since industry control encompasses the industry's average level of discretion (McNichols, 2000).

3.3.4. The Modified Jones Model (1995)

The Modified Jones Model, which is developed by Dechow, Sloan and Sweeney (1995), differs from the original Jones Model in that the previous version assumes all revenues as nondiscretionary both in the estimation and event period. However, change in receivables is deducted from change in revenues in the event period when the modified model is used based on the assumption that all changes in credit sales in the event period occur due to earnings management (Dechow, Sloan and Sweeney, 1995). Thus, nondiscretionary accruals are estimated as;

$$NDA_t = \alpha_1 (1/A_{t-1}) + \alpha_2[(\Delta REV_t - \Delta REC_t)/A_{t-1}] + \alpha_3 (PPE_t)/A_{t-1}$$

(Eq. 3.6)

where;

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ΔREC_t = net receivables in year *t* less net receivables in year *t-1*,

and all other notations are defined as before.

However, since all of the receivable changes are not discretionary, the above model results in too small nondiscretionary accrual estimations in the case of firms with rising revenues (McNichols, 2000). Furthermore, Ronen and Yaari (2007) consider the time-series Modified Jones model to be inconsistent as the model of normal accruals is applied in a different manner in the two stages. In the first stage, the estimation of normal accruals is similar to the original Jones Model; whereas, nondiscretionary accruals are computed by the multiplying the estimated coefficient of the change in sales by the change in cash sales (the change in revenues minus the change in accounts receivable) instead of the change in sales (Ronen and Yaari, 2007, pp. 434). They further note however that the cross-sectional version of the Modified Jones Model replaces the changes in revenues with the changes in cash revenues for the estimation of both normal accruals and discretionary accruals (Ronen and Yaari, 2007, pp. 435).

3.3.5. The Forward-Looking Model (2003)

Dechow, Richardson, and Tuna (2003) generate a model to improve the explanatory power of the former models. Thus, they utilize some additional variables, which have a tendency to vary with nondiscretionary accruals, based on the reasoning that all of the discretionary accrual models can misclassify nondiscretionary accruals as discretionary. The Cross Sectional Forward-Looking Jones Model is estimated as below;

$$TA_{it} = \alpha + \beta_1 \big((1 + k)\Delta Sales - \Delta REC \big) + \beta_2 PPE + \beta_3 TA_{it-1} + \beta_4 GR\_sales_{it+1} + \epsilon_{it}$$

(Eq. 3.7)

where;

TA_{it} = firm *i*'s total accruals in the current year, scaled by year *t-1* total assets;

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k = the slope coefficient from a regression of ΔREC on ΔSales;

ΔSales = the change in sales, scaled by year *t-1* total assets;

ΔREC = the change in accounts receivable, scaled by year *t-1* total assets;

PPE = property, plant, and equipment;

TA_{it-1} = firm *i*'s total accruals from the prior year, scaled by year *t-2* total assets;

GR_sales_{it+1} = the change in firm *i*'s sales from year *t* to *t+1*, scaled by year *t* sales.

ϵ_{it} = error term in year *t* for firm *i*;

The major modifications of the model can be expressed as utilization of control variables for lagged accruals and growth together with an adjustment for expected increase in sales that separates nondiscretionary accruals from discretionary.

3.3.6. The Performance Adjusted Models

Dechow, Sloan and Sweeney (1995) evaluate alternative accrual based models, namely the Healy Model, the DeAngelo Model, the Jones Model, the Modified Jones Model and the Industry Model for detecting earnings management. Three major findings of their study can be summarized as (Dechow, Sloan and Sweeney, 1995, pp. 193);

'First, all of the models appear well specified when applied to a random sample of firm-years. Second, the models all generate tests of low power for earnings management of economically plausible magnitudes (e.g., one to five percent of total assets). Third, all models reject the null hypothesis of no earnings management at rates exceeding the specified test-levels when applied to samples of firms with extreme financial performance.'

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Thus, they argue that if the partitioning variable for earnings management is correlated with the firms' performance, earnings management tests can be misspecified. Depending on their test results, they conclude that in the case of low (high) earnings, low (high) discretionary accruals will be detected (Dechow, Sloan and Sweeney, 1995). McNichols (2000) also demonstrates findings in line with the above stated study in that there is a positive and significant association among accruals, which proxy for changes in working capital accounts, and certain explanatory variables; namely, growth as measured by analysts' median long-term earnings growth forecasts, return on assets and change in sales. Accordingly, firms' performance or growth characteristics other than managerial incentives may be the factor generating differences among discretionary accruals. The major models that integrate proxies to control for firm performance are Cash Flow Jones Model and Linear Performance Matching Jones Model, which are described below.

3.3.6.1. The Cash Flow Jones Model

The model generated by Kasznik (1997) enhances the Jones Model in three aspects. First, cash flow from operations is included in the model as an additional explanatory variable with the justification that '… *to the extent that the temporary component of cash flows has a nondiscretionary effect on total accruals, some of this nondiscretionary component can be extracted by orthogonalizing total accruals with respect to changes in cash flow from operations.* (Kasznik, 19997, pp. 14). The second modification refers to the relaxation of the assumption relating to the exogeneity of revenues. Lastly, the model estimates accruals on a cross-sectional basis other than the time-series approach adopted by the Jones Model. The model is demonstrated as below;

$$TA_{it}/A_{it-1} = \alpha_i [1/A_{it-1}] + \beta_{1i}[\Delta REV_{it}/A_{it-1}] + \beta_{2i}[PPE_{it}/A_{it-1}] + \beta_{3i}\Delta CFO_{it}/A_{it-1} + \epsilon_{it}$$

(Eq. 3.8)

where;

TA_{it} = total accruals in year *t* for firm *i;*

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ΔREV_{it} = revenues (adjusted for changes in receivables) in year *t* less revenues in year *t-1* for firm *i;*

PPE_{it} = gross property, plant, and equipment in year *t* for firm *i;*

ΔCFO_{it} = cash flow from operations in year *t* less cash flow from operations in year *t-1* for firm *i;*

A_{it-1} = total assets in year *t-1* for firm *i;*

ϵ_{it} = error term in year *t* for firm *i;*

i = firm index;

t = year index for the years included in the estimation period for firm *i*.

In their study, Dechow and Dichev (2002) focus on the quality of working capital accruals and earnings to develop a proxy for accruals quality by estimating the residuals from firm-specific regressions of working capital changes on past, present, and future operating cash flows. Because cash flow realizations of working capital accruals occur within a year, they are regarded to be easily tractable both theoretically and practically. The residuals from the below Equation 3.9 are used as the measure of working capital accrual quality;

$$\Delta WC_t = b_0 + b_1 CF_{t-1} + b_2 CF_t + b_3 CF_{t+1} + \epsilon_t$$

(Eq. 3.9)

where;

ΔWC_t = change in working capital;

CF_t = cash flow from operations;

ϵ_t = error term that is used to measure the quality of earnings.

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They conclude that observable firm characteristics can be utilized as instruments of accrual quality.

McNichols (2002) focuses on the limitations of the model developed by Dechow and Dichev (2002) and argues that the standard deviation of the residual captures the absolute variation in the residual other than that relative to the one in accruals (McNichols, 2002, pp. 64). Additionally, the model produces biased coefficients due to the error inherent in the independent variables' specifications. The reason for this flaw is that the data relating to cash flow from operations encompasses cash flows which are realized in a period but recognized in multiple periods being contrary to the theory. Therefore; a new model, in which cash flow variables are combined with the variables in the Jones Model, is developed in the discussion paper of McNichols (2002). The findings of the study reveal that the combined model provides higher explanatory power than both models; namely, Dechow and Dichev (2002) and the Jones model. The combined model is estimated as;

$$\Delta WC_t = b_0 + b_1 CF_{t-1} + b_2 CF_t + b_3 CF_{t+1} + b_4 \Delta Sales + b_5 PPE + \in_t$$

(Eq. 3.10)

where;

all the notations are described as above. Furthermore $\Delta Sales$ and PPE are the change in sales and the level of property, plant, and equipment, respectively.

3.3.6.2. The Performance Matching Model of Kothari, Leone and Wasley (2005)

Dechow, Sloan and Sweeney (1995) emphasize two reasons for the excessive rejection rates of the null hypothesis of no earnings management. The first reason adheres to the potential of nondiscretionary accruals, which are not extracted by the models, to be correlated with firm performance. The second reason refers to various other factors, which may also be correlated with the performance of the firm, making earnings to be systematically managed. Therefore; Kothari, Leone and Wasley (2005) compares performance-matched discretionary accruals approach with traditional models

of discretionary accruals. Two methods have been applied; whereby, the first method uses performance matched discretionary accruals that represent abnormal earnings management other than total earnings management. In this method, estimated discretionary accruals of a firm are adjusted by that of a similar firm that is matched on the basis of industry and performance. The second method generates a model that estimates accruals as a function of performance. This approach, which uses a linear performance matching model, differs from the Jones and Modified Jones Model in two aspects. The first difference is related to the inclusion of a constant term in the model which controls for heteroskedasticty, reduces the problems associated with the omitted size variable and increases the symmetry of the model resulting in more clear-cut test results. The second modification refers to the inclusion of current or lagged return on assets with the latter being more frequently used in empirical studies (Kothari, Leone and Wasley, 2005). The second approach is demonstrated by the below Equation 3.11;

$$TA_{it}/A_{it-1} = \beta_0 + \alpha_i[1/A_{it-1}] + \beta_{1i}[\Delta REV_{it} - \Delta REC_{it}/A_{it-1}] + \beta_{2i}[PPE_{it}/A_{it-1}] + \beta_{3i}ROA_{it(or\ it-1)} + \epsilon_{it}$$

(Eq. 3.11)

where;

TA_{it} = total accruals in year *t* for firm *i;*

ΔREV_{it} = revenues in year *t* less revenues in year *t-1* for firm *i;*

ΔREC_{it} = net receivables in year *t* less net receivables in year *t-1;*

PPE_{it} = gross, property, plant, and equipment in year *t* for firm i*;*

ROA_{it} = return on assets in year *t* for firm *i;*

ϵ_{it} = error term in year *t* for firm *i;*

i = firm index;

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t = year index for the years included in the estimation period for firm i;

β_0 = constant

The residuals from the above cross-sectional annual regression model are utilized as discretionary accruals.

4. EMPIRICAL RESEARCH ON THE RELATIONSHIP BETWEEN INSTITUTIONAL OWNERSHIP AND EARNINGS MANAGEMENT

4.1. PRIOR RESEARCH

This subsection of the thesis focuses on the strand of literature which evaluates the influence of institutional ownership on earnings management practices. Even though numerous analyses have been conducted in different institutional settings and management contexts based on the studies' country of origin, the results have been found to be mixed and inconclusive. The major reason for the lack of a clear-cut conclusion in this controversial array of literature will be explained in the following subsection that deals with the development of the study's hypotheses.

4.1.1. Prior Research Based on International Context

Initial research focusing on the association between institutional ownership and earnings manipulation mainly utilizes variables based on R&D expenditures as proxies of managerial discretion (Graves, 1988; Hill and Hansen, 1989; Hansen and Hill, 1991; Baysinger, Kosnik and Turk, 1991; Eng, 1995; Bushee, 1997; Majumdar and Nagarajan, 1997; Bushee, 1998; Eng and Shackell, 2001). Cuts or increases in firms' expenditures regarding these long-term investments can be utilized as tools of earnings management. However, together with the advances in theoretical and empirical literature related to the generation of aggregate accrual models, measures other than R&D related proxies are introduced into econometrical models in this array of empirical studies. Furthermore, the improvements in literature related to accruals management increased the generalizability of the theories since this method of earnings management can be used by all firms and is not as costly as investments in R&D (Koh, 2007).

Rajgopal and Venkatachalam (1997) conduct one of the pioneering studies; whereby, they investigate whether the presence of institutional owners mitigate discretionary accounting practices. Based o a dataset of 7,808 firm year observations covering the period between 1989-1995, they utilize modified Jones (1991) Model to

test two hypotheses. Institutional investor ownership percentage and the number of institutional owners are used as explanatory variables together with a set of control variables that include managerial ownership, firm size, leverage, earnings variability and earnings performance. The results of the first hypothesis, which evaluates the link between absolute value of discretionary accruals and institutional holdings, are supportive of shareholder activism exhibiting a negative relationship between both indicators of institutional ownership and earnings management. Additionally, they utilize a pooled-cross-sectional probit regression to test the second hypothesis, which distinguishes between income increasing and income decreasing discretionary accruals. The results of the probit model demonstrate the insignificance of the two ownership measures on the type of discretionary management behavior.

Rajgopal, Venkatachalam and Jiambalvo (1999) also employ the modified Jones (1991) Model to detect the reaction of managerial discretion, as measured by the absolute abnormal accruals, to the pressure exerted by institutional investors. The study utilizes panel data analysis on a dataset of 1,544 firms for the 1989-1995 period. The results of the fixed effects model demonstrate the significant and negative impact of institutional ownership percentage on the selected proxy of managerial discretion, which provides evidence in favor of institutional owner sophistication. Therefore, the notion that these types of owners are categorized as transient investors, who are overly focused on current profit goals, is rejected for the period analyzed.

Based on a sample of 12,487 firm-year observations covering the 9 year period between 1988 and 1996; Chung, Firth and Kim (2002) investigate whether institutional investors with substantial shares in the firm mitigate the use of discretionary accruals as a tool of earnings management. Two situations which are determined as generating managerial incentives for earnings management, namely poor current performance with good future prospects and good current performance with poor future prospects of the firm, are incorporated into the model. The overall findings of the study demonstrate the significant role of institutional owners in deterring managers' actions to engage in earnings management in the existence of managerial incentives to increase or decrease company profits.

Koh (2003) evaluates earnings management practices of 107 Australian non-finance related companies by using cross-sectional version of the Jones Model between the years 1993-1997, inclusive. The distinguishing feature of this study rests upon its prediction of a non-linear relationship between institutional ownership and income increasing discretionary accruals by utilizing two explanatory variables, which are percentage institutional ownership and square of percentage institutional ownership. The findings support the predicted concave relationship between the two main variables of interest. Whereas low levels of institutional ownership are found to be positively related to income increasing discretionary accruals, higher levels of institutional ownership are found to be negatively associated with the selected proxy of earnings management. These results are in favor of short- and long-term orientation of institutional investors, respectively.

Hsu and Koh (2005) extend the work of Koh (2003) by focusing on the investment horizon of institutional owners and differing incentives of firms' earnings management practices. Income increasing and income decreasing discretionary accruals are enhanced as measures of earnings management for a sample of non-financial firms covering the period between 1993 and 1997 with a final dataset of 201 firm-year observations. The findings are supportive of a concave relationship between both measures of discretionary accruals and institutional ownership. Additionally, the co-existence of transient and long-term oriented institutions is supported with the former group stimulating upward earnings management and the latter group deterring such earnings management behavior specifically for firms exhibiting strong incentives.

In a similar study, Koh (2007) makes two major classifications to conduct a thorough analysis regarding the effect of institutional investor type on accruals management in profit firms. The first classification is related to the type of institutional ownership with respect to investment horizon, which can be defined as long-term and short-term orientation. The second classification is firm based and distinguishes between firms, which engage in accruals management and which do not. Performance-matched discretionary accrual model is used on a sample of 5150 firm-year observations covering the 1995-1998 period. The results demonstrate that long-term

institutional owners curb earnings management in firms that use accruals to satisfy predetermined earnings targets. Additionally, short-term orientation of institutional ownership is found to increase positive discretionary accruals only in firms that utilize accruals to reach earnings targets.

Liu (2005) utilizes bivariate probit models to evaluate whether the likelihood of upward and downward earnings management is affected by institutional ownership and institutional ownership investment horizon further classifying institutional investors into three groups; namely, dedicated, transitional, and quasi-indexer. The modified Jones (1991) Model is utilized for the estimation of accruals on a sample of 30,250 firm-year observations covering the period from 1989 to 2000. The results are consistent with the notion that managerial actions are influenced by institutional investor trading strategies. As the level of transient institutional ownership in the firm increases, managers use their discretion in managing earnings upwards; whereas, the opposite is true for the increase in the level of dedicated institutional investors.

Using a dataset of 824 firms listed on NYSE for the eight year period between 1991 and 1998, Mitra and Cready (2005) run a cross-sectional regression to examine the relationship between institutional shareholding and accounting discretion in managing accruals. The findings are supportive of the monitoring role of institutional owners in constraining accounting flexibility. Additional analyses on subsamples of S&P and non-S&P firms indicate the significant role played by firm size and associated information environment on the aforementioned inverse relationship. Whereas the link is found to be insignificant for S&P firms, it is evidenced to be significant for non-S&P firms, which are smaller in size and act in an impoverished environment with respect to information.

Cornett, Markus and Tehranian (2008) examine the relationship between various measures of governance structure and earnings management, which is proxied by the use of discretionary accruals based on the modified Jones (1991) Model. The dataset is made up of firms listed on S&P 100 Index in the period from 1994 to 2003 resulting in a final sample of 834 firm-year observations. As a part of the analysis, they evaluate the impact of certain institutional shareholding related variables; namely, fraction of shares held by institutional investors, number of institutional investors and

representation of institutional investors on board of directors, on managerial discretion regarding accruals management. The results of the analysis show that selected institutional involvement variables have significant impact on reducing the use of discretionary accruals to manage earnings.

Another study that evaluates the influence of institutional characteristics on earnings management behavior is conducted by Cheng and Reitenga (2009) on a sample of 71 manufacturing firms during the 1987-1996 period. They classify institutional owners as non-blockholders and blockholders; whereby, the latter group is further partitioned on the basis of blockholders' being either passive or active. Whereas passive institutions encompass banks, insurance companies, non-bank trusts; active ones cover public and corporate pension funds, mutual funds, brokerage houses, endowments, foundations, investment counsel firms, and miscellaneous others. The results of the study are in line with the predictions in that non-blockholders stimulate income increasing accruals due to their small stake in the firm and frequent trading behavior, which trigger their interest in short-run performance. Contrarily, active blockholders are found to exert their monitoring power.

A concurrent research conducted by Lin, Hutchinson and Percy (2009), utilizes the data of 208 Chinese firms listed on Hong Kong Stock Exchange for the period between 2004 and 2008 to evaluate the role of institutional factors for firms listed on markets other than the domicile one. This study mainly focuses on the impact of monitoring exercised by audit committee to curb earnings management but additionally employs interaction variables generated with institutional ownership data. The findings of the study reveal that size of audit committee plays a significant role in reducing the magnitude of discretionary accruals at low levels of institutional ownership. The insignificance of this relationship for high levels of institutional investment reveals that the monitoring role of the audit committee is substituted by that of institutional owners at higher levels of shareholding.

The recent study of Jalil and Rahman (2010) provides Malaysian evidence regarding the influence of institutional investors, which is categorized into two groups named as pressure sensitive and pressure insensitive, on abnormal accruals. Whereas

pressure sensitive institutional investors encompass banks and insurance companies that have ongoing business relationships with the firm; pressure insensitive ones are made up of unit trusts, pension funds, and state-owned institutions that have a tendency to protect their investments due to their fiduciary responsibilities. Based on this reasoning, the latter group is hypothesized to scrutinize managerial discretion with respect to earnings management. The results of the analyses based on data belonging to 94 Malaysian companies for the six year period between 2002 and 2007 are contradictory to the expectations with neither pressure sensitive nor pressure insensitive institutional owners mitigating the magnitude of discretionary accruals.

Mitani (2010) investigate the association between corporate governance mechanisms and earnings management on a sample of 799 Japanese listed manufacturing firms covering the period of 1999-2004. Institutional shareholding is used as an indicator of external corporate governance mechanism together with the use of ownership by foreign institutional owners and financial institutions to provide more detailed findings. Effective monitoring hypothesis is supported by the significant and negative coefficient of the variable that denotes the holdings of institutional investors. However, foreign institutional owners, representing majority of the foreign other corporations in Japan are found to stimulate earnings management. Furthermore, financial institutions are evidenced to demonstrate a U-shaped association with discretionary accruals, which is used as an indicator of earnings management.

Other than focusing on manufacturing companies, Wen and Zhang (2012) utilize a final dataset of 715 bank holding companies for the period between 1994 and 2010 to evaluate the influence of monitoring and non-monitoring institutions on earnings management. The findings are indicative of the importance institutional investors' investment horizon, ownership concentration and independence on managing earnings. Monitoring institutions, which involve transient, quasi indexer and dedicated non-independent ones, are negatively related to earnings management practices of bank holding companies in line with the predictions.

Lin and Manowan (2012) use factor and cluster analysis to segregate institutional investors into three groups, which are named as transient, dedicated, and

quasi indexer, based on their investment behavior in line with previous empirical work. The data pertaining to these blockholders belong to the 1996-2001 period making up a final sample of 18,969 firm-year observations. While transient institutional owners are reported to be positively related to both income increasing and income decreasing discretional accruals exacerbating earnings management; dedicated and quasi-indexer institutional owners are not found to have a significant impact on earnings management practices. Therefore, the authors contend that institutional investors cannot be regarded as a homogenous group due to their divergent trading characteristics.

Alves (2012) evaluates the impact of three dimensions of ownership structure, which are ownership concentration, managerial, and institutional ownership, on abnormal accruals for the Portuguese governance setting during the 2002-2007 period. The evidence based on 34 non-financial firms documents that the variables indicating ownership concentration and managerial ownership are significantly and negatively related to the selected proxy of earnings management. However, results regarding institutional ownership are found to be controversial. In the models that do not include the selected control variables, the coefficient of institutional shares is significant and positive showing that these investors exacerbate managerial discretion in managing earnings. This is indicative of the short-term orientation of institutional investors. Contrarily, addition of the control variables into the model makes the associated coefficient insignificant. Thus, it is not possible to comment on a clear-cut relationship between the two variables of interest depending on the controversial results of the study's analyses.

Another study that concludes on the monitoring role of institutional owners with respect to managerial accounting discretion is that of Ramadan (2012). The analysis utilizes discretionary working capital accruals as an indicator of earnings manipulation on a dataset of 70 manufacturing companies listed on Amman Stock Exchange (ASE) during the 2000-2010 period making up a total of 770 firm-year observations. The managers' propensity to engage in flexible accounting practices is reported to reduced by the existence of institutional shares in the firms' ownership structure.

A cross-country study, which utilizes a sample of 190,000 firm-year observations belonging to 75 countries for the period between 1999 and 2012, employs three variables as indicators of earnings management; namely, income smoothing, total accruals, and the correlation between changes in accounting accruals and changes in operation cash flows (Lel, 2013). This study classifies institutional investors as being either domestic or foreign, and further decomposes them into two groups, which are named as independent and grey institutional investors. Whereas the former group is made up of mutual funds and investment advisors that are not likely to have long-term relationships with the firm, the latter group represents bank trusts, insurance companies, pension funds, and endowments. This classification generates a total of four types of institutional shareholding. The results of the study demonstrate the significant impact of foreign institutional investors in alleviating earnings management activities, which is generated solely by independent foreign institutional owners in countries with weak investor protection environments. The findings with respect to domestic institutional investors show that earnings management is increased (reduced) with a weak (strong) environment of investor protection. The insignificance of the results with respect to total institutional shareholding stresses the importance of institutional investor type on earnings management practices.

4.1.2. Prior Research Based on Turkish Context

The association between institutional ownership and earnings management has been examined by numerous studies in the international arena with the utilization of different models and datasets. However, a review of literature related to earnings management practices in Turkey reveals unsatisfactory results. Rather than investigating the influence of certain firm, industry or country specific factors on selected proxies for managing earnings, Turkish empirical evidence is mostly limited to detecting and quantifying the amount of these discretionary accounting practices.

One prominent study conducted by Atik (2009) utilizes discretionary accounting changes to detect income smoothing behavior of firms listed on Istanbul Stock Exchange (ISE) between the years 1998 and 2003. A detailed evaluation of this measure is provided by revealing five categories; namely, change in

depreciation/amortization estimate, change in depreciation/amortization method, change in capitalizing/expensing policies, change in inventory valuation method, and other. The findings of the study determine income smoothing, reporting an almost zero income, and time period characteristics as reasons of the discretionary accounting changes. In another recent study, Atik and Ismail (2011) utilize a survey to explore the differences of the financial statement users' and preparers' ethical perceptions with respect to fraudulent accounting, operational changes, accounting method and/or estimate changes. As a result, fraudulent accounting is found to be the most unethical practice followed by accounting and operational changes, respectively.

Ayarlıoğlu (2007) utilizes a dataset of 101 firms listed on ISE during the five year period between 1998 and 2002 to find out whether earnings management practices exist in Turkey. The findings of the study as to the magnitude of earnings management vary due to the use of four different models in calculating the amount of discretionary accruals; namely, the Healy Model, DeAngelo Model, Jones Model and Modified Jones Model. Whereas the results based on the first two models are not indicative of earnings management practices in Turkey, the use of the remaining two models demonstrate the existence of a systematic engagement in the use of accounting discretion; whereby, the magnitude of earnings management is calculated to be 14% of the firms' total assets based on the average results of the associated models. Thus, the findings provide evidence of the fact that the method of discretionary accrual measurement has a very important role in the detection of earnings manipulation.

As part of his study, Duman (2010) investigates the interrelationship between earnings management practices and the quality of financial reporting by the utilization of a dataset covering 132 companies listed on ISE for the 2005-2008 period. The results based on the evaluation of the financial statements of selected companies and discretionary accruals evidence that managers do not engage in earnings management practices. The sample utilized and the model used for quantifying discretionary accruals can be the major reasons of the contradictory findings of Ayarlıoğlu (2007) and Duman (2010).

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Based on a final estimation period of four years between 2004 and 2007, Acar (2011) uses data belonging to 83 companies listed on ISE to calculate discretionary accruals by the use of performance matched model of Kothari, Leone and Wasley (2005) without intercept. The findings of the study regarding the reasons of firms' engaging in earnings management practice are evaluated as of 2008. Economic conditions, industrial differences, and mandatory applications of new accounting standards are documented to be significant factors in the estimation of discretionary accruals. Additional analyses reveal that firm size together with ownership structure, specifically percentage of shares that are held by the public, are both found to exert significant and negative influence on the selected proxy of earnings management.

Some of the empirical studies in the Turkish context explore the interaction between certain measures of corporate governance and earnings management. Using a dataset of 107 firms listed on ISE covering the period between 2006 and 2007, Aygün, İç and Arvas (2010) evaluate the influence of firms' public offering rate, board size, CEO duality on the discretionary accruals indicator, which is measured by the modified Jones (1991) Model. The results demonstrate the significant role of duality as a corporate governance mechanism in mitigating corporations' flexibility in managing accruals.

The comprehensive studies of Karaibrahimoğlu (2010) and Adıgüzel (2012) contribute to Turkish literature regarding the effect of corporate governance mechanisms on the use of managerial discretion. Using quarterly data between 2006 and 2009, Karaibrahimoğlu (2010) finds evidence with respect to the significance of corporate governance practices in mitigating earnings management. Furthermore, external audit quality is determined to be a dominant factor in reducing discretionary accruals as can be understood by the findings related to firms that are audited by the Big-4 auditors. Parallel to this study, Adıgüzel (2012) utilizes a final sample of 82 firms listed on ISE between 2006-2010 to investigate the impact of board of directors, audit committee, internal audit function, and external auditor on abnormal accruals, which is measured by the performance adjusted cross-sectional industry based modified Jones model of Kothari, Leone and Wasley (2005). Analyses performed with a separation of

the sample firms on the basis of family ownership demonstrate the more strongly pronounced effect of internal corporate governance elements in alleviating earnings management in firms that are not owned by families. Internal audit function and the number of board meetings are found to be the factors that constrain earnings management practices in Turkey. Contradictory to the findings of Karaibrahimoğlu (2010), this study documents the insignificant role of being audited by the Big-4 auditors on the magnitude of discretionary accruals. These inconsistent results regarding the Turkish context can be attributed to the selection of the sample period and size together with the selected model of discretional accrual measurement.

A recent cross-country study conducted by Memiş and Çetenak (2012) evaluate the issue of earnings management from two perspectives; whereby, the interaction of the absolute value of discretionary accruals with audit quality and legal system is explored. A dataset belonging to 8 emerging countries, namely; Brazil, Greece, Israel, South Korea, Mexico, Poland, Russia, and Turkey, is utilized for the years 2008 and 2009 making up a total of 1,507 firm-year observations. The findings of the study related to the audit quality, which is proxied by an auditor dummy, is found to be negative and significant only for Brazil and Mexico. Furthermore; legal system quality, which is measured by Rule of Law and Control of Corruption Indices, is determined to be a constraining factor of earnings management incentives for all sample countries.

A review of the studies in Turkish empirical literature reveals the scarcity of research in the area of earnings management. Whereas most of the work performed is oriented towards the quantification of discretionary accruals, few are directed towards the determination of significant factors in alleviating or stimulating earnings management with only a few evaluating the concept from the perspective of corporate governance. As far as the literature review is concerned, this topic has not been probed with a specific perspective of institutional ownership despite the existence of vast amount of studies conducted in the international arena as can be seen in the previous subsection. Therefore, this study attempts to fill in a gap in Turkish literature by providing in-depth analyses with respect to the relationship between earnings management practices and institutional owners following and adding to the previous

work conducted in other countries within a developing or developed institutional setting.

4.2. HYPOTHESIS DEVELOPMENT

This subsection is dedicated to the formation of hypotheses based on the theoretical framework provided above together with the research evidence regarding institutional presence and accounting discretion exercised in managing earnings. Two viewpoints are strongly emphasized; whereby, the first one focuses on the active role of institutional investors as corporate monitors and the second one concentrates on managerial myopia induced by these types of investors. Subsequently; additional analyses, which are developed to evaluate the influence of different groups of institutional investors on earnings management practice, will be provided together with their reasoning.

4.2.1. Active Monitoring Role of Institutional Investors

The monitoring hypothesis is founded on agency theory, which focuses on principle-agent conflicts leading to information asymmetries. The resulting moral hazard and adverse selection problems can be mitigated by monitoring mechanisms that harmonize managers' and shareholders' interests. The opportunistic behaviors that are detrimental to the ones possessing inferior knowledge related to the firm can be alleviated by institutional holdings that act as a corporate governance mechanism. Thus, the hypothesis developed in this subsection will focus on the monitoring role exercised by institutional investors.

As managerial actions in maintaining or protecting the firm's assets are not fully observable by the owners or investors, effective mechanisms developed to deal with potential opportunistic managerial behavior can reduce associated moral hazard problems. Additionally, superior information possessed by managers with respect to the firm's assets and potential losses that may be suffered by the owners and investors related to the adverse selection problem can also be reduced by appropriate control mechanisms (Wilson, 1983). Thus, interests of the owners and managers can be aligned by the concentration of control in institutional owners, who are regarded to be better

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informed and more sophisticated investors than individuals. As emphasized by Ebrahim (2004) investors can be classified into two groups based their sophistication degree. Unsophisticated investors are regarded to mainly depend on information that is based on their intuition or provided by the financial press without rigorous search for additional information. On the other hand, sophisticated investors are considered to be experts in information acquisition and processing mainly due to their large-scale shareholdings and resulting cost effective search for private information. Schipper (1989, pp. 98) argues that concentrated user groups with substantial financial sophistication, material sums at stake and no contractual frictions to inhibit their behavior are, for example, likely candidates for undoing earnings management. Thus, institutional investors are classified as better informed and more sophisticated investors (Ebrahim, 2004; El-Gazzar, 1998).

Ingley and Walt (2004) espouse the crucial role large institutional investors have in exercising oversight and control of corporate management by influencing corporations through the application of governance standards. The economic perspective that emphasizes agency costs and the stakeholder approach that focuses on issues of corporate democracy constitute the two major thoughts regarding shareholder activism. However, the fact that institutional investors are liable of acting as both principles and agents with fiduciary responsibilities makes them encounter conflict of interest in satisfying the notion of acting as both owner-shareholders and intermediaries.

Cornett et al. (2007) argues that institutional investors, contrary to board of directors, are displaying increased tendency to use their ownership rights for monitoring and disciplining managers and make them act in line with shareholders' interest. Thus, information asymmetry problems will be diminished causing it to be more difficult for managers to engage in practices that manipulate earnings. Chung, Firth and Kim (2002) also argue in favor of the external monitoring role exerted by stakeholders; specifically institutional owners, curbing managers' opportunistic behaviors in managing reported earnings. As institutions focus on long-term profitability rather than emphasizing management of earnings on a yearly basis, large institutional holdings are likely to prevent managers from utilizing discretionary accruals as a method of earnings

management. Additionally, collective ownership of shares by outside owners and associated concentration is found to strengthen incentives for monitoring preventing managers from attaining their self-serving objectives. Koh (2003) highlights the reduction in costs of collective action undertaken by institutional investors as ownership concentration increases. Small and homogenous groups formed by these investors are regarded to improve the monitoring process.

According to Duggal and Millar (1999, pp. 105-106), institutional investors are assumed to engage in high quality research to determine the most efficient investment opportunities within the boundaries of their scarce funds. Monitoring activities are regarded to encompass discussions held with management about corporate plans and performance, supporting or opposing managerial policies to enhance or reduce wealth, participation in board elections, and several other voting issues. Possession of large equity ownership is documented to increase institutional investors' incentives to discipline managers due to the scale economies attained in research and monitoring activities. Thus, these sophisticated owners are considered to enhance managerial efficiency in corporate decisions. As also emphasized by Jensen and Meckling (1976), monitoring activities are more likely to be performed by those institutions or individuals who possess comparative advantage in these activities. Security analysts employed and charged by institutional investors are regarded to have a significant role in monitoring.

Balsam, Bartov and Marquardt (2002) utilize institutional ownership as a proxy for investor sophistication and exert the assumption that it is easier and quicker for institutional investors to recognize earnings management in comparison to individual investors. While unsophisticated investors require a certain period of time to react to information released, it is easier for sophisticated investors to classify earnings into discretionary and nondiscretionary parts. Thus, perceived benefit of accruals management is reduced as the degree of investor sophistication increases.

As hypothesized by the recent study of Callen and Fang (2013), on the condition that monitoring role is assumed by institutional owners, increased stability of these investors' holdings should reduce the risk of future stock price crash by diminishing managerial hoarding activities associated with unfavorable news. The

findings, which are based on a data set of US public listed firms for the period between 1981 and 2008, demonstrate that institutional holdings act as monitors of managerial actions.

Maug (1998) develops a model of intervention to evaluate the monitoring role of large investors with an emphasis on the free-rider problem. Even though small shareholders benefit from the monitoring efforts born by large investors, costs associated with these activities are only undertaken by large investors leading to the aforementioned free-rider problem. On the condition that equity ownership is large, investors are biased towards intervention and shareholder activism due to the lock-in-effect as the returns will be more strongly pronounced. The liquidity effect of the market is also emphasized; whereby, a liquid stock market is regarded to lead to more monitoring as investors will be able to cover associated costs by means of informed trading. Focusing on the free-rider problem, Grossman and Hart (1980) contend that if one small shareholder incurs costs to improve management in terms of acting in line with the interests of owners, all shareholders benefit. Thus, monitoring activities will be undertaken only by those who will have sufficient benefits to cover up the costs. Cost efficiency is also emphasized by Lin and Manowan (2012) in that outside blockholders, the majority of which is represented by institutional investors, have an increased tendency to oversee managerial actions than small outside shareholders. Furthermore, the latter group of investors can easily liquidate in case of dissatisfaction with corporate performance, which cannot be achieved by large blockholders. Therefore, long-term strategies are preferred to be pursued in the case of substantial shareholdings.

Based on the evidence provided in the comprehensive study of Bushee (1997), overall institutional ownership acts as a monitoring device in inhibiting earnings management, which is proxied by R&D investments, relative to individual investors. This finding is supported by explicit and implicit monitoring practices of institutional owners. Whereas the former is actualized through governance practices, the latter refers to investor sophistication; whereby, superior information gathering and correct evaluation of managerial decisions are the norm. Rajgopal and Venkatachalam (1997) also argue that active involvement of institutional investors in corporate governance will

reduce managerial incentives to manipulate accruals for self-interested behavior. On the condition that institutional owners act as corporate monitors, agency costs will be mitigated harmonizing the actions of managers with those of the owners, eventually enhancing shareholder value.

Smith (1996) focuses on the significance of institutional investors as active corporate monitors. According to the model developed in the associated study, rational shareholders are considered to become active, which stands for partaking in monitoring the management, on the condition that benefits incurred outweigh costs of activism. The findings of the study demonstrate that shareholder wealth is increased as a result of the changes in governance structure brought about by active shareholders. Shleifer and Vishny (1986) also argue that large shareholders, including institutional owners, have strong incentives to engage in monitoring practices and cause value enhancing changes to occur in corporate management.

On the condition that firms manage earnings as a response to the pressure exerted by institutional investors, they will manage earnings down when unmanaged earnings is high and up when unmanaged earnings is low (Rajgopal, Venkatachalam and Jiambalvo, 1999, pp. 5). Thus, using absolute value of discretionary accruals assumes that earnings management can occur in both directions leading to income increasing and income decreasing discretionary accruals.

Based on the theoretical framework provided in the prior subsections, literature review, and empirical evidence; the first hypothesis regarding the active monitoring role induced by institutional investors on accounting discretion in managing earnings is constructed in its alternative form as follows;

H_1 = The higher the level of shares that are held by institutional investors, the lower the level of earnings management as measured by the absolute value of discretionary accruals.

4.2.2. Managerial Myopia Induced by Institutional Investors

Institutional investors are regarded to be incapable of acting as monitors of managerial discretion due to their passivity, myopic goals, conflict of interests and legal constraints. Since institutional investors are dominated by beating certain short-term benchmarks, they tend to be passive investors overreacting to information and excessive trading. Therefore, they are likely to liquidate their equity stakes in firms with poor performance rather than engaging in actions that improve their performance (Duggal and Millar, 1999).

Jarrell, Lehn and Marr (1985) conduct one of the earliest studies for empirically testing the short-term argument. They emphasize that the tendency of institutional investors to churn their portfolios with short-term horizons stems from the fund managers' fiduciary responsibilities and the existence of a competitive market inducing money managers to engage in continuous performance appraisals. The view that institutional investors have a short-term focus is also maintained in the contemporary works of Graves (1988) and Graves and Waddock (1990). The fact that these money managers are reviewed and rewarded on at most an annual basis prevents them from holding a long-term view. As emphasized in the study of Graves and Waddock (1990); pension funds, which are naturally classified as long-term investments, tend to focus on short-term performance due to the defined benefit structure of most U.S. pension funds promising employees fixed payouts at future dates. Accordingly, corporate managers' actions are affected to a great extent by this short-term pressure on money managers.

Porter (1992) argues transient ownership to be the most basic and crucial flaw of the American system; whereby, institutional investors focus on current earnings without careful selection of companies based on fundamental earnings power. This myopic investment perspective is considered to reduce their efficacy as monitors of corporate management. Short term investment horizons possessed by these investors prevent them from incurring monitoring costs since the benefits are not likely to be experienced in the short-term. Frequent trading patterns and fragmented ownership structures are considered to be other significant factors that diminish the monitoring role

of these investors. Thus, short-run objectives are considered to have a dominant influence on institutional shareholders. It is hypothesized by Cheng and Reitenga (2009) that managers will be stimulated to increase earnings management if they consider that poor performance will induce short-term oriented institutional owners to sell their stocks. They denote that non-blockholder institutional investors will induce increase in earnings not acting as monitors due to their small ownership stakes and proclivity to trade stocks frequently. Koh (2003) also argues institutional investor trading to be sensitive to current earnings news with managers being motivated to undertake aggressive earnings management practices.

Koh (2007) states that incentives for aggressive accrual management are increased by the existence of transient institutional investors, who are characterized by short-term orientation and overvaluation of near-term earnings. As also hypothesized in the study of Matsumoto (2002), managers of firms with higher levels of transient institutional ownership tend to have greater incentives to manage earnings and follow courses of actions to avoid negative earnings surprises. According to the short-term view, institutional investors tend to vote with their feet instead of taking active roles in governance issues (Hsu and Koh, 2005).

Liu and Peng (2006) evaluate institutional investors from another perspective and investigate their relationship with accruals quality, which is measured by the absolute value of accrual estimation errors. Whereas transient institutional investors are found to have a negative influence on accruals quality, dedicated institutional investors holding concentrated portfolios with low turnover are found to have a positive relationship with the selected proxy. These finding are explained by the justification that transient institutional investors' trades on earnings news create incentives for managers to engage in opportunistic earnings manipulation, which further reduces accruals quality. Furthermore, the effective monitoring role exerted by dedicated institutional investors is found to reduce earnings manipulation; thereby, improving accruals quality.

Bushee (1997) assumes that earnings management can be increased if institutional investor trading is focused on current reported earnings. Bushee (1998) evaluates two hypotheses related to institutional investors and managerial myopia,

which segregate between short-term oriented institutional investment behavior and sophisticated institutional investment behavior. Myopic investment behavior is defined as a type of earnings management that is likely to happen when managers face a trade-off between meeting earnings targets and maintaining R&D investments (Bushee, 1998, pp. 306). The first hypothesis, which is also emphasized in this subsection, assumes institutional investors' trading to be sensitive to current earnings news causing a temporary misevaluation with managers having incentives to avoid these temporary misevaluations (Bushee, 1998, pp. 308). The findings of the study indicate that high ownership stakes of institutional investors engaging in a high turnover and momentum trading strategy results in myopic investment behavior.

Bushee (2001) investigates the shortsightedness of institutional investors with respect to the time when earnings will be recognized by the accounting system. The preference for near-term earnings is expected to materialize on the condition that competitive pressures, frequent performance evaluations and prudent person standards are existent leading fund managers to put long-run value aside with respect to their investment decisions. The results demonstrate that transient institutions and institutions subject to stringent fiduciary standards overweigh near-term earnings.

As hypothesized by Chung, Firth and Kim (2002); just as large shareholdings will make institutional investors prevent managerial opportunism, relatively low ownership stakes will reduce these investors' motivation for monitoring corporate managers. On the condition that institutional owners are not satisfied with the actions undertaken by managers, they may easily liquidate their stakes, which emphasizes the short-term focus.

The lack of resources and incentives faced by individual investors reduces their proclivity to engage in monitoring; thus, managerial actions are overlooked resulting in lower shareholder value. However, it has to be emphasized that institutional investors experience certain difficulties that act as barriers in reducing managerial power. Three types of barriers are determined as being detrimental to institutional investors' monitoring role; namely, relationship-oriented, regulatory, and information processing barriers. The first barrier is related to business relationships. As dependence on business

relationships is increased, power obtained from ownership stakes is reduced. Thus; whereas pension funds, mutual funds, and endowments and foundations are active players in corporate governance, banks and insurance companies with potential business relationships are less likely to affect managerial actions. The second barrier is related to fiduciary responsibilities and regulatory framework, which may restrict institutional owners from exercising their voice. Lastly, information processing barriers arise due to portfolio diversification. Thus, the number of the firms in which these investors actively intervene to oversee managerial actions is reduced due to potential increase in information costs (David and Kochhar, 1996).

The qualification of institutional investors as being myopic by maintaining a short-term focus prevents them from undertaking costs of monitoring with respect to the firms' governance. Lack of monitoring prevents institutions from being aware of corporate managers' long-term goals and objectives. Therefore, the argument that institutional owners are classified as transient investors emphasizes the existence of a positive association between the proportion of stock held by institutional owners and the absolute value of discretionary accruals (Rajgopal and Venkatachalam, 1997; Rajgopal, Venkatachalam and Jiambalvo, 1999).

Based on the theoretical framework provided in the prior subsections, literature review, and empirical evidence; the second hypothesis regarding the managerial myopia induced by institutional investors on discretion in managing earnings is constructed in its alternative form as follows;

H_2 = The higher the level of shares that are held by institutional investors, the higher the level of earnings management as measured by the absolute value of discretionary accruals.

4.3 RESEARCH DESIGN

4.3.1. Data and Sample Selection

The data used in the empirical part of the thesis covers the period between 2005 and 2011, inclusive. The major reason for the exclusion of prior year data is to

eliminate any potential distortion that may arise in the computation of selected companies' financials due to the application of Inflationary Accounting Practices in Turkey.

Numerous databases are enhanced to construct the dataset. The databases of the Association of Capital Market Intermediary Institutions of Turkey (TSPAKB) and Central Securities Depository Institution of Turkey (MKK) are utilized for extracting investor profile reports to generate institutional ownership variables. Additionally, the databases of Borsa Istanbul (BIST) and ISE Public Disclosure Platform (KAP) are used for the determination of accounting and financial indicators, which will proxy for the dependent and control variables of the models. Furthermore, External Auditors' reports, financial statements, footnotes to these statements and any other data relating to dividend policies and stock market capitalization are collected on a yearly firm basis.

The sample is comprised of all publicly listed companies on BIST during the seven year observation period. However, some companies are eliminated from the initial sample with respect to certain model specification issues and data requirements. Companies that lack consecutive data are eliminated to construct a balanced panel data model. In line with literature, the sample excludes financial companies as they have to confirm with different accounting practices causing problems in terms of discretionary accrual estimation (Koh, 2003). Furthermore, issues related to ensuring efficiency in abnormal accrual calculation require the existence of at least ten observations in an industry per year (Hsu and Koh, 2005). Therefore, some industries that do not meet this criterion are also eliminated to construct the final sample. It has to be further noted that, as the measurement of the earnings management proxy requires changes in certain variables in the determination of total and abnormal accruals described in detail in the forthcoming section, data relating to 2005 is used only for the generation of the variables of 2006 and not included in the final panel data estimations.

The industrial breakdown of the initial sample, which includes companies listed consecutively during the seven year period from 2005 to 2011, inclusive, is provided in the Table 4.1 below.

Table 4.1

Industrial Classification of Firms in the Initial Sample

No	Industrial Classification	Number of Listed Firms
1	Mining	2
2	Manufacturing Industry	143
3	Electricity, Gas and Water	4
4	Construction and Public Works	3
5	Wholesale and Retail Trade	24
6	Transportation, Telecommunication and Storage	4
7	Education, Health, Sports and Other Services	6
8	Holding and Investment Companies (Financial Companies)	88
9	Technology	10
	Total:	**284**

Depending on the reasoning provided above, the final sample is made up of 177 firms resulting in a total of 1.062 firm-year observations. As can be seen, firms within the industry groupings named as Manufacturing, Whole and Retail Trade, and Technology are selected for model estimations. The software package used for the analyses is named as Stata 11. Accordingly, Table 4.2 below summarizes the details relating to the criteria of the sample selection.

Table 4.2

Sample Derivation Based on the Selection Criteria

Criteria	Number of Firms
Total number of firms listed consecutively on ISE between the years 2005-2011, inclusive	284
Less:	
Financial Firms	88
Firms listed on industrial classifications with fewer than 10 observations	19
Total Number of Firms Included in the Final sample	177

4.3.2. The Variables

This subsection provides a detailed explanation of the variables included in each different model applied in the empirical part of the thesis. The Table 4.3. below depicts the list of the dependent, explanatory, and control variables utilized together with their abbreviations and definitions. Subsequently, detailed explanations as to why

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the associated variables are selected and which other studies have employed those variables are provided.

Table 4.3

Variable Abbreviations and Definitions

Variable	Abbreviation	Definition
Panel A: Dependent variables		
Absolute value of discretionary accruals	**ABSDAC**	Absolute value of discretionary accruals estimated by Kothari, Leone and Wasley (2005) model at year t for firm i
Panel B: Explanatory variables		
Institutional ownership	**INST**	The ratio of the number of shares that are held by institutional investors to total shares outstanding at year t for firm i
Square of institutional ownership	**INST^2**	Square of the ratio of the number of shares that are held by institutional investors to total shares outstanding at year t for firm i
Domestic institutional ownership	**DMINST**	The ratio of the number of shares that are held by domestic institutional investors to total shares outstanding at year t for firm i
Foreign institutional ownership	**FRINST**	The ratio of the number of shares that are held by foreign institutional investors to total shares outstanding at year t for firm i
Domestic investment fund	**DMFND**	The ratio of the number of shares that are held by domestic mutual funds and private pension plans to total shares outstanding at year t for firm i
Domestic corporate	**DMCORP**	The ratio of the number of shares that are held by domestic banks, financial intermediaries and corporations to total shares outstanding at year t for firm i
Domestic investment trusts	**DMTRUST**	The ratio of the number of shares that are held by investment trusts to total shares outstanding at year t for firm i
Domestic other institutions	**DMOTHR**	The ratio of the number of shares that are held by domestic charities, associations and cooperatives to total shares outstanding at year t for firm i
Foreign investment fund	**FRFND**	The ratio of the number of shares that are held by foreign mutual funds and private pension plans to total shares outstanding at year t for firm i
Foreign corporate	**FRCORP**	The ratio of the number of shares that are held by foreign banks, financial intermediaries and corporations to total shares outstanding at year t for firm i
Foreign other institutions	**FROTHR**	The ratio of the number of shares that are held by foreign charities, associations and cooperatives to total shares outstanding at year t for firm i
Long-term oriented institutional investors	**LNGINST**	The ratio of the number of shares that are held by long-term oriented institutional investors to total shares outstanding at year t for firm i based on Brickley, Lease and Smith (1988); Cox, Brammer and Millington (2004); Cheng and Reitenga (2009)
Short-term oriented institutional investors	**SHRTINST**	The ratio of the number of shares that are held by short-term oriented institutional investors to total shares outstanding at year t for firm i based on Brickley, Lease and Smith (1988); Cox, Brammer and Millington (2004); Cheng and Reitenga (2009)
Median percentage institutional share ownership	**DMEDIAN**	A dummy variable equal to unity if percentage of shares that are held by institutional investors at year t for firm i is at or above the sample median, and otherwise equal to zero
Individual ownership	**IND**	The ratio of the number of shares that are held by individual investors to total shares outstanding at year t for firm i
Domestic individual ownership	**DMIND**	The ratio of the number of shares that are held by domestic individual investors to total shares outstanding at year t for firm i
Foreign individual ownership	**FRIND**	The ratio of the number of shares that are held by foreign individual investors to total shares outstanding at year t for firm i

Table 4.3 continues…

Table 4.3 (continues)

Variable Abbreviations and Definitions

Variable	Abbreviation	Definition
Panel C: Control variables		
Firm size	**LNASST**	Natural log of total assets at year t for firm i
Leverage	**LEVR**	The ratio of total debt to total assets at year t for firm i
Return on Assets	**ROA**	The ratio of net income to total assets at year t for firm i
Auditor quality	**AUDQ**	A dummy variable equal to unity if firm i is being audited by one of the Big Four Auditors at year t, and otherwise equal to zero
Profit vs. Loss firm	**LOSS**	A dummy variable equal to unity if a firm i's net income is below zero for year t, and otherwise equal to zero
Cash flow from operations	**CFOASST**	The ratio of cash flow from operations to total assets at year t for firm i
Liquidity	**CASHR**	The ratio of total cash and cash equivalents to current liabilities at year t for firm i
Current poor performance	**CP**	A dummy variable equal to unity if the current performance of firm i as measured by current operating cash flow divided by lagged assets at year t is below the industry median, and otherwise equal to zero
Current good performance	**CG**	A dummy variable equal to unity if the current performance of firm i as measured by current operating cash flow divided by lagged assets at year t is above the industry median, and otherwise equal to zero
Future poor performance	**FP**	A dummy variable equal to unity if the future performance of firm i as measured by following year's operating cash flow divided by total assets is below the industry median, and otherwise equal to zero
Future good performance	**FG**	A dummy variable equal to unity if the future performance of firm i as measured by following year's operating cash flow divided by total assets is above the industry median, and otherwise equal to zero
Current poor & future good performance	**CPFG**	A dummy variable equal to unity for firm i with poor relative performance in the current period (CP) and good relative performance in the future period (FG), and otherwise equal to zero
Current good & future poor performance	**CGFP**	A dummy variable equal to unity for firm i with good relative performance in the current period (CG) and poor relative performance in the future period (FP), and otherwise equal to zero
Current good & future poor performance with median percentage institutional share ownership	**CPFGMEDIAN**	A dummy variable equal to unity if institutional share ownership for firm i is higher than the cross-sectional median in the year for the specific firm with poor relative performance in the current period (CP) and good relative performance in the future period (FG), and otherwise equal to zero
Current good & future poor performance with median percentage institutional share ownership	**CGFPMEDIAN**	A dummy variable equal to unity if institutional share ownership for firm i is higher than cross-sectional median in the year for the specific firm with good relative performance in the current period (CG) and poor relative performance in the future period (FP), and otherwise equal to zero;

4.3.2.1. The Dependent Variable

This thesis utilizes the performance adjusted cross-sectional industry based modified Jones Model based on Kothari, Leone and Wasley (2005) as the model for the calculation of abnormal accruals to proxy for the measure of earnings management. As emphasized in the prior subsection related to discretionary accrual models, Kothari, Leone and Wasley (2005) proposes two approaches to control for the effect of selected companies' performance differences on the discretionary accrual measure. The

regression based approach, which uses current or previous year's ROA as an additional regressor in the cross-sectional version of the Modified Jones Model, is enhanced to calculate the dependent variable of the models. Even though time series and cross-sectional models are similar, the major difference between the two adheres to specification of parameter estimates, which are firm specific in the former group of models as opposed to being industry and year (or quarter) specific in the latter group of models (Bartov, Gul and Tsui, 2001).

Two methods have been proposed in literature to measure total accruals, namely the balance sheet approach and cash flow approach. The former method utilizes the change in successive balance sheet accounts and total accruals are calculated as the change in noncash current assets minus change in liabilities minus depreciation and amortization expenses (Jones, 1991; Guay, Kothari and Watts, 1996; Bartov, Gul and Tsui; 2001; Chung, Firth and Kim, 2002; Kothari, Leone and Wasley, 2005). Rangan (1998) also utilizes the same method and provides a reasoning stating that:

'Current accruals are reflected as increases or decreases in the balances of various noncash current asset and current liability accounts…Hence, current accruals for a period are obtained by subtracting the change in current liabilities from the change in noncash current assets for that period (pp. 108).'

However, this indirect method for measuring total accruals have been critized by the works of Hribar and Collins (2002) and Hansen (1999), concluding that the results of the studies that use succeeding balance sheet amounts to estimate accruals are contaminated by substantial error in measurement. If the studies do not adjust for non-operating events; namely, mergers/acquisitions, divestures or foreign currency translations, the findings can make the researchers conclude on the existence of earnings management even though there is none. Contrarily; in the absence of such non-articulation events, the resulting error introduced into the models in estimating accruals is found to be quite low. Therefore, this thesis utilizes the direct cash flow approach and total accruals are calculated as the difference between net income before extraordinary items and cash flow from operations as in the works of Subramanyam, (1996); Xie, (2001); Hsu and Koh (2005) and Lin and Manowan, (2012).

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After calculating total accruals, performance adjusted cross-sectional industry based modified Jones Model is estimated each year for each industry by the below regression:

$$TA_{it}/A_{it-1} = \beta_0 + \alpha_i[1/A_{it-1}] + \beta_{1i}[\Delta REV_{it} - \Delta REC_{it}/A_{it-1}] + \beta_{2i}[PPE_{it}/A_{it-1}] + \beta_{3i}ROA_{it} + \epsilon_{it}$$

(Eq. 4.1)

where;

TA_{it} = total accruals in year *t* for firm *i;*

ΔREV_{it} = revenues in year *t* less revenues in year *t-1* for firm *i;*

ΔREC_{it} = net receivables in year *t* less net receivables in year *t-1;*

PPE_{it} = gross, property, plant, and equipment in year *t* for firm i*;*

ROA_{it} = return on assets in year *t* for firm *i;*

A_{it-1} = total assets in year *t-1* for firm *i*

ϵ_{it} = error term in year *t* for firm *i;*

i = firm index;

t = year index for the years included in the estimation period for firm *i;*

β_0 = constant

This cross-sectional OLS regression models total accruals as a function of change in revenues while adjusting for change in receivables, the level of property, plant, and equipment augmenting current period ROA into the model in line with the studies of Kothari, Leone and Wasley (2005) and Adıgüzel (2012). According to Kothari, Leone and Wasley (2005) incorporating ROA into the model reduces the

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likelihood that estimated discretionary accruals are systematically non-zero, which would otherwise result in invalid inferences regarding accrual behavior. The coefficients of the above Equation 4.1 are used to obtain the coefficients for the below Equation 4.2 to calculate the amount of nondiscretionary accruals.

$$NDAC_{it} = \alpha_i (1/A_{it-1}) + \beta_{1i}[(\Delta REV_{it} - \Delta REC_{it})/A_{it-1}] + \beta_{2i}[(PPE_{it})/A_{it-1}] + \beta_{3i}ROA_{it}$$

(Eq. 4.2)

where;

$NDAC_{it}$ = Nondiscretionary accruals for firm *i* in year *t;*

ΔREV_{it} = revenues in year *t* less revenues in year *t-1* for firm *i;*

ΔREC_t = net receivables in year *t* less net receivables in year *t-1*

PPE_{it} = gross property, plant, and equipment in year *t* for firm *i;*

ROA_{it} = return on asset in year *t* for firm *i;*

A_{it-1} = total assets in year *t-1* for firm *i*

Lastly, the amount of discretionary accruals (DAC) is calculated as the difference between total accruals and nondiscretionary accruals by the Equation 4.3 below;

$$DAC_{it} = TA_{it} - NDAC_{it}$$

(Eq. 4.3)

where;

all notations are defined as before.

Some of the studies in literature only utilize absolute value of DAC (De Angelo, 1986; Jones, 1991; Warfield, Wild and Wild, 1995; Klein, 2002; Ebrahim,

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2004), rather than positive or negative DAC, which demonstrate the direction in which accruals are managed (Koh, 2007; Hsu and Koh, 2005; Lin and Manowan, 2012; Chung, Firth and Kim, 2002) as a proxy for earnings management. Accordingly, this thesis utilizes the absolute value of discretionary accruals denoted by **ABSDAC** based on the reasoning that it is the magnitude of adjustments that matters (Rajgopal and Venkatachalam, 1997). Table 4.4 below demonstrates the statistics related to the coefficients of the model estimated by ordinary least squares (OLS) method. It has to be noted that the parameters are estimated for predictive purposes, thus, the statistical significance of the model does not constitute a problem.

Table 4.4

Yearly Accrual Model Parameters Based on Industry Classification

Variable	2006 β			2007 β			2008 β			2009 β			2010 β			2011 β		
	M^1	W^2	T^3	M	W	T	M	W	T	M	W	T	M	W	T	M	W	T
$1/A_{it-1}$	-630218	1119474	2917929	-697061	2795207	-864752	617542	5171061	-1708107	-706359	268258	1047414	-646508	3674566	-2328430	1190696	302079	1209665
$(\Delta REV_{it}-\Delta AR_{it})/A_{it-1}$	0.0369679	-0.0263529	0.2500612	-0.0047510	0.0815472	0.2034227	-0.0597786	0.0441135	0.0690721	0.0535408	0.0234360	-0.0314628	-0.0239895	-0.2131556	1.1859260	0.1220534	-0.1184526	0.0912950
PPE_{it}/A_{it-1}	-0.0970183	-0.0863028	0.1591070	-0.0828579	0.0633885	0.1953376	0.1302244	-0.0709516	0.1172318	-0.1239156	-0.0622188	-0.2616300	-0.0626651	0.0095781	-0.2898144	0.0014978	-0.1222087	-0.3153770
ROA_{it}	0.6820215	0.5450072	1.9959730	0.2696876	1.7868570	0.6072717	-0.0760069	-0.3529141	3.7489590	-0.4393021	0.7293484	1.2580420	-0.0798041	1.5115160	-0.6485374	-0.2403188	0.5940320	1.2998630
Adj. R^2	0.4011***	0.3447**	0.6436*	0.1621***	0.1121	0.0626	0.0045	0.0507	0.5654*	0.0878***	0.1833*	0.4965	-0.0109	0.5003***	0.5715*	0.0968***	0.4348***	0.8634***

1. Manufacturing Industry
2. Wholesale and Retail Trade
3. Technology

*, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively

4.3.2.2. The Explanatory Variables

Prior research related to this topic employed different measures of institutional ownership. After a thorough literature review, this thesis combines the variables used in this array of research creating different models that best fit the proxies utilized.

In line with most empirical studies, the ratio of the number of shares that are held by institutional investors to total shares outstanding is used as one of the proxies of institutional ownership (Bushee, 1998; Rajgopal, Venkatachalam and Jiambalvo, 1999; Ali, Hwang and Trombley, 2000; Koh, 2003; Hsu and Koh, 2005; Mitra and Cready, 2005; Koh, 2007; Cheng and Reitenga, 2009; Wahal and McConnell, 2000). This variable is denoted as **INST**.

Richardson (2000) investigates how the existence of information asymmetry as measured by bid-ask spreads affects the magnitude of earnings management. The findings demonstrate the existence of a positive systematic relationship between the two variables with high level of information asymmetry increasing managerial incentives of earnings manipulation. The reasons are given as insufficient shareholder information to deal with earnings management together with lack of adequate shareholder incentives, resources and access to information necessary to oversee managerial actions. Because most of the studies in literature document a reduction in informed trading and information asymmetry as the presence of institutional investors in a firm's shareholding structure increases (O'Neill and Swisher, 2003), a negative relationship between discretionary accruals and institutional ownership is expected.

The second proxy used for the level of institutional shareholding is chosen to be the square of institutional ownership percentage, which is labeled as **INST^2.** This explanatory variable is utilized to investigate the existence of a potential non-linear relationship between institutional investors and discretionary accruals. Based on the reasoning provided by Koh (2003), a concave association is predicted where institutional ownership is not expected to be related to the proxy for earnings management at very low levels, beyond which a positive association is expected due to

the existence of short-term oriented institutional investors, who tend to manage earnings upward. When the level of institutional ownership is high indicating long-term orientation, a negative link between the variables is expected with monitoring by institutional investors acting as a limiting factor on managerial accounting discretion.

ISE Settlement and Custody Bank and MKK provide the breakdown for the active accounts, where investors are mainly classified as being domestic or foreign. Whereas the former group encompasses investors who are citizens of Turkish Republic even though they may become residents abroad, the latter group represents foreign citizens even though they may be living in Turkey. TSAKP provides a detailed classification of institutional investors other than simply being domestic or foreign as given below;

Domestic Investment Fund: Domestic mutual funds and private pension plans are included;

Domestic Corporate: Domestic banks, financial intermediaries and corporations are included;

Domestic Trust: Investment trusts, the data of which is not provided for foreign institutional investors, are included;

Domestic Other Institutions: Domestic charities, associations and cooperatives are included;

Foreign Investment Fund: Foreign mutual funds and private pension plans are included;

Foreign Corporate: Foreign banks, financial intermediaries and corporations are included;

Foreign Other Institutions: Foreign charities, associations and cooperatives are included,

The labels for the above stated categories of institutional ownership can be listed as **DMFND, DMCORP, DMTRST, DMOTHR, FRFND, FRCORP,** and **FROTHR,** respectively.

This study also compiles institutional ownership data in terms of domestic and foreign investors, labeled as **DMINST** and **FRINST** to prevent over segregation of the dataset and observe whether institutional investors' geographic origin play any significant role in managerial accounting discretion. There are mainly two arguments with respect to the influence of institutional owners' origin on managerial flexibility in accruals management. Foreign institutional shareholding can be a dominating factor in monitoring managerial behavior due to recent increased market presence of these investors in comparison to domestic ones. Furthermore, since it is less likely for these investors originating from countries with developed governance settings to engage in long-term business relationships with the local firms they invest in, they may have a higher tendency to exert pressure on managerial actions (Gillan and Starks, 2003). Contrary to these view points, domestic institutional investors can prove to be a good monitoring force on management since they are likely to be more informed about the local firms and the associated countries' operational setting (Lel, 2013). Therefore, evaluation of the institutional shareholding data with respect to its being either domestic or foreign will prove to provide significant findings regarding the Turkish context to the above stated discussion.

Additionally, a dummy variable is generated for each year after calculating the median institutional share ownership percentage based on the works of Chung Firth and Kim (2002) and Cheng and Reitenga (2009). The dichotomous variable is labeled as **DMEDIAN** and coded as one if percentage of shares that are held by institutional investors for firm i in year t is at or above the sample median, and otherwise zero. In line with literature, institutional owners are expected to have stronger incentives to oversee and influence managerial decisions on the condition that this variable is coded as one. Some other studies have utilized an arbitrary cutoff point for the continuous variable of institutional ownership to generate a dummy variable and later conducted sensitivity analysis to validate the appropriateness of the chosen metric for investor

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sophistication. In the study of Balsam, Bartov and Marquardt (2002), the cut-off point is selected to be 40% and used to maximize the difference between institutional shareholdings with respect to sophistication. However, this study determines yearly median institutional share ownership percentage as a cut-off point to generate the dummy variable with the aim of reflecting the incentives to monitor managers.

In order to make a distinction among institutional investors based on their investment horizons and the type of relationships they pursue with their investee firms, this study combines the view points of Cox, Brammer and Millington (2004) and Brickley, Lease and Smith (1988) to generate a suitable classification for the breakdown of Turkish institutional investor data. Cox, Brammer and Millington (2004) make a distinction among institutional investors based on their investment horizons. Whereas short-run investors are defined as those that strive for short-term financial performance and liquidity, long-run investors are determined as having longer investment periods with more predictable cash outflows. Thus, while unit trusts and investment trusts are classified as short-run investors; pension funds, life insurance companies and charities are determined as long-run investors. Additionally, Brickley, Lease and Smith (1988) decompose institutional investors into three groups named as pressure resistant, pressure indeterminate, and pressure sensitive institutions, as also stated in subsection numbered as 2.1. The last group of institutions involves banks, insurance companies, and non-bank trusts, which are considered to less likely oppose management due to their existing or potential relationships with the investee firms. A combination of these classifications together with that of Cheng and Reitenga (2009), results in the determination of the short-term oriented group to be made up of the variables labeled as **DMFND, DMCORP, DMTRST, FRFND, FRCORP,** and the long-term oriented group to be made up of the variables labeled as **DMOTHR** and **FROTHR**.

In addition to all of the proxies of institutional shareholding described above, this thesis decomposes the ratio of total shares that are held by individual investors to total shares outstanding into two more variables that represent domestic and foreign individual investors labeled as **DMIND** and **FRIND**, respectively. This classification is provided to control for the impact of individual investors' geographic origin. This is in

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line with investor classification of TSAKP, which provide categories of domestic and foreign individual investors in addition to the seven categories of institutional ownership mentioned above. It has to be noted that total individual shareholding is not modeled as a separate explanatory variable since the overall ownership structure is made up of institutional and individual owners. If an analysis were conducted utilizing individual investors, the coefficient of this variable would be in same magnitude but in opposite sign in comparison to that of institutional investors.

4.3.2.3. The Control Variables

Based on extent literature review, several control variables have been determined to be included in the models to eliminate the likely impact of various firm and industry specific factors on earnings management and to accurately demonstrate whether existence of institutional investors affect managers' discretion in managing earnings. Therefore, the effect of institutional stock ownership on earnings management will be segregated after controlling for differences among the firms in terms of abnormal accruals.

4.3.2.3.1. Firm Size

Firm size has been controlled by the utilization of numerous proxies in previous studies; namely, natural log of total assets (Mitra, 2002; Klein, 2002; Koh, 2003; Zouari and Rebai 2009; Lin, Hutchinson and Percy, 2009; Adıgüzel, 2012; Jalil and Rahman 2010; Ramadan, 2012; Ebrahim 2004; Hsu and Koh, 2005); natural log of revenue (Cheng and Reitenga, 2009); natural log of market value of equity (Bushee, 1997; Bushee 1998; Bushee, 2001; Koh, 2007; Lin and Manowan , 2012); and lastly natural log of sales (Rajgopal and Venkatachalam, 1997; Rajgopal, Venkatachalam and Jiambalvo, 1999)

Lin, Hutchinson and Percy (2009) emphasize the positive relation among firm size and variables determined to act as controls for corporate governance leading to reduction in the manipulation of earnings in larger firms. Furthermore, they focus on the greater scrutiny these firms are subject to due to the higher number for analysts following. Bushee (1998) states that larger firms have richer information environments,

which reduce the opportunities for earnings management. This characteristic of the environment larger firms' are subject to is also supported by Mitra (2002), who emphasizes their high visibility and resulting reduction in the information asymmetry that occurs between the managers and stakeholders of larger firms.

However, this control variable also acts as a proxy for political costs and sheer size is often found to attract regulatory attention (Klein, 2002). The regulatory actions firms are subject to may result in using income decreasing discretionary accruals during periods of investigation (Cahan, 1992). Therefore, managers of larger firms can be found to engage in earnings management practices to reduce political attention resulting in a positive association between the two variables (Koh, 2007). Watts and Zimmermann (1990) also state that it is large firms rather than small ones that have a tendency to reduce reported profits by means of accounting choices. However, it has to be noted that firm size not only proxies for political costs but also for economic phenomena like risk, persistence of earnings, growth, accounting practices, regulatory costs and information environment (Mitra, 2002). Natural log of total assets, which is denoted by **LNASST,** is used as a proxy for firm size; however, the direction of the relationship between this specific control variable and the measure of earnings management is ambiguous based on the reasoning provided above.

4.3.2.3.2. Leverage Ratio

In previous empirical studies, various versions of debt ratio have been used to control for firms' proximity to debt covenant violations. Some of these measures can be named as the ratio of total debt to total assets (Wahal and McConnell, 2000; Cheng and Reitenga, 2009; Lin, Hutchinson and Percy, 2009; Adıgüzel, 2012; Ramadan, 2012; Lin and Manowan, 2012); slack in leverage as measured by the difference between industry average total debt to total assets and firm's total debt to total assets (Koh, 2007); total debt to total tangible assets (Koh, 2003; Hsu and Koh, 2005; Jalil and Rahman, 2010); long term debt to total assets (Mitra, 2002; Zouari and Rebai, 2009); total debt to earnings before interest, tax, depreciation, and amortization (EBITDA) (Koh, 2007); slack in total debt to EBITDA as measured by the difference between industry average debt to EBITDA and the firm's debt to EBITDA (Koh, 2007); total debt scaled by

lagged total assets (Rajgopal and Venkatachalam, 1997; Rajgopal, Venkatachalam and Jiambalvo, 1999); long-term debt deflated by lagged total assets (Klein, 2002).

Debt covenant hypothesis assumes that managers engage in financial reporting decisions to prevent the violation of accounting based covenants in firms' debt agreements (Dichev and Skinner, 2002). Based on Defond and Jiambalvo (1994) and Duke and Hunt (1990), leverage is regarded to be associated with closeness to debt covenant violations in that managers of firms, which are likely to default on these covenants, are more likely to use latitude in accounting choices and engage in income manipulation. Koh (2003) expects managers to utilize aggressive earnings management techniques as the firms' proximity to accounting based debt covenants increase. Therefore, leverage is regarded to positively affect the proxies for abnormal accruals.

According to Jaggi and Lee (2002), managerial response to financial distress depends on the severity of the situation and grant of a waiver for the debt covenant violation. On the condition that financial distress faced is of a temporary nature, managers can use positive discretionary accruals to enhance firms' performance and alleviate the undesired influence of debt covenant violations assuring creditors that the encountered situation is not of a severe nature. Contrarily, the increase in the severity of financial distress leads managers to seek ways for renegotiation and refinancing rather than engaging in temporary earnings management practices.

DeAngelo, DeAngelo and Skinner (1994) conduct an empirical analysis to determine the reasons why firms manage reported earnings in the case that they are financially troubled. They investigate the significance of both debt covenant violations and financial distress for the accounting choices of managers. Their findings demonstrate the fact that it is financial distress that determines accounting method choice rather than the attempt to reduce debt covenants or make the firm seem financially stronger. Belski (2004) provides similar results showing that financial difficulties play the significant role. Both of these studies still support the potential positive relationship between leverage and earnings management. In conformity with literature, this study controls for leverage and uses the ratio of total debt to total assets, which is labeled as **LEVR,** in the models.

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4.3.2.3.3. Firm Financial Performance

A control variable for firm financial performance; namely, return on assets labeled as **ROA**, is included in some models of this study consistent with literature. Dechow, Sloan and Sweeney (1995) argue that low (high) discretionary accruals will be detected when earnings are low (high). McNichols (2000) provides reasoning for this phenomenon stating that firms that demonstrate an abnormally high level of earnings will have positive earnings shocks that include an accrual component. He concludes that the most profitable firms will have a tendency to engage in income increasing discretionary accruals; whereas, the least profitable ones will have a tendency to engage in income decreasing discretionary accruals. Based on the analytical procedures conducted by McNichols (2000), a positive significant relationship is detected between firm growth as measured by the median of analysts' long-term earnings growth forecasts and ROA as a measure of current period performance. Mitra (2002) includes return on sales (ROS) as a control variable in the empirical part of his study with the justification that there is potential for high DAC adjustments to be correlated with firm performance rather than the incentives of earnings management. This variable is also employed in the analyses of Ramadan (2012).

Kasznik (1997) also focuses on the link between firm performance and earnings management incentives and introduces a control variable into the model which is calculated as the deviation of reported earnings from the previous year's reported earnings scaled by lagged total assets. Some other studies that also control for firm performance can be named as those of Baxter and Cotter (2009); Lin, Hutchinson and Percy (2009), and Adıgüzel (2012), which also utilize ROA in line with the current study.

4.3.2.3.4. Auditor Quality

Auditing process is regarded to be one of the external monitoring mechanisms of management (Ebrahim, 2004). Therefore, quality of auditing is considered to be negatively associated with the practice of earnings management. Becker et al. (1998) utilize a dichotomous variable for audit quality and consider Big Six auditors to be of

higher quality than non-Big Six auditors. Accordingly, they generate the hypothesis that clients of the latter group utilize income increasing discretionary accruals more than those of the former group; namely, Big Six auditors. The findings of their study are in line with the hypothesis in that clients of lower quality auditors report discretionary accruals that are higher than those of higher quality auditors by an average of 1.5 percent of total assets. They further document that firms with lower quality auditors demonstrate greater values in terms of the mean and median of absolute value of discretionary accruals than firms in the other group.

DeAngelo (1981) argues that the increase in the number of clients an auditor has results in a reduction in the incentives the auditor will have to behave in an opportunistic manner; therefore, leading to higher audit quality. On the condition that the reports of the big auditors are not accurate, they tend to lose more than the others as they have more client specific quasi-rents to lose based on the reputation hypothesis. These rents are defined as the excess of the revenues of a given period over the avoidable costs incurred in that period. Furthermore, the auditor may lose more if terminated by other clients or is faced with reduced fees from those that retain the relationship.

Based on the assumption that auditing curtails information asymmetries existing between managers and firm stakeholders by enabling outsiders to affirm financial statements' validity, auditor quality is considered to be one of the factors that influence the effectiveness of auditing (Becker et al., 1998, pp. 6). This control variable has been utilized by the works of Koh, (2003); Ebrahim, (2004); Chen, Lin and Zhou (2005); Hsu and Koh, (2005); Lin, Hutchinson and Percy (2009); Baxter and Cotter, (2009); Jalil and Rahman, (2010); Adıgüzel, (2012). In line with literature, a dummy variable, which is labeled as **AUDQ**, is utilized in this thesis to control for the existence of a Big Four Auditor[2] in the external monitoring mechanism of the firm.

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[2] The Big Four Auditing firms operating in Turkey at the time of the study are named as Deloitte, Ernst&Young, KPMG, and PWC.

4.3.2.3.5. Profit vs. Loss Firm Dummy

Burgstahler and Dichev (1997) conduct a study to investigate whether managers manipulate earnings to avoid earnings decreases and losses. They conclude that 8 to 12% of their sample firms, which demonstrate small pre-managed earnings decreases, engage in earnings management to increase earnings; whereas, 30 to 44% of their sample firms, which have negative pre-managed earnings, use discretion in reported earnings to attain positive earnings. Furthermore, it is regarded to be more advantageous for firms to manage earnings in the case that they experience losses.

Baxter and Cotter (2009) document a significant and positive relationship between earnings quality, which is measured by the absolute value of discretionary accruals, and the incidence of losses. Same finding is also demonstrated in the work of Prawitt, Jason and Wood (2009), where firms experiencing losses engage in earnings management in line with their predictions. Contrarily, Chen, Lin and Zhou (2005) provide insignificant results regarding this variable while analyzing the association between auditor quality and unexpected accruals based on a sample of Taiwan IPO firms between the years 1999 and 2002.

A dummy variable is generated in this thesis to control for the impact of losses on discretionary accruals in line with the above stated reasoning. This variable is denoted by **LOSS** and is a dummy variable that takes the value of 1 if the firm's net income is below zero for the year, and otherwise zero.

4.3.2.3.6. Cash Flow from Operations

The temporary fluctuations in cash flows are smoothed by accruals; thus, a negative relationship is expected between the two variables (Dechow, 1994). Furthermore, this negative association is predicted to decline over longer measurement intervals due to the reduction in the severity of the matching problems that occur in cash flows.

The measures that are utilized to capture the impact of the association between cash flows and accruals can be named as cash flow from operations (Lin and Manowan,

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2012), cash flow from operations scaled by total assets (Hsu and Koh, 2005), cash flow from operations divided by sales (Koh, 2007), and the difference between a firm's operating cash flows deflated by lagged assets and its industry median (Chung, Firth and Kim, 2002). Bushee (1997, pp. 32-35) generates a dummy variable for the possible near term financing requirements taking the value 1 if free cash flow from operations less capital expenditures scaled by net tangible assets is less than -0.5, and otherwise 0. The inclusion of this variable in the models is justified by the reasoning that firms that have substantial amount of negative free cash flows may need to raise equity in near future due to incentives to boost earnings and create an overvaluation.

This thesis utilizes cash flow from operations scaled by total assets, which is denoted by **CFOASST,** as a control variable. As emphasized by Hsu and Koh (2005), if a firm's cash flows from operations is high, its accruals would be low, which is also true for the opposite direction. The opportunity of firms to manage accruals will be mitigated with higher levels of cash flow from operations. Therefore, a negative association is expected between the two variables in line with previous empirical work.

4.3.2.3.7. Liquidity

Firms' liquidity is considered to be one of the factors that affect its financial flexibility. Thus, accounting discretion in earnings management is regarded to be positively influenced by the firms' liquidity position. Therefore, standard deviation of working capital over the sample period scaled by the mean working capital is included in the models of Mitra (2002) and Mitra and Cready (2005), as an indicator of managers' accounting choices.

Changes in working capital or cash flows from operations result in changes in a company's liquidity, and because changes in operating cash flows are already incorporated in accrual determination as justified by Mitra (2002), this study controls for the impact of firms' liquidity on discretionary accruals by the use of cash ratio, which is denoted by **CASHR.**

4.3.2.3.8. Interaction Dummies Generated for Managerial Incentives Associated with Firms' Financial Performance

As also emphasized in the studies of Fudenberg and Tirole (1995), and Chung, Firth and Kim (2002), managers engage in income smoothing by trying to increase and decrease reported income when income is low and high, respectively. As can be seen, the second case distinguishes income smoothing from the process of earnings exaggeration. Thus, it can be stated that managers have a tendency to engage in income increasing DAC on the condition that current period performance is poor (CP) and future period performance is good (FG). In the same manner, they have a tendency to use income decreasing DAC if current period performance is good (CG) and expected future performance is poor (FP) (Chung, Firth and Kim, 2002, pp. 34).

Managerial incentives are incorporated into the model specification by the inclusion of firm performance related dummy variables. Motivated by the study of Chung, Firth and Kim (2002), the proxies for current performance and future performance are selected to be current operating cash flow divided by lagged assets and following year's operating cash flow divided by total assets, respectively. It is important to note that proxies for good and bad performance are measured each period against an industry benchmark. Initially, four dummy variables have been generated to account for the cases of good and bad performance in the current and future periods. Additionally, two interaction dummies, denoted by **CPFG** and **CGFP**, are developed in this thesis to be utilized in the construction of the final dummy variables labeled as **CPFGMEDIAN** and **CGFPMEDIAN**. They will be used in the 8th model specification, which will be described in the subsection related to the models generated.

CP: A dummy variable equal to unity if the current performance of the firm as measured by current operating cash flow divided by lagged assets is below the industry median, and otherwise equal to zero;

CG: A dummy variable equal to unity if the current performance of the firm as measured by current operating cash flow divided by lagged assets is above the industry median, and otherwise equal to zero;

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FP: A dummy variable equal to unity if the future performance of the firm as measured by following year's operating cash flow divided by total assets is below the industry median, and otherwise equal to zero;

FG: A dummy variable equal to unity if the future performance of the firm as measured by following year's operating cash flow divided by total assets is above the industry median, and otherwise equal to zero;

CPFG: A dummy variable equal to unity for a firm with poor relative performance in the current period (CP) and good relative performance in the future period (FG), and otherwise equal to zero;

CGFP: A dummy variable equal to unity for a firm with good relative performance in the current period (CG) and poor relative performance in the future period (FP), and otherwise equal to zero;

As stated above, the two final interaction dummies utilized in the 8th model to incorporate the influence of managerial incentives on earnings management in the presence of substantial institutional shareholding are denoted and described as below;

CPFGMEDIAN: A dummy variable equal to unity if institutional share ownership for the firm is higher than the cross-sectional median in the year for the firm with poor relative performance in the current period (CP) and good relative performance in the future period (FG), and otherwise equal to zero;

CGFPMEDIAN: A dummy variable equal to unity if institutional share ownership for the firm is higher than the cross-sectional median in the year for the firm with good relative performance in the current period (CG) and poor relative performance in the future period (FP), and otherwise equal to zero.

It has to be noted that the dummy variables labeled as CP, CG, FP, FG, CPFG, and CGFP are all constructed to generate the final two interaction dummies included in the associated model. Therefore the only control variables utilized are those denoted by **CPFGMEDIAN** and **CGFPMEDIAN** to evaluate the influence of managerial

incentives associated with firms' financial performance in the presence of substantial institutional ownership motivated by the work of Chung, Firth and Kim (2002).

4.3.2.3.9. Lagged Discretionary Accruals

The amount of prior period's discretionary accruals is included in one of the models of Lin and Manowan (2012), where discretionary accruals are regressed on the selected proxies for outside block-holders and associated control variables. The major motivation is to indentify whether institutional investors' investment decisions are influenced by the degree to which managers exercise discretion in managing earnings. The inclusion of lagged discretionary accruals is regarded to remove the probability of institutional investors' being attracted to firms with a certain level of earnings management with transient investors selecting firms with a higher level of income increasing earnings management and dedicated investors selecting firms with a lower level of income increasing earnings management.

However, Mitra (2002) criticizes the utilization of this variable as a proxy for accruals' reversal effects since this idea assumes the existence of a yearly linear relationship between earnings management and managers may still be engaging in other means to manage accruals. The second reasoning for the exclusion of this variable rests on the fact that the serial correlation that occurs between abnormal accruals demonstrates the degree of earnings management itself.

In line with the above provided reasoning, this study avoids employing this variable as one of the control variables. However, additional detailed analyses are provided in the subsection numbered as 5.3.3 to evaluate the impact of various exogenous factors that may be drivers of institutional ownership in a firm other than simply prior period's abnormal accruals.

4.3.3. Methodology

This subsection is dedicated to the methodological issues considered in the empirical part of the thesis. Even though panel data analysis is the major methodology utilized to examine the data and draw conclusions, cross-sectional analysis is initially

provided to observe whether any significant findings can be provided with respect to the observation of the relationship between earnings management and institutional shareholding at a given point in time.

4.3.3.1. Cross-Sectional Analysis

Cross-section data are data on one or more variables collected at the same point in time (Gujarati and Porter, 2009, pp. 22). Even though random sampling is considered to be one of the main assumptions of cross-sectional data, it may not be always appropriate to draw random samples from the underlying population. The statistical model can be demonstrated as in Equation 4.4 below (Verbeek, 2012, pp. 13):

$$y_i = \beta_1 + \beta_2 x_{i2} + \ldots + \beta_K x_{iK} + \varepsilon_i$$

(Eq. 4.4)

where; y_i and x_i are observable variables and ε_i is unobserved and referred to as the error or disturbance term. Additionally, the elements in β are unknown population parameters. An estimator is defined as a rule that defines how a given sample is translated into an approximate value for β and ordinary least squares (OLS) estimator is the most widely used estimator in econometric models (Verbeek, 2012, pp.13-14).

Gauss-Markow Theorem provides the conditions regarding the distribution of ε_i together with its relation to x_i that justify the use of the OLS estimator rather than other estimators. However, the existence of these conditions is not strictly needed for the utilization of OLS estimator meaning that under weaker conditions the stated estimator can still be used as well. The first assumption states that the expected value of ε_i is zero. The independence of error term from x is emphasized in the second assumption. The third assumption implies homoskedasticity stating that all error terms have the same variance. Lastly, the fourth assumption excludes any form of autocorrelation by imposing zero correlation between the error terms (Wooldridge, 2009, pp. 102; Verbeek, 2012, pp.15-16).

Gujarati and Porter (2009) emphasize one of the specific problems of cross-sectional data as heterogeneity. On the condition that heterogeneous units are included in the analysis, size effect becomes a significant factor in terms of the interaction between the selected variables. It has to be noted that this study utilizes cross-sectional analysis only as a means of preliminary analysis with the major findings to be drawn by panel data analysis, which will be described in the following subsection.

4.3.3.2. Panel Data Analysis

The empirical part of the thesis mainly utilizes panel data analysis that pools cross-sectional observations over several time periods. The advantages and drawbacks of using panel data are emphasized by Baltagi (2001, pp. 5-9). Panel data allow for the control of heterogeneity; whereas, time series and cross-sectional analyses can generate biased results when the variables under question are heterogeneous. In our case, there may be some firm- and time-invariant variables that are not included into the models due to the difficulty of observation and measurement but their omission can result in serious misspecification in the models regarding the association between earnings management and institutional investors. Therefore, when cross-sectional regression analysis is applied, explanatory variables of the model will be correlated with errors and resulting regression coefficients will turn out to be biased measures of the structural effects when some factors that have a direct impact on left- and right-hand side variables are omitted from the model (Arellano, 2003, pp. 8). Panel data analysis has the superiority of controlling for these firm- and time-invariant variables that may still be affecting the dependent variable, which are abnormal accruals in our case.

Panel data produce more informative data with more efficiency and increased reliability among parameter estimates. Furthermore, collinearity among the employed variables is reduced, which is contrary to analyses conducted by time-series models. Panel data also remove the biases generated due to compiling the data in micro basis, which is again firm in the current study. Additionally, the dynamic relationships, which cannot be observed by a single cross section, can be thoroughly evaluated with this methodology (Wooldridge, 2002).

Two major reasons have been provided by Arellano (2003, pp. 7) for the increased use of panel data specifically in microeconometric empirical analyses. The first one relates to the desire to control for '…*unobserved time-invariant heterogeneity in cross-sectional models* and the second one refers to *'the use of panel data as a way of disentangling components of variance and estimating transition probabilities among states, and more generally to study the dynamics of cross-sectional populations'*.

The drawbacks of panel data adhere to the difficulties of data compilation and generation of longer time-series dimensions. However, it has to be noted that the time span of the data set used in this study could not be increased beyond seven periods due to data availability and application of inflationary accounting practices, as stated above.

This study utilizes several estimation techniques; namely, pooled OLS, Fixed Effects (FE), Random Effects (RE), and Generalized Least Squares (GLS) to test the hypotheses developed. In the pooled OLS model, all of the observations are simply pooled and a grand regression is estimated while the cross-section and time series nature of the data are ignored (Gujarati and Porter, 2009). Additionally, homoskedasticity and no serial correlation assumptions have to be fulfilled to apply the usual OLS statistics from the pooled OLS regression across cross-section and time. Thus, appropriate estimation technique is used for each specific panel data regression model depending on the results of the below provided specification tests that are employed to evaluate the existence of heteroskedasticity and serial correlation.

The general format of the unobserved effects panel data models can be expressed as in Equation 4.5 below (Wooldridge, 2009; Wooldridge, 2002):

$$y_{it} = \beta_1 x_{it1} + \beta_2 x_{it2} + \ldots + \beta_k x_{itk} + a_i + u_{it},$$

(Eq. 4.5)

$t = 1, 2, \ldots, T, \ j = 1, 2, \ldots, k.$

As a_i is assumed to be correlated with one or more of the x_{itj} under FE model, a transformation called fixed effects or within transformation is used by FE estimator to

remove the unobserved effect a_i prior to estimation. Thus, a fixed effects estimator or within estimator is simply a pooled OLS estimator based on time-demeaned variables. The general format of the time-demeaned equation that is estimated by pooled OLS can be shown as in Equation 4.6 below (Wooldridge, 2009, pp. 482):

$$\ddot{y}_{it} = \beta_0 + \beta_1 \ddot{x}_{it1} + \beta_2 \ddot{x}_{it2} + \ldots + \beta_k \ddot{x}_{itk} + \ddot{u}_{it},$$

(Eq. 4.6)

$t = 1, 2, \ldots, T, j = 1, 2, \ldots, k.$

However, if a_i is assumed to be uncorrelated with each x_{itj}, the resulting estimators after the above stated transformation will yield inefficient estimators. Thus, based on this assumption of no correlation, the model becomes a RE model. An intercept has to be included in the above provided general format of unobserved effects model when RE model is being utilized. The reason is to be able to make the assumption that the unobserved effect, which is denoted by a_i, has zero mean without loss of generality. Thus, the model can be demonstrated as in Equation 4.7 below (Wooldridge, 2009, pp. 489):

$$y_{it} = \beta_1 x_{it1} + \beta_2 x_{it2} + \ldots + \beta_k x_{itk} + a_i + u_{it}$$

(Eq. 4.7)

Cov $(x_{itj}, a_i) = 0,$ $t = 1, 2, \ldots, T; j = 1, 2, \ldots, k.$

The discussion regarding whether a_i will be treated as a random effect or a fixed effect depending on its being viewed as a random variable or a parameter to be estimated is accounted for by the use of a specification test (Wooldridge, 2002; Arellano, 2003). This test, which evaluates the dependence between individual effects and regressors, is first suggested by Hausmann (1978) and it compares fixed and random effects under the null hypothesis that individual effects denoted by a_i are uncorrelated with x_{itk}. Thus, rejection of the null hypothesis requires utilization of FE model, whereas nonrejection requires the use of RE model. The major distinction between FE and RE rests on the assumption that rules out the correlation between the

unobserved effect and the explanatory variables (Wooldridge, 2009, pp. 504). Utilization of pooled OLS will produce biased and inconsistent results if a_i are correlated with x_{itk}. This bias is called as heterogeneity bias and occurs due to the omission of a time-constant variable as pooled OLS does not deal with the problem of omitted variables (Wooldridge, 2009).

FE method has the advantage of allowing individual and time specific effects to be correlated with the explanatory variables. The drawbacks can be expressed as increase in the number of unknown parameters with the increase in observations and inability to estimate time-invariant coefficients. Contrary to FE method, the number of the parameters does not change with the increase in sample size and time-invariant variables can be estimated under the RE specification. Furthermore, efficient estimators can be derived by the utilization of both within and between group variations with RE method. However, the conditional density of a_i, which is unobservable, has to be specified. If a_i is correlated with x_{itk} or a fundamental difference exits among the individual units, RE model is misspecified with resulting biased estimators (Hsiao, 2006). The question regarding which model proves to be better depends on the fit of the assumptions and data specifications. On the condition that the number of time series data denoted by *T* is larger than the cross-sectional units denoted by *N*, the difference between the values of the parameters estimated by FE and RE models will be small. However, there can be significant differences between the parameters estimated by the two models when the opposite condition exists with large N and small T. If the assumptions of RE model hold, RE estimators turn out to be more efficient than FE estimators in short panel characterized by the latter situation which has large N and small T (Gujarati and Porter, 2009).

All of the models utilized in the thesis are tested for heteroskedasticity and autocorrelation by the appropriate specification tests that will be described below. Three methods have been described by Verbeek (2012) to deal with the issues of heteroskedasticity and autocorrelation. The first one relates to deriving a best linear unbiased alternative estimator. Because this best linear unbiased estimator is known under the Gauss-Markov assumptions, the model is transformed so that Gauss-Markov

conditions are fulfilled and errors terms which are homoskdastic and do not demonstrate aurocorrelation are obtained. The second alternative is using the OLS estimation procedure while adjusting the standard errors for heteroskedasticity and/or autocorrelation. The third way is reconsidering the model specification as it may be misspecified, which is usually the reason for detecting heteroskedasticity and autocorrelation.

Homoskedasticity is assumed to exist when the variance of the regression disturbances, which are conditional on selected values of the explanatory variables, is constant. However, this assumption of equal variance is regarded to be restrictive for panels because size differences among cross-sectional units may generate differences in variation (Baltagi, 2001; Wooldridge, 2009; Gujarati, 2004). Homoskedasticity, thus equal variance, can be demonstrated as in Equation 4.8 below (Gujarati, 2004, pp. 387-388)

$$\text{E } (u_i^2) = \sigma^2 \quad \text{i= 1,2,...,n}$$

(Eq. 4.8)

Heteroskedasticity, which is known as unequal spread or variance, occurs if the variance of the unobservable errors differs across time and firms as in our case, and can be shown as in Equation 4.9 below;

$$\text{E } (u_i^2) = \sigma_i^2$$

(Eq. 4.9)

It has to be noted that the subscript of σ^2, which demonstrate the conditional variances of u_i is no longer constant. The homoskedastic or heteroskedastic variance of u_i does not affect the unbiasedness of the OLS estimators. Accordingly, if the homoskedastic variance assumption is not satisfied, the resulting OLS estimators are still unbiased and consistent though not efficient or best meaning that they are no longer minimum variance estimators (Gujarati, 2004, pp. 394-395).

Breusch and Pagan (1979) state that when the assumptions of homoskedastic disturbances and fixed coefficients are not fulfilled, invalid inferences may result due to biases in estimated standard errors and utilization of OLS may lead to substantial loss in efficiency. In their study, they develop a test for heteroskedastic disturbances based on the Lagrangian multiplier test. All of the models developed in the empirical part of the thesis are tested for heteroskedasticity with the application of Breusch-Pagan test. Thus, on the condition that the test results in small enough p-value, corrective action should be taken, which is the use of GLS method in our case. The method of GLS is known as *'OLS on the transformed variables that satisfy the standard least-squares assumptions'* (Gujarati, 2004, pp. 396). Whereas the OLS method gives equal weight to each observation, GLS method of estimation considers the information embedded in the dependent variable's unequal variability, which results in best linear unbiased estimators (Gujarati, 2004). There are several GLS estimators that constitute special cases of the GLS estimator in general and are regarded to more easily interpreted (Verbeek, 2012). It has to be noted that the GLS estimator can only be computed if the error covariance matrix is known. However, because economic examples in which the variances of the error terms are known up to a proportionality factor is not the case in practice, an estimated version has to be used resulting in a Feasible Generalized Least Squares (FGLS) estimator. The other special GLS estimator is referred to as Weighted Least Squares (WLS) estimator because it is a least squares estimator in which each observation is weighted by a factor proportional to the inverse of the error variance. This means that observations with higher error variance are given a smaller weight in estimation. To summarize, the GLS estimator is simply an OLS estimator in a transformed model satisfying the Gauss-Markow properties; thus, the parameter estimates have to be interpreted within the context of the original untransformed model (Verbeek, 2012, pp. 97-99).

When heteroskedasticity is being tested with Breusch-Pagan test, heteroskedasticity is assumed to be a linear function of one or more of the independent variables. Even though linear methods can be used for detecting heteroskedasticy, they turn out to be problematic to correct for heteroskadasticy using WLS since the exact form of heteroskedasticity is not obvious. Therefore, FGLS estimator, which can be

used instead of OLS for large sample sizes with heteroskedasticty that inflate the standard errors of the OLS estimates is utilized (Wooldridge, 2009). Even though the behavior of FGLS and GLS estimators are similar for large samples, no guarantee is given to the outperformance of FGLS estimator in comparison to OLS estimator for small samples. However, the results are usually confirmative of the first estimator outperforming the latter (Verbeek, 2012).

All of the models applied are also tested for serial correlation (autocorrelation) since ignoring serial correlation when it is present results in consistent but inefficient estimates of the regression coefficients and biased standard errors (Baltagi, 2001, pp. 81). When two or more consecutive error terms are correlated, error terms is said to be subject to autocorrelation or serial correlation resulting in similar consequences with heteroskedasticity. The OLS remains unbiased but becomes inefficient and the standard errors are estimated in the wrong way (Verbeek, 2012, pp. 112).

Heteroskedasticity and serial correlation can exist in models simultaneously; however, because serial correlation affects standard errors and efficiency of the estimators more than heteroskedasticity does, it is usually regarded to be the most important problem (Wooldridge, 2009). When autocorrelation exists, using OLS results in linear unbiased and consistent estimators but they are not efficient (Gujarati, 2004). This study utilizes Wooldridge test to detect the existence of serial correlation. As Drukker (2003) demonstrates by the simulations applied in his study, this test has good size and power properties with samples of reasonable size. Detection of autocorrelation is regarded to be an indication of model misspecification. Three interrelated types of autocorrelation are dynamic misspecification, omitted variables and functional form of misspecification. Therefore, the appropriate thing to do is to change the model other than changing the estimator from OLS to FGLS (Verbeek, 2012). The results of the Wooldridge test demonstrate no serial correlation in any all model of this study.

4.3.4. Empirical Research Models

Monitoring hypothesis and the competing hypothesis regarding managerial myopia induced by short-term-oriented institutional investors are initially tested to

analyze the impact of aggregate institutional ownership on opportunistic earnings management measured by performance adjusted cross-sectional industry based modified Jones Model based on Kothari, Leone and Wasley (2005). Therefore, the first model, which is also regarded to be the main model of the overall empirical part of the thesis, investigates whether institutional investors act as an external control mechanism in mitigating managers' ability to opportunistically manage accruals. However, numerous additional models, which will be provided in detail below, are developed to capture a multidimensional perspective on the relationship between earnings management and different dimensions of institutional shareholding. These models focus on function of the relationship as being either linear or quadratic, institutional investors' origin as being either domestic or foreign, amount of institutional shareholding using sample median institutional share ownership percentage as a benchmark, type of institutional owner, and institutional investors' investment horizon as being either long- or short-term. The influence of domestic and individual investors has also been modeled to provide additional insight into relationship between earnings management and certain types of shareholders. Additionally, a specific model has been constructed to investigate whether managerial incentives associated with firms' current and future financial performance exert any influence on the management of reported earnings in the presence of substantial institutional ownership. It has to be noted that the main model, which utilizes aggregate institutional ownership, is initially estimated by cross-sectional analysis to draw a preliminary conclusion. The major findings are evaluated on the basis of panel data analysis, which is selected to be the fundamental research methodology. Even though four major estimation techniques; namely, pooled OLS, FE, RE, and GLS, are utilized for all models, major findings are interpreted according to GLS due to the reasoning provided regarding methodological issues related to panel data analysis. Additionally, all models are also estimated using industrial dummies when appropriate, which leaves out the case of FE model.

The Table 4.5 below depicts a summary of the models applied, variables employed, and methodology utilized to provide a roadmap and facilitate a better understanding of the empirical part of the study.

<div align="center">

Table 4.5

Empirical Models Utilized

</div>

Model	Dependent Variable	Explanatory Variables	Methodology	Control Variables
1	ABSDAC	INST	Cross-sectional Analysis, Panel Data Analysis	
2	ABSDAC	INST, INST^2		
3	ABSDAC	DMINST, FRINST		
4	ABSDAC	DMEDIAN		LNASST, LEVR, ROA, AUDQ, LOSS, CFOASST, CASHR
5	ABSDAC	DMFND, DMCORP, DMTRUST, DMOTHR, FRFND, FRCORP, FROTHR	Panel Data Analysis	
6	ABSDAC	LNGINST, SHRTINST		
7	ABSDAC	DMIND, FRIND		
8	ABSDAC	DMEDIAN	Panel Data Analysis	CPFGMEDIAN, CGFPMEDIAN, LNASST, LEVR, AUDQ, CFOASST, CASHR

4.3.4.1. First Model Specification

The first panel data estimation model, which evaluates the relationship between aggregate institutional ownership and the absolute value of discretionary accruals, can be demonstrated as in Equation 4.10 below;

$$
\begin{aligned}
ABSDAC_{it} ={}& \beta_0 + \beta_1\, INST_{it} + \beta_2 LNASST_{it} + \beta_3 LEVR_{it} + \beta_4 ROA_{it} \\
&+ \beta_5\, \text{AUDQ}_{it} + \beta_6\, LOSS_{it} + \beta_7 CFOASST_{it} + \beta_8 CASHR_{it} + \epsilon_{it}
\end{aligned}
$$

<div align="right">

(Eq. 4.10)

</div>

where;

$ABSDAC_{it}$ = Absolute value of discretionary accruals estimated by the model of Kothari, Leone and Wasley (2005) in year *t* for firm *i*;

$INST_{it}$ = The ratio of the number of shares that are held by institutional investors to total shares outstanding at year *t* for firm *i;*

$LNASST_{it}$ = Natural Log of total assets in year *t* for firm *i;*

$LEVR_{it}$ = The ratio of total debt to total assets in year *t* for firm *i;*

ROA_{it} = The ratio of net income to total assets in year *t* for firm *i;*

<div align="center">

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</div>

AUDQ_{it} = Dummy variable equal to unity if the firm i is being audited by one of the Big Four Auditors in year t, and otherwise equal to zero;

$LOSS_{it}$ = Dummy variable equal to unity if the firm i's net income is below zero for the year t, and otherwise equal to zero;

$CFOASST_{it}$ = The ratio of cash flow from operations to total assets at year t for firm i;

$CASHR_{it}$ = The ratio of total cash and cash equivalents to current liabilities at year t for firm i;

ϵ_{it} = error term in year t for firm i

i = firm index;

t = year index

Thus, the existence of either shareholder activism emphasized by the monitoring role of institutional investors or short-termism emphasized by managerial myopia induced by institutional investors are evaluated with the first and second hypotheses explained in detail in the above subsection numbered as 4.2. The related statistical hypotheses are controversial as follows;

for H_1 ; $H_0 : \beta_1 = 0$

$$H_a : \beta_1 < 0$$

and H_2 ; $H_0 : \beta_1 = 0$

$$H_a : \beta_1 > 0$$

4.3.4.2. Second Model Specification

The second model evaluates the function of the relationship between institutional ownership and earnings management in that it is constructed to additionally

include the square of the percentage of shares that are held by institutional investors in line with the studies of Koh (2003) and Hsu and Koh (2005). Accordingly, this model does not assume that the two opposing views, which are mainly classified as active monitoring role played or myopic behavior induced by institutional owners, are mutually exclusive. Focusing on the co-existence of the impact of short-term and long-term oriented institutional investors, the assumption that institutional investors are a homogenous group is extended in that the presence of a non-linear relationship is investigated. Thus, this model is specified to evaluate the existence of potential variations in the relationship between the absolute value of discretionary accruals and institutional shareholding based on the influence exerted by institutional investors as an outcome of their divergent shareholding levels. Consistently, the model is estimated as in Equation 4.11 below;

$$ABSDAC_{it} = \beta_0 + \beta_1\ INST_{it} + \beta_2\ INST_{it}^2 + \beta_3\ LNASST_{it} + \beta_4 LEVR_{it} + \beta_5\ ROA_{it} + \beta_6\ AUDQ_{it} + \beta_7\ LOSS_{it} + \beta_8\ CFOASST_{it} + \beta_9\ CASHR_{it} + \epsilon_{it}$$

(Eq. 4.11)

where;

$INST_{it}^2$ = Square of the ratio of the number of shares that are held by institutional investors to total shares outstanding at year *t* for firm *i;*

and all the other variables are defined and denoted as before.

4.3.4.3. Third Model Specification

According to Gillan and Starks (2003), corporate governance practices within a country and more specifically within a firm can be influenced by foreign institutional investors' equity ownership. The countries' and the firms' motivation to utilize corporate governance as a means of attracting foreign capital and the improved power to undertake changes in governance due to the increased presence of foreign institutions constitute two major reasons for this phenomenon. Ferreira and Matos (2008) provide

empirical evidence for the significant role of foreign and independent institutional investors in corporations' governance practices. As these investors have fewer business ties with the firms they invest in and can keep away from managerial influence, they have a higher tendency to engage in corporate monitoring. According to Aggarwal et al. (2011), institutional owners' monitoring power is influenced by the legal environment in which the institution and firm operate. Good corporate governance practices can be promoted by institutional investors' international portfolio investments either directly through use of voting rights to influence management or indirectly though the threat of selling shares. Motivated by these reasons, geographic origin of institutional ownership is incorporated into the model to conclude whether managerial discretion in accrual management is affected by the percentage of shares that are held by domestic and foreign institutional investors, respectively. Therefore, the third model is specified as in Equation 4.12 below;

$$ABSDAC_{it} = \beta_0 + \beta_1 \, DMINST_{it} + \beta_2 \, FRINST_{it} + \beta_3 \, LNASST_{it} + \beta_4 \, LEVR_{it}$$
$$+ \beta_5 \, ROA_{it} + \beta_6 \, AUDQ_{it} + \beta_7 \, LOSS_{it} + \beta_8 \, CFOASST_{it}$$
$$+ \beta_9 \, CASHR_{it} + \epsilon_{it}$$

(Eq. 4.12)

where;

$DMINST_{it}$ = The ratio of the number of shares that are held by domestic institutional investors to total shares outstanding at year *t* for firm *i;*

$FRINST_{it}$ = The ratio of the number of shares that are held by foreign institutional investors to total shares outstanding at year *t* for firm *i;*

and all the other variables are defined and denoted as before.

4.3.4.4. Fourth Model Specification

Chung, Firth and Kim (2002) suggest that managerial incentives to increase or decrease reported earnings can be influenced by institutional owners' shares being at a certain threshold level. As also predicted by Cheng and Reitenga (2009), possession of relatively small amount of stakes curtails the tendency of institutional non-blockholders to exercise their monitoring power. Thus, orientation towards short-run performance measures is considered to mitigate institutional investors' tendency to challenge management and has a stimulating effect on accounting flexibility in accruals management. Accordingly; the fourth model, which is constructed to include a dummy variable that accounts for the degree of institutional ownership being above or below the yearly sample median, can be demonstrated as in Equation 4.13 below;

$$ABSDAC_{it} = \beta_0 + \beta_1\,DMEDIAN_{it} + \beta_2\,LNASST_{it} + \beta_3\,LEVR_{it} + \beta_4\,ROA_{it} + \beta_5\,\text{AUDQ}_{it} + \beta_6\,LOSS_{it} + \beta_7\,CFOASST_{it} + \beta_8\,CASHR_{it} + \epsilon_{it}$$

(Eq. 4.13)

where;

$DMEDIAN_{it}$ = A dummy variable equal to unity if percentage of shares that are held by institutional investors at year *t* for firm *i* is at or above the sample median, and otherwise equal to zero;

and all the other variables are defined and denoted as before.

4.3.4.5. Fifth Model Specification

Bushee (1997) argues that attributes of institutional investor behavior stimulate proclivity of managers to engage in opportunistic management of reported earnings on the condition that institutions are bounded by strict fiduciary responsibilities and short-term performance measures, and lack incentives for active corporate governance. The possibility that institutional investors do not demonstrate the properties of a homogenous group is also taken into account in the study of Eng (1995) whereby the relationship between institutional ownership and R&D investments is evaluated by the

inclusion of a categorical breakdown. The degree of scrutiny faced by the firms with different groups of investors affects their being oriented towards short-term profits or being dominated by long-term prospects (Eng and Shackell, 2001). Therefore, classification of institutional investors by type based on the scheme provided by ISE Settlement and Custody Bank and MKK is incorporated in to the fifth model, which is specified as in Equation 4.14 below;

$$\begin{aligned}
ABSDAC_{it} = \ & \beta_0 + \beta_1\,DMFND_{it} + \beta_2\,DMCORP_{it} + \beta_3\,DMTRUST_{it} \\
& + \beta_4\,DMOTHR_{it} + \beta_5\,FRFND_{it} + \beta_6\,FRCORP_{it} + \beta_7\,FROTHR_{it} \\
& + \beta_8\,LNASST_{it} \\
& + \beta_9\,LEVR_{it} + \beta_9\,ROA_{it} + \beta_{10}\,AUDQ_{it} + \beta_{11}LOSS_{it} + \beta_{12}\,CFOASST_{it} \\
& + \beta_{13}CASHR_{it} + \epsilon_{it}
\end{aligned}$$

(Eq. 4.14)

where;

$DMFND_{it}$ = The ratio of the number of shares that are held by domestic mutual funds and private pension plans to total shares outstanding at year *t* for firm *i;*

$DMCORP_{it}$ = The ratio of the number of shares that are held by domestic banks, financial intermediaries and corporations to total shares outstanding at year *t* for firm *i;*

$DMTRUST_{it}$ = The ratio of the number of shares that are held by investment trusts to total shares outstanding at year *t* for firm *i;*

$DMOTHR_{it}$ = The ratio of the number of shares that are held by domestic charities, associations and cooperatives to total shares outstanding at year *t* for firm *i;*

$FRFND_{it}$ = The ratio of the number of shares that are held by foreign mutual funds and private pension plans to total shares outstanding at year *t* for firm *i;*

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$FRCORP_{it}$ = The ratio of the number of shares that are held by foreign banks, financial intermediaries and corporations to total shares outstanding at year *t* for firm *i*

$FROTHR_{it}$ = The ratio of the number of shares that are held by foreign charities, associations and cooperatives to total shares outstanding at year *t* for firm *i;*

and all the other variables are defined and denoted as before.

4.3.4.6. Sixth Model Specification

The sixth model also emphasizes differences among institutional investor types; however, focuses specifically on their investment horizons with the intention to prevent over segregation of data that might prevail by the classification scheme provided in the fifth model. Therefore, institutional investors are decomposed into two main groups based on their being oriented towards long- or short-term prospects by application of the classification schemes provided in the studies of and Brickley, Lease and Smith (1988), Cox, Brammer and Millington (2004) , and Cheng and Reitenga (2009) to the Turkish context. Based on the reasoning provided in the subsection referring to the selection of explanatory variables, the sixth model is estimated as in Equation 4.15 below;

$$
\begin{aligned}
ABSDAC_{it} = {} & \beta_0 + \beta_1\,LNGINST_{it} + \beta_2\,SHRTINST_{it} + \beta_3\,LNASST_{it} + \beta_4\,LEVR_{it} \\
& + \beta_5\,ROA_{it} + \beta_6\,AUDQ_{it} + \beta_7\,LOSS_{it} + \beta_8\,CFOASST_{it} \\
& + \beta_9\,CASHR_{it} + \epsilon_{it}
\end{aligned}
$$

(Eq. 4.15)

where;

$LNGINST_{it}$ = The ratio of the number of shares that are held by long-term oriented institutional investors to total shares outstanding at year *t* for firm *i* based on Brickley, Lease and Smith (1988),

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Cox, Brammer and Millington (2004), and Cheng and Reitenga (2009);

$SHRTINST_{it}$ = The ratio of the number of shares that are held by short-term oriented institutional investors to total shares outstanding at year t for firm i based on Brickley, Lease and Smith (1988), Cox, Brammer and Millington (2004), and Cheng and Reitenga (2009);

and all the other variables are defined and denoted as before.

4.3.4.7. Seventh Model Specification

Individual investors' willingness to challenge management with respect to earnings management is incorporated into seventh model by the utilization of two dummy variables that represent domestic and foreign individual ownership, respectively. It has to be noted the major reason for the employment of these investors' geographic origin as explanatory variables instead of their aggregate ownership level depends on the fact that the combination of institutional and individual shareholding constitutes total amount of share ownership in the firm. Therefore, a model that includes aggregate amount of individual shares would produce coefficient estimates that are in same magnitude but in opposite signs in comparison to that utilizing aggregate amount of institutional ownership. Additionally, it has to be noted that the coefficients of all other variables would be in same magnitudes and signs. Accordingly, the seventh model focusing on individual shareholdings is constructed as in Equation 4.16 below;

$$ABSDAC_{it} = \beta_0 + \beta_1\, DMIND_{it} + \beta_2\, FRIND_{it} + \beta_3\, LNASST_{it} + \\ \beta_4\, LEVR_{it} + \beta_5\, ROA_{it} + \beta_6\, AUDQ_{it} + \beta_7\, LOSS_{it} + \\ \beta_8\, CFOASST_{it} + \beta_9\, CASHR_{it} + \epsilon_{it}$$

(Eq. 4.16)

where;

$DMIND_{it}$ = The ratio of the number of shares that are held by domestic individual investors to total shares outstanding at year *t* for firm *i;*

$FRIND_{it}$ = The ratio of the number of shares that are held by foreign individual investors to total shares outstanding at year *t* for firm *i;*

and all the other variables are defined and denoted as before.

4.3.4.8. Eighth Model Specification

The 8th model is specified to investigate the impact of large institutional shareholding from another perspective by the use of additional control variables motivated by the studies of Fudenberg and Tirole (1995), and Chung, Firth and Kim (2002). Accordingly, this model evaluates whether managerial incentives associated with firms' current and future financial performance exert any influence on the management of reported earnings in the presence of substantial institutional ownership. In other words, the findings will provide evidence in favor of the role substantial institutional ownership plays in reducing the ability of managers to engage in earnings management practices on the condition that managers have incentives to use discretionary accruals. As the reasoning referring to the generation of the specific variables employed in this model are provided with detail in the subsection explaining variable selection, this subsection only displays the model construction without any additional information. It has to be noted that, the variables labeled as ROA and LOSS are omitted from this model since firm performance and incidence of losses are already captured by these additional control variables included. Therefore, 8th model can be displayed as in Equation 4.17 below;

$$ABSDAC_{it} = \beta_0 + \beta_1 \, DMEDIAN_{it} + \beta_2 \, CPFGMEDIAN_{it} + \beta_3 \, CGFPMEDIAN_{it} \\ + \beta_4 \, LNASSET_{it} + \beta_5 \, LEVR_{it} + \beta_6 \, AUDQ_{it} + \beta_7 \, CFOASST_{it} \\ + \beta_8 CASHR_{it} + \epsilon_{it}$$

(Eq. 4.17)

where;

$CPFGMEDIAN_{it}$ = A dummy variable equal to unity if institutional share ownership for the firm is higher than the cross-sectional median in the year for the firm with poor relative performance in the current period (CP) and good relative performance in the future period (FG), and otherwise equal to zero;

$CGFPMEDIAN_{it}$ = A dummy variable equal to unity if institutional share ownership for the firm is higher than the cross-sectional median in the year for the firm with good relative performance in the current period (CG) and poor relative performance in the future period (FP), and otherwise equal to zero;

and all other included variables are defined and denoted as before.

5. DATA ANALYSIS AND RESULTS

5.1. DESCRIPTIVE STATISTICS

This subsection is dedicated to the descriptive statistics of all variables included in the empirical part of the study for the six year period between 2006 and 2011, inclusive. Firstly, the results based on the summary statistics of the continuous variables will be evaluated followed by those of the dichotomous variables.

Table 5.1

Descriptive Statistics of the Continuous Variables for the Complete Sample

Variables	Mean	Std. Dev	1st Quartile	Median	3rd Quartile	Min	Max
ABSDAC	0.1069	0.1273	0.0347	0.0740	0.1285	0.0002	1.3577
IND*	0.6384	0.3053	0.3937	0.7095	0.9289	0.0102	1.0000
INST	0.3616	0.3053	0.0711	0.2905	0.6063	0.0000	0.9898
INST^2	0.2238	0.2735	0.0050	0.0844	0.3676	0.0000	0.9797
DMINST	0.1487	0.1982	0.0115	0.0607	0.2134	0.0000	0.9634
FRINST	0.2129	0.2801	0.0005	0.0642	0.3480	0.0000	0.9779
DMFND	0.0097	0.0211	0.0000	0.0007	0.0096	0.0000	0.1544
DMCORP	0.1299	0.1982	0.0054	0.0331	0.1731	0.0000	0.9619
DMTRUST	0.0018	0.0064	0.0000	0.0000	0.0002	0.0000	0.1052
DMOTHR	0.0072	0.0323	0.0000	0.0000	0.0006	0.0000	0.3991
FRFND	0.0932	0.1682	0.0000	0.0079	0.0934	0.0000	0.9210
FRCORP	0.1181	0.2093	0.0000	0.0159	0.1304	0.0000	0.9734
FROTHR	0.0016	0.0332	0.0000	0.0000	0.0000	0.0000	0.7662
LNGINST	0.0088	0.0461	0.0000	0.0000	0.0007	0.0000	0.7663
SHRTINST	0.3528	0.3070	0.0581	0.2778	0.5956	0.0000	0.9898
DMIND	0.6310	0.3059	0.3787	0.6998	0.9249	0.0102	0.9999
FRIND	0.0074	0.0222	0.0006	0.0017	0.0045	0.0000	0.2127
LNASST	19.16	1.47	18.64	19.11	20.06	15.63	23.41
LEVR	0.5022	0.4423	0.2640	0.4470	0.6509	0.0064	5.975
ROA	0.0192	0.1591	-0.0248	0.0282	0.0792	-2.88	1.0051
CFOASST	0.0442	0.1537	-0.0207	0.0369	0.1036	-0.9707	1.2887
CASHR	0.7385	2.3908	0.0324	0.1576	0.5348	0.0000	36.52

*Though not used in the models, IND represents individual investors to provide additional descriptive statistics regarding firms' ownership structure

Based on the findings provided on Table 5.1 above, absolute value of discretionary accruals estimated by Kothari, Leone and Wasley (2005) is on average 10.69% of prior year total assets with a median of 7.4%. The wide range of distribution

that occurs due to the minimum and maximum values of 0.02% and 135.77% shows that discretionary accounting practices has a large effect on firm profit as can also be seen by the large standard deviation of 12.73%. Outliers with respect to the selected earnings management proxy displaying values greater than one are eliminated from the initial sample to prevent any misleading conclusions in line with the study of Kothari, Leone and Wasley (2005).

Evaluation of the explanatory variables that represent certain aspects of institutional ownership reveals that the mean and median of institutional shares is 36.16% and 29.05% of the sample firms' total shares outstanding, respectively. Furthermore, 75% of the sample firms have an institutional ownership ratio of less than 61%. The standard deviation of 30.53% evidences that percentage of institutional shares varies greatly across firms and time. An evaluation of the minimum and maximum values of 0% and 98.98% reveal the wide range of distribution belonging to the variable INST meaning that a considerable amount of variability exists in terms of institutional shareholding. It has to be noted that a wide distribution range of an independent variable increases the explanatory power of the statistical tests, which is also emphasized by Mitra (2002).

Foreign and domestic institutional investors hold an average of 21.29% and 14.87% of the sample firms' outstanding shares, respectively. Interpretation of the results based on the average values of 63.84% and 36.16% of individual and institutional ownership shows that foreign institutional investors are the dominating factor with almost 60% of the overall institutional shares. The large standard deviations of 28.01% and 19.82% for the variables labeled as FRINST and DMINST evidence the variations in the ownership structure of the sample firms. As demonstrated by the large amount of individual shareholding, Turkish institutional environment still has a long way to prosper and grow despite the recent developments during the last years as documented in the prior sections.

Focusing on the institutional ownership classification provided by TSAKP within the broader group of domestic and foreign institutional investors reveals that domestic corporations and foreign corporations are the major investors with ownership

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shares of 12.99% and 11.81% of the total shares, respectively. Furthermore, the maximum values of the variables denoted by DMCORP and FRCORP reach 96.19% and 97.34%. Whereas charities, associations and cooperatives make up the category with the lowest amount of investment within the group of foreign institutional investors with a mean of 0.16%; the subcategory that has the lowest amount of investment within the wider group of domestic institutional investors is represented by investment trusts with an ownership level of 0.18%.

Summary statistics based on institutional owners' investment horizon displays that the mean values of short- and long-term institutional shareholdings are 35.28% and 0.88%, respectively. Adaptation of the classifications provided by Brickley, Lease and Smith (1988), Cox, Brammer and Millington (2004), and Cheng and Reitenga (2009) to the Turkish context displays that short-run orientation is one of the dominant characteristics of the institutional investor profile in Turkey.

Whereas foreigners own majority of institutional shares, domestic owners are demonstrated to have a significantly larger amount of share than foreign individuals with a mean of 63.10% in line with the expectations. Thus, they possess more than 98% of the overall individual shares.

One of the firm specific characteristics noteworthy to emphasize is the wide variation observed in terms of sample firms' leverage. Whereas the average ratio of total debt to total assets is 50.22%, it has a large standard deviation of 44.23% with more than half of the firms having a leverage ratio of less than 45%. Additionally, 75% of the overall sample has less than 65% leverage. In order to provide more representative results, outliers with respect to this variable have been eliminated from the initial sample.

Outliers that exist due to the large ranges in the distribution of data related to the firm specific control variables labeled as ROA, CFOASST, and CASHR have also been removed from the initial sample. ROA ranges from -2.88 to 1 with an average of 0.02 and a median of 0.03. The ratio of cash flow from operations to total assets, CFOASST, has a mean of 0.04 and a standard deviation of 15.37%. The minimum and

maximum values of this variable are -0.97 and 1.28, respectively. Finally; CASHR, which has a median of 0.16 and an average of 0.74, ranges between 0 and 36.52 demonstrating a significantly large standard deviation.

Table 5.2 below displays the yearly statistics for the selected variables related with institutional ownership. The average values for the main explanatory variable denoted by INSTI are 32.67%, 39.16%, 36.55%, 34.85%, 34.64%, and 37.06% consecutively during the observation period. Thus, ownership by institutional investors is found to be the highest in year 2007 for the sample firms. The yearly standard deviations are also calculated to be large demonstrating the wide variation in terms of institutional shareholdings during the 2006-2011 period.

Table 5.2

Yearly Descriptive Statistics of the Selected Continuous Variables for the Complete Sample

Descriptive Statistics for the year 2006							
Variables	**Mean**	**Std. Dev**	**1st Quartile**	**Median**	**3rd Quartile**	**Min**	**Max**
INST	0.3267	0.2851	0.0574	0.2617	0.5582	0.0000	0.9798
DMINST	0.1120	0.1550	0.0150	0.0437	0.1392	0.0000	0.7463
FRINST	0.2147	0.2722	0.0028	0.0767	0.3214	0.0000	0.9779
LNGINST	0.0144	0.0707	0.0000	0.0001	0.0014	0.0000	0.7649
SHRTINST	0.3123	0.2857	0.0505	0.2414	0.5525	0.0000	0.9797
Descriptive Statistics for the year 2007							
Variables	**Mean**	**Std. Dev**	**1st Quartile**	**Median**	**3rd Quartile**	**Min**	**Max**
INST	0.3916	0.3017	0.1141	0.3466	0.6391	0.0000	0.9804
DMINST	0.1343	0.1789	0.0117	0.0629	0.1781	0.0000	0.8790
FRINST	0.2573	0.2909	0.0035	0.1364	0.4778	0.0000	0.9768
LNGINST	0.0102	0.0624	0.0000	0.0000	0.0009	0.0000	0.7663
SHRTINST	0.3814	0.3035	0.0895	0.3369	0.6343	0.0000	0.9804
Descriptive Statistics for the year 2008							
Variables	**Mean**	**Std. Dev**	**1st Quartile**	**Median**	**3rd Quartile**	**Min**	**Max**
INST	0.3655	0.3006	0.0697	0.3162	0.5815	0.0000	0.9833
DMINST	0.1522	0.2047	0.0111	0.0626	0.2025	0.0000	0.9634
FRINST	0.2132	0.2698	0.0000	0.0733	0.3957	0.0000	0.9746
LNGINST	0.0061	0.0252	0.0000	0.0000	0.0008	0.0000	0.2081
SHRTINST	0.3594	0.3026	0.0561	0.3070	0.5808	0.0000	0.9832

Table 5.2 continues…

Descriptive Statistics for the year 2009						
Variables	**Mean**	**Std. Dev**	**1st Quartile**	**Median**	**3rd Quartile**	**Min**	**Max**
INST	0.3485	0.3154	0.0478	0.2698	0.5954	0.0000	0.9898
DMINST	0.1569	0.2153	0.0089	0.0557	0.2177	0.0000	0.9062
FRINST	0.1916	0.2772	0.0000	0.0420	0.2719	0.0000	0.9732
LNGINST	0.0057	0.0248	0.0000	0.0000	0.0006	0.0000	0.2081
SHRTINST	0.3428	0.3173	0.0368	0.2636	0.5955	0.0000	0.9898
Descriptive Statistics for the year 2010						
Variables	**Mean**	**Std. Dev**	**1st Quartile**	**Median**	**3rd Quartile**	**Min**	**Max**
INST	0.3464	0.3176	0.0683	0.2783	0.6473	0.0000	0.9821
DMINST	0.1651	0.2120	0.0106	0.0662	0.2456	0.0000	0.8789
FRINST	0.2013	0.2851	0.0022	0.0493	0.2863	0.0000	0.9738
LNGINST	0.0050	0.0215	0.0000	0.0000	0.0005	0.0000	0.1584
SHRTINST	0.3614	0.3186	0.0655	0.2744	0.6318	0.0000	0.9821
Descriptive Statistics for the year 2011						
Variables	**Mean**	**Std. Dev**	**1st Quartile**	**Median**	**3rd Quartile**	**Min**	**Max**
INST	0.3706	0.3105	0.0888	0.3196	0.6265	0.0000	0.9815
DMINST	0.1716	0.2125	0.0109	0.0840	0.2681	0.0000	0.8788
FRINST	0.1990	0.2837	0.0000	0.0438	0.3191	0.0000	0.9723
LNGINST	0.0112	0.0462	0.0000	0.0000	0.0007	0.0000	0.3991
SHRTINST	0.3595	0.3131	0.0664	0.3034	0.6193	0.0000	0.9815

An increasing trend in terms of average domestic institutional investment can be observed with the mean values of this type of institutional shares being 11.20% and 17.16% for the years 2006 and 2011, respectively. Additionally, the amount of domestic institutional shares is displayed to be the highest in 2008 and lowest in 2006 with 96.34% and 74.63%, respectively. The mean of foreign institutional ownership is presented to be the lowest in year 2009 with 19.16%, which can be mainly due the impact of the global financial crisis of 2008. Subsequently, it is demonstrated to be 20.13% in 2010 falling slightly to the level of 19.90% in 2011.

A decline is observed in terms of the already low amount long-term oriented institutional investment with the mean falling to 0.57% and 0.50% in 2009 and 2010, respectively, rising back to 1.12% in 2011. Corrective policies should be formulated to create a suitable investment climate to attract long-term institutional investors to

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Turkey. Lastly; the mean values of short-term institutional investment, which is documented to be the dominant investment style in terms of investment horizon, is reported to be 31.23%, 38.14%, 35.94%, 34.28%, 36.14%, and 35.95% consecutively for the six year period between 2006-2011.

Table 5.3 below provides the descriptive statistics of the dichotomous variables. The number of firms that have institutional shareholdings above the sample median is documented to be 534, which represents 50.28% of the overall dataset. Interestingly, 50% of the sample firms are being audited by one of the Big Four Auditors. The number of firms that are experiencing loss is 365 making up 34.37% of the sample firms; thus, the remaining 697 firms are reporting profit. Furthermore, 19.66% of the firms display good relative performance in the current period and poor relative performance in the future period, and 19.55% of the firms display poor relative performance in the current period and good relative performance in the future period.

Table 5.3

Descriptive Statistics of the Dichotomous Variables for the Complete Sample

Variables	Coding	Frequency	Percentage of Sample
DMEDIAN	1	534	50.28%
	0	528	49.72%
AUDQ	1	531	50.00%
	0	531	50.00%
LOSS	1	365	34.37%
	0	697	65.63%
CGFP	1	174	19.66%
	0	711	80.34%
CPFG	1	173	19.55%
	0	712	80.45%
CGFPMEDIAN	1	83	9.38%
	0	802	90.62%
CPFGMEDIAN	1	72	8.14%
	0	813	91.86%

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5.2. ISSUE OF MULTICOLLINEARITY

The term multicollinearity is first introduced by Ragnar Frisch and defined as the problem when an approximate linear relationship among the explanatory variables leads to unreliable regression estimates. Additionally, this relationship is not only related to two variables but can encompass more or all regressors of the associated model (Verbeek, 2012, pp.44). In other words, multicollinearity occurs when the explanatory variables display little variation and/or high intercorrelations (Maddala, 1992, pp.269).

Even though less than perfect multicollinearity does not violate any regression assumptions, the coefficient estimates will demonstrate large standard errors despite the fact that they are determinate. Thus, accurate estimation of the partial effect of any independent variable on the selected dependent variable cannot be possible (Gujarati and Porter, 2009; Wooldridge , 2009). Multicollinearity is regarded to be a serious issue if the pair-wise or zero-order correlation coefficient between two variables is higher than 0.8 (Gujarati and Porter, 2009, pp. 338).

The consequences of multicollinearity are defined by Gujarati and Porter (2009) as large variances and covariances of the OLS estimators, wider confidence intervals, statistically insignificant t ratio of one or more coefficients, sensitivity of OLS estimators and associated standard errors to small changes in data.

Table 5.4 documents the Pearson correlation coefficients between pairs of explanatory and control variables utilized in the analyses. High and significant correlations between specific groups of explanatory variables, like those between total institutional ownership and institutional ownership classification, place of origin, and investment horizon is not noteworthy to mention since these variables are not simultaneously employed in the estimations. When the coefficients and associated significance levels of the variables used in each model are evaluated, it can be stated that the models utilized are not contaminated by the problem of multicollinearity.

Total institutional ownership is positively associated with firm size (LNASSET) demonstrating a coefficient of 0.6039 and a *p*-value less than 1%

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consistent with the findings of Koh, (2003), Hsu and Koh (2005), and Mitra and Cready (2005). Furthermore, the significant and positive correlation coefficients of 0.1087 and 0.5813 for the relationship between firm size and institutional investors' place of origin, which is labeled by DMINST and FRINST, show that institutional investors prefer to invest in large firms irrespective of their home country. It has to be noted that segregation of institutional owners based on the classification scheme of TSPAKB does not rule out this positive link other than the proxies denoted by DMOTHR and FROTHR that encompass charities, associations, and cooperatives. The correlation coefficients of these explanatory variables are found to be insignificant with respect to firm size, which shows that their investment strategies do not depend on firms' being either large or small. Additionally, institutional investors demonstrate a tendency to invest in low leverage and better performing firms as shown by the significant coefficients of -0.0774 and 0.1729, respectively. Mitra and Cready (2005) document similar findings for the associated variables; however, they utilize ROS rather than ROA as a measure of firm performance. Again, the preference for better performing firms is significant without regard to institutional investors' place of origin. The relatively high and significant coefficient of 0.1335 between INSTI and CFOASST denotes a positive association between the two variables. As the explanatory variables that are used to provide an indication of institutional and individual shareholding in the firm are perfectly negatively correlated, the above stated relationships are also significant for the variable IND; however, the coefficients of the associated control variables demonstrate an opposite sign.

When firm financial performance (ROA) is evaluated in terms of the other control variables, it is found to be positively associated with firm's size, liquidity, ability to generate cash flows from operations, but negatively correlated with firm's leverage with coefficients of 0.2518, 0.1524, 0.3964, and -0.4853, respectively, together with p-values less than 1%. Whereas CASHR is significantly and negatively correlated with firm's size and debt level, it is significantly and positively associated with firm's financial performance and operating cash flow generating ability, with respective coefficients of -0.0719, -0.2301, 0.1524 and 0.1087. Contrary to the findings of Koh (2003), Hsu and Koh (2005), and Mitra and Cready (2005), this thesis documents that

firm size is significantly and negatively associated with leverage in the Turkish context. This result is in line with the study of Adıgüzel (2012), who also conducts an analysis on Turkish listed companies. Lastly, while a significant and positive link is found between CFOASST and LNASSET with a correlation coefficient of 0.1305, a significant and negative link is denoted between CFOASST and LEVR with a correlation coefficient of -0.2457, which are in conformity with expectations.

Table 5.4
Pearson Correlation Matrix for Explanatory and Control Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
(1) INST	1.0000																			
(2) DMINST	0.4466	1.0000																		
	0.0000																			
(3) FRINST	0.7740	-0.2210	1.0000																	
	0.0000	0.0000																		
(4) DMFND	0.1096	0.0563	0.0796	1.0000																
	0.0003	0.0664	0.0095																	
(5) DMCORP	0.4364	0.9757	-0.2149	-0.0952	1.0000															
	0.0000	0.0000	0.0000	0.0019																
(6) DMTRST	0.0128	0.0351	-0.0109	0.2124	-0.0223	1.0000														
	0.6777	0.2531	0.7220	0.0000	0.4675															
(7) DMOTHR	-0.0118	0.1048	-0.0871	0.2366	-0.0836	0.0164	1.0000													
	0.7006	0.0006	0.0045	0.0000	0.0064	0.5927														
(8) FRFND	0.5373	-0.1041	0.6593	0.1811	-0.1165	0.0191	-0.0455	1.0000												
	0.0000	0.0007	0.0000	0.0000	0.0001	0.5344	0.1380													
(9) FRCORP	0.5938	-0.2068	0.7936	-0.0359	-0.1893	-0.0279	-0.0784	0.0812	1.0000											
	0.0000	0.0000	0.0000	0.2428	0.0000	0.3634	0.0106	0.0081												
(10)FROTHR	0.0637	-0.0331	0.0928	-0.0198	-0.0290	-0.0128	0.0096	-0.0153	-0.0222	1.0000										
	0.0379	0.2815	0.0025	0.5198	0.3450	0.6769	0.7558	0.6189	0.4698											
(11) IND	-1.0000	-0.4466	-0.7740	-0.1096	-0.4364	-0.0128	0.0118	-0.5373	-0.5938	-0.0637	1.0000									
	0.0000	0.0000	0.0000	0.0003	0.0000	0.6777	0.7006	0.0000	0.0000	0.0379										
(12) DMIND	-0.9974	-0.4413	-0.7748	-0.1109	-0.4311	-0.0128	0.0128	-0.5386	-0.5939	-0.0629	0.9974	1.0000								
	0.0000	0.0000	0.0000	0.0003	0.0000	0.6775	0.6768	0.0000	0.0000	0.0403	0.0000									
(13) FRIND	-0.0082	-0.0597	0.0333	0.0212	-0.0598	0.0005	-0.0138	0.0335	0.0190	-0.0088	0.0082	-0.0645	1.0000							
	0.7890	0.0516	0.2779	0.4903	0.0515	0.9872	0.6525	0.2749	0.5356	0.7754	0.7890	0.0355								
(14) LNGINST	0.0377	0.0496	0.0060	0.1514	-0.0794	0.0023	0.6932	-0.0429	-0.0709	0.7141	-0.0377	-0.0364	-0.0160	1.0000						
	0.2201	0.1064	0.8462	0.0000	0.0096	0.9408	0.0000	0.1626	0.0209	0.0000	0.2201	0.2358	0.6025							
(15) SHRTINST	0.9220	0.1956	0.8666	0.0409	0.2096	-0.0044	-0.1120	0.3944	0.8488	-0.0390	-0.9220	-0.9204	0.0048	-0.1065	1.0000					
	0.0000	0.0000	0.0000	0.1831	0.0000	0.8855	0.0003	0.0000	0.0000	0.2038	0.0000	0.0000	0.8768	0.0005						
(16) LNASST	0.6039	0.1087	0.5813	0.2650	0.0808	0.1129	-0.0243	0.5318	0.3501	0.0028	-0.6039	-0.6004	-0.0308	-0.0150	0.5567	1.0000				
	0.0000	0.0004	0.0000	0.0000	0.0084	0.0002	0.4280	0.0000	0.0000	0.9280	0.0000	0.0000	0.3163	0.6247	0.0000					
(17) LEVR	-0.0774	-0.0690	-0.0356	-0.0726	-0.0513	-0.0585	-0.0495	-0.0516	-0.0135	0.0466	0.0774	0.0787	-0.0190	-0.0011	-0.0569	-0.0756	1.0000			
	0.0116	0.0245	0.2470	0.0180	0.0945	0.0568	0.1069	0.0928	0.6600	0.1290	0.0116	0.0103	0.5365	0.9725	0.0637	0.0138				
(18) ROA	0.1729	0.0751	0.1353	0.1157	0.0633	0.0383	-0.0104	0.1815	0.0466	-0.0718	-0.1729	-0.1762	0.0498	-0.0590	0.1407	0.2518	0.4853	1.0000		
	0.0000	0.0143	0.0000	0.0002	0.0392	0.2121	0.7350	0.0000	0.1287	0.0193	0.0000	0.0000	0.1050	0.0545	0.0000	0.0000	0.0000			
(19) CFOASST	0.1335	0.0623	0.1015	0.1100	0.0533	0.0192	-0.0208	0.1130	0.0511	-0.0385	-0.1335	-0.1373	0.0561	-0.0423	0.1151	0.1305	0.2457	0.3964	1.0000	
	0.0000	0.0425	0.0009	0.0003	0.0823	0.5322	0.4985	0.0002	0.0960	0.2098	0.0000	0.0000	0.0678	0.1682	0.0002	0.0000	0.0000	0.0000		
(20) CASHR	-0.0302	0.0381	-0.0599	-0.0028	0.0420	-0.0237	-0.0173	-0.0298	-0.0540	-0.0138	0.0302	0.0333	-0.0437	-0.0221	-0.0421	-0.0719	-0.2301	0.1524	0.1078	1.0000
	0.3254	0.2142	0.0509	0.9275	0.1714	0.4413	0.5737	0.3323	0.0783	0.6522	0.3254	0.2780	0.1544	0.4723	0.1708	0.0191	0.0000	0.0000	0.0004	

Note: The numbers displayed in the first and second row for each variable are Pearson correlation coefficients and p-values, respectively.

All p-values are two-tailed.

Refer to Table 4.3 for variable definitions.

5.3. TESTS OF HYPOTHESES

5.3.1. Cross-Sectional Analysis

Based on the theoretical framework provided in the prior sections and the accordingly developed hypotheses emphasizing either the active monitoring role or short-term orientation of institutional investors, the first model is initially estimated by cross-sectional analysis to evaluate the link between accounting flexibility proxied by the absolute value of discretionary accruals and aggregate institutional ownership. However, this estimation method is utilized only as a preliminary tool for drawing initial results due to the drawbacks associated with the use of cross-sectional data, which is emphasized in the subsection referring to methodology. Accordingly, the cross-sectional model estimated for all the years between 2006 and 2011, inclusive, is specified as in Equation 5.1 below;

$$ABSDAC_i = \beta_0 + \beta_1\,INST_i + \beta_2 LNASST_i + \beta_3 LEVR_i + \beta_4 ROA_i + \beta_5\,AUDQ_i \\ + \beta_6\,LOSS_i + \beta_7 CFOASST_i + \beta_8 CASHR_i + \epsilon_i$$

(Eq. 5.1)

where;

all variables are defined and denoted as before.

Table 5.5 presents the results for the first model providing yearly evidence on the relationship between the main variables of interest and associated control variables. F-statistic is computed to test the overall significance of a regression under the hypothesis that the explanatory variables have no effect on the expected value of the dependent variable, y, meaning that all slope parameters are zero (Wooldridge, 2009). As can be seen, F-statistics for all yearly regressions are significant at $p<0.01$, demonstrating the statistical validity of all yearly regressions. Additionally, the goodness of fit measure indicated by adjusted R^2 is demonstrated to range between 11% and 28%. Since the main findings of the empirical part of the study will be evaluated according panel data analysis, the comparison of findings with prior literature and

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associated theories and reasoning will be evaluated more thoroughly in the forthcoming subsections. Therefore, the results documented here should be considered as certain preliminary outcomes.

Table 5.5

The Results of Cross-Sectional Analysis for the 1st Model

Dependent Variable : ABSDAC						
Explanatory and Control	**Estimated Coefficients (t-value)**					
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
INST	-0.0126	0.0216	0.0040	-0.0245	-0.0535	-0.0365
	(-0.58)	(0.51)	(0.16)	(-1.25)	(-1.80)*	(-1.92)**
LNASST	-0.0058	-0.0165	-0.0065	-0.0010	-0.0119	-0.0010
	(-1.30)	(-2.04)**	(-1.26)	(-0.18)	(-1.87)*	(-0.19)
LEVR	0.0523	0.0325	0.0536	0.1151	0.1410	0.0886
	(1.89)**	(0.52)	(1.67)*	(3.63)***	(3.39)***	(2.16)**
ROA	0.3263	0.8952	-0.0525	0.2457	0.3154	0.6508
	(1.83)**	(3.42)***	(-0.32)	(1.11)	(1.80)*	(3.59)***
AUDQ	-0.0132	-0.0127	-0.0380	0.0047	0.0304	-0.0129
	(-0.93)	(-0.57)	(-2.60)**	(0.37)	(1.41)	(-0.88)
LOSS	0.0094	0.0465	0.0241	0.0055	-0.0181	0.0440
	(0.42)	(1.38)	(1.00)	(0.25)	(-0.84)	(1.89)**
CFOASST	-0.3080	0.4072	0.1195	-0.0450	-0.2811	-0.4624
	(-2.41)**	(-2.29)	(0.90)	(-0.33)	(-1.84)**	(-4.39)***
CASHR	0.0117	-0.0168	0.0071	0.0036	0.0205	0.0075
	(0.90)	(-0.74)	(0.79)	(0.33)	(1.58)	(0.87)
constant	0.1705	0.3781	0.2086	0.0622	0.2567	0.0688
	(2.12)**	(2.79)***	(2.06)**	(0.59)	(2.27)**	(0.79)
Number of obs.[1]	169	168	169	168	169	167
F-statistics	3.90	3.46	4.62	3.85	2.82	4.31
Prob > F	0.0003	0.0011	0.0000	0.0004	0.0060	0.0001
Goodness of Fit (R^2)	0.1624	0.2709	0.1255	0.1058	0.1995	0.2790
legend	*$p<0.10$; **$p<0.05$;***$p<0.01$*					

[1]Number of obs. denotes number of observations

Consistent with the expectations of the first hypothesis that predicts a negative relationship between managerial discretion and the existence of institutional shareholders in the firms' ownership structure, the coefficient of the explanatory variable INSTI is found to be negative and significant in years 2010 and 2011(t-value = -1.80, $p<0.10$; t-value = -1.92, $p<0.05$, respectively). Therefore, the monitoring role undertaken by these investors acts as a control mechanism that curtails agency costs

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arising from principle-agent conflicts. This finding demonstrating the constraining influence of institutions on discretionary accrual management is supported by prior studies in literature (Rajgopal, Venkatachalam and Jiambalvo, 1999; Ebrahim, 2004; Mitra and Cready, 2005; Koh, 2007). As argued by Rajgopal, Venkatachalam and Jiambalvo (1999), sophistication of institutional investors reduces the perceived benefit of accruals management that accrue to the corporate managers. The insignificance of this variable in previous years can be explained by the recent dominance of institutional investors in corporate landscape together with the accompanying stricter application of corporate governance practices.

The results of the cross-sectional analysis with respect to the control variables demonstrate the significance of most selected proxies as to their relationship with accruals management. Even though yearly differences exist with respect to the significance of the estimated impact of control variables, no inconsistency is observed with respect to signs of the reported coefficients. The major reason for not documenting yearly consistent significant estimates of control variables can be explained by the drawbacks of cross-sectional analysis that arise due to lack of satisfaction of all Gauss-Markow Theorem assumptions emphasized before. Even though mild violations of these assumptions have been accepted by some academicians up to a certain level (Box, 1953; Glass, Peckham and Sanders, 1972), this study mainly utilizes panel data analysis to overcome econometric problems explained before.

The results related to the interaction between firm size and opportunistic accrual management document the negative and significant influence of the control variable LNASST on the absolute value of discretionary accruals though not consistently observed in all years included in the observation period (t-value = -2.04, $p<0.05$; t-value = -1.87, $p<0.10$, in years 2007 and 2010; respectively). This finding demonstrates the influence of firm visibility on mitigating the discretion exercised by managers in line with the studies of Baxter and Cotter (2009), Ramadan (2012), and Mitra (2002).

The positive and significant influence of firm leverage denoted by LEVR on the proxy of earnings management in all years except 2007 support the argument presented by Defond and Jiambalvo (1994) and Duke and Hunt (1990) for the increased

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engagement in earnings management practices by firms which are close to debt covenant violations (t-value = 1.89, p<0.05; t-value = 1.67, p<0.10; t-value = 3.63, p<0.01; t-value = 3.39, p<0.01; t-value = 2.16, p<0.05, in years 2006, 2008, 2009, 2010, and 2011; respectively).

The coefficient of the control variable ROA is found to be positive and significant for all years except 2008 and 2009 as also supported by the reliable arguments of Dechow, Sloan and Sweeney (1995) and McNichols (2000), which are explained in the subsection referring to control variable selection (t-value = 1.83, p<0.05; t-value = 3.42, p<0.01; t-value = 1.80, p<0.10; t-value = 3.59, p<0.01, in years 2006, 2007, 2010, and 2011; respectively). However, it has to be noted that this finding is contrary to that of Prawitt, Jason and Wood (2009), which propose that managers of firms are that are regarded to be in trouble with below zero income have stronger incentives to manipulate reported earnings.

The relationship between being audited by a Big Four Auditor and the flexibility of managers in exercising earnings management is found to be insignificant in all the years except; 2008, whereby the variable AUDQ is documented to act as a governance and external monitoring mechanism (t-value = -2.60, p<0.05). Other studies that document the negative and significant influence of this variable with a selected proxy for earnings management can be named as those of Koh (2003), Hsu and Koh (2005), Ebrahim (2004), and Chen, Lin and Zhou (2005), Lin, Hutchinson and Percy (2009). Even though the results of the analysis demonstrate the constraining effect of auditor quality on managerial discretion, it is interesting to observe the presence of this association only in one year of the overall observation period. Koh (2007) also document contradictory findings as to this variable in that being audited by a Big Six Auditor is not found to be associated with discretionary accruals except for firms which beat/meet analyst forecasts. Thus, the findings with respect to this control variable have to be more thoroughly probed by the main model of the study, which is performed by panel data analysis.

Another control variable that is significantly associated with the dependent variable ABSDAC only in one year is reported to be the one labelled as LOSS, which

has a stimulating impact on earnings management in year 2011 (t-value = 1.89, p<0.05). Though observed in only one year, this finding demonstrates that managers of firms experiencing losses have more incentives to manage reported earnings, which is as also documented by Prawitt, Jason and Wood (2009), and Baxter and Cotter (2009). As also encountered in the case of the control variable AUDQ, the insignificance of this variable in all years except 2011, deserves further interpretation in the forthcoming analysis conducted by panel data methodology.

Consistent with the expectations, the association between the selected proxies of cash flows and discretionary accruals is found to be statistically significant and negative in years 2006 and 2011 (t-value = -2.41, p<0.05; t-value = -4.39, p<0.01, respectively). The results of Hsu and Koh (2005) are similar to those documented in this analysis with respect to the variable CFOASST. Whereas they report the insignificance of this variable in the model utilizing income increasing discretionary accruals, the relationship is found to be negative and significant for the case when nondiscretionary earnings are lower than prior earnings for the model using income decreasing discretionary accruals. Therefore, the insignificant findings related to this variable in certain years can be associated with our models' employing absolute value of discretionary accruals to prevent any loss of observations.

The results relating to the control variable CASHR turn out to be insignificant for all the years in the observation period contrary to the assumption that firms' liquidity is one of the factors that influences its financial flexibility, which accordingly enhances managerial flexibility. Therefore, the expected positive and significant relationship that cannot be observed in the model that utilizes cross-sectional analysis generates a need for further analysis as performed by the forthcoming model.

5.3.2. Panel Data Analysis

As also emphasized in the prior subsections relating to methodological procedures and model specifications, major findings of this study with respect to the hypotheses developed and additional models generated will be evaluated by the use of panel data analysis due to its superiority over cross-sectional analysis performed in the

previous subsection. It has to be emphasized that the results are displayed on the basis of four major estimation techniques; namely, pooled OLS, FE, RE, and GLS additionally including industrial dummies when appropriate. However, the findings will be interpreted on the basis of GLS model depending on its better fit to the dataset utilized and other statistical issues described in detail above. It has to be noted that no contradictory results are documented when other models are employed meaning that there is no inconsistency as to the signs of the significant variables. The only difference stems from the levels of significances and the number of significant variables, which is again attributed to the better fit of GLS model as found out by the application of appropriate tests namely Breusch-Pagan test and Wooldridge test together with the issues related to the satisfaction of Gauss-Markow properties.

All the models applied are determined to be significant with respect to F-statistic and Wald statistic, which are significant at $p<0.001$. Wald-statistic, which is Chi-squared version of the F-test, is essentially the F-statistic after a simple transformation applicable to any estimator that is consistent and asymptotically normal (Verbeek, 2012, pp. 30, 189; Wooldridge, 2009, pp. 579).

Decision with respect to the choice between RE and FE model is based on the Hausman test checking for any correlation between the error component and the regressor in a RE model and comparing the coefficient estimates from the RE model to those of the FE model. Both RE and FE estimators are regarded to be consistent on the condition that there is no correlation between the error term and explanatory variables. However, if any correlation is observed, RE estimator is inconsistent while FE estimator remains consistent (Adkins and Hill, 201, pp. 463). Table 5.6 below demonstrates the Hausman test results for each model specification of the study and associated consistent estimators.

Table 5.6

The Hausman Test Results

Model	Chi^2 statistic	Prob > chi^2	Consistent estimator
1	14.38	0.0723	RE
2	17.58	0.0404	FE
3	14.29	0.1125	RE
4	16.61	0.0344	FE
5	10.27	0.1735	RE
6	14.57	0.1034	RE
7	14.33	0.1111	RE
8	17.62	0.0243	FE

The hypothesis that there is no significant difference in the estimated coefficients of RE and FE models is rejected for those specifications, which have highly statistically significant chi-square values (Gujarati and Porter, 2009). Therefore, RE model is rejected in favor of FE model. It has to be noted that the opposite is true for the case where the estimated chi-square value is insignificant.

5.3.2.1. The Results of Panel Data Analysis for the 1st Model

Table 5.7 below presents the results of panel data analysis mainly investigating the influence of aggregate institutional ownership on the absolute value of discretionary accruals in various settings utilizing four major estimation techniques together with the inclusion of industrial dummies when appropriate. As stated before, the existence of either institutional shareholder activism, which is probed by the hypothesis emphasizing the monitoring role of institutional investors; or short-termism, which is probed by the hypothesis emphasizing managerial myopia induced by these investors, is investigated by commenting on the results of the GLS model. As the variables that are found to be significant are the same under GLS without industrial dummies and GLS with industrial dummies denoted by MGLS and MGLS (I) respectively, the former model is chosen for the evaluation of findings just for demonstrative purposes without regard to any other model specification issue. It has to be noted that I in parenthesis represent inclusion of industrial dummies in each type of model. Minor differences between the above stated two models as to the coefficient values are not additionally emphasized since the results

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of both models are the same with respect to the significant variables and the signs of their coefficients.

Table 5.7

The Results of Panel Data Analysis for the 1st Model

Dependent Variable : ABSDAC							
Explanatory and Control Variables	**Estimated coefficients (t-value or z-value)[1]**						
	MPOLS	**MPOLS(I)**	**MFE**	**MRE**	**MRE(I)**	**MGLS**	**MGLS(I)**
INST	-0.0200	-0.0145	0.0244	-0.0174	0.0125	-0.0213	-0.0174
	(-1.73)*	(-1.26)	(0.96)	(-1.54)	(-1.14)	(-2.89)***	(-2.35)**
LNASST	-0.0061	-0.0062	0.0004	-0.0067	-0.0065	-0.0040	-0.0041
	(-2.47)**	(-2.48)**	(0.03)	(-2.45)**	(-2.37)**	(-2.49)**	(-2.56)**
LEVR	0.0840	0.0785	0.0877	0.0833	0.0786	0.0820	0.0827
	(4.77)***	(4.53)***	(2.50)**	(4.79)***	(4.71)***	(8.02)***	(8.02)***
ROA	0.3612	0.3685	0.3317	0.3541	0.3616	0.2801	0.2865
	(3.52)***	(3.64)***	(2.98)***	(3.47)***	(3.57)***	(7.88)***	(8.05)***
AUDQ	-0.0073	-0.0072	0.0361	-0.0043	-0.0044	-0.0012	-0.0020
	(-0.98)	(-0.97)	(2.44)**	(-0.52)	(-0.55)	(-0.29)	(-0.49)
LOSS	0.0184	0.0176	0.0160	0.0179	0.0173	0.0126	0.0106
	(1.61)	(1.61)	(1.28)	(1.48)	(1.49)	(2.11)**	(1.76)*
CFOASST	-0.2049	-0.2052	-0.1977	-0.2050	-0.2052	-0.2156	-0.2223
	(-2.78)***	(-2.83)***	(-2.65)***	(-2.98)***	(-3.00)***	(-9.06)***	(-9.37)***
CASHR	0.0066	0.0048	0.0019	0.0065	0.0049	0.0106	0.0097
	(1.26)	(-0.92)	(0.22)	(1.18)	(0.91)	(3.52)***	(3.25)***
INDUSTRY	No	Yes	No	No	Yes	No	Yes
constant	0.1784	0.2015	0.0154	0.1874	0.2106	0.1227	0.1326
	(4.09)***	(4.19)***	(0.06)	(3.86)***	(3.93)***	(4.12)***	(4.28)***
Number of obs.[2]	1010	1010	1010	1010	1010	1010	1010
Number of groups			174	174	174	174	174
F	8.27	6.76	2.81				
Prob > F	0.0000	0.0000	0.0059				
Wald chi^2				63.04	64.58	180.28	187.87
Prob > chi^2				0.0000	0.0000	0.0000	0.0000
Goodness of Fit (R^2)	0.1004	0.1107	0.0000	0.2182	0.2634		
legend	*p<0.10; **p<0.05;***p<0.01						

[1] Whereas t-values are provided for the models POLS, POLS(I), FE; z-values are provided for models RE, RE(I), GLS, GLS(I)

[2] Number of obs. denotes number of observations

The hypothesized monitoring role of institutional shareholders is found to be statistically valid, which is evidenced by negative and significant coefficient of the explanatory variable INST (z-value = 2.89, p<0.01). The findings of the analysis associated with the first model show that the null hypothesis is rejected for H_1; thus, the active monitoring role exerted by institutional investors is found to be valid.

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Consequently, the second hypothesis associated with managerial myopia induced by institutional investors is not found to be valid. The tendency of managers to engage in aggressive earnings management practices is documented to be curbed by institutional investors' presence, which exerts crucial influence on the application of corporate governance practices. Therefore, the influence of investor sophistication in monitoring and disciplining corporate managers is also supported by this finding. Mitani (2010) also argues for the effective monitoring hypothesis and the associated reduction in agency costs by the involvement of institutions in the firms' ownership structure utilizing institutional investors as a proxy of external corporate governance mechanism. The relation between institutional owners and the application of governance standards is also stressed by Ingley and Walt (2004), whereby they argue for the oversight and control of corporate managers by these types of investors. Other studies that also evidence the significant role of institutional investors in mitigating managerial discretion can be named as those of Bushee (1997), Rajgopal and Venkatachalam (1997), Rajgopal, Venkatachalam and Jiambalvo (1999), Chung, Firth and Kim (2002), Ebrahim (2004), Mitra and Cready (2005), Koh (2007), Cornett, Markus and Tehranian (2008), Ramadan (2012).

The results related to the control variable LNASST evidence the negative and significant influence of firm size in curtailing managerial flexibility as to accrual management (z-value = -2.49, $p<0.05$). This finding is consistent with greater visibility of larger companies related to the information environment hypothesis and associated increase in the number of analysts following the firms (Marston, 1997). Thus, sophisticated information environment surrounding larger firms is found to alleviate managers' discretionary behaviors. Additionally, Smith and Watts (1992) denote firm size to be positively associated with various means of corporate governance. As also denoted by Rajgopal, Venkatachalam and Jiambalvo (1999), managerial opportunities in the execution of accounting discretion is reduced in larger firms due to the close oversight of security analysts. Firm size is also determined to be a proxy for political costs as in the study of Klein (2002), who considers larger firms to be politically sensitive and finds them to be a centre of regulatory attention. Other studies that provide empirical evidence for the negative impact of firm size on a selected measure of

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earnings management can be named as those of Bushee (1997), Rajgopal and Venkatachalam (1998), Rajgopal, Venkatachalam and Jiambalvo (1999), Mitra (2002), Mitra and Cready (2005), Koh (2007), Baxter and Cotter (2009); Ramadan (2012).

The increase in managerial use of flexibility in accrual management with the increase in firms' leverage is demonstrated by the positive and significant coefficient of the variable LEVR (z-value = 8.02, p<0.01). This finding is in line with the expectations revealed in previous empirical studies in that closeness to debt covenant violations induce managers to use slack in accounting choices (Defond and Jiambalvo, 1994; Koh, 2003; Lin, Hutchinson and Percy, 2009). Therefore, the positive association between the selected proxies for earnings management and leverage ratio of the firm support the debt covenant hypothesis meaning that accounting choices of managers are affected by the threat of violating debt covenants. As also emphasized by Smith and Stulz (1985), firms have to manage accounting numbers in order to mitigate the probability and associated costs of financial distress. Accordingly, reduction in the variance of accounting earnings may be chosen as a strategy by value maximizing firms. Other studies that document a positive and significant relationship between the associated variables of interest can be listed as those of Rajgopal and Venkatachalam (1998), Rajgopal, Venkatachalam and Jiambalvo (1999), Baxter and Cotter (2009), Prawitt, Jason and Wood (2009), Adıgüzel (2012), Ramadan (2012), and Hsu and Koh (2005), who provide evidence for the significant and positive association only for profit making firms.

It is important to comment on the findings of the study related to the impact of firms' financial performance on discretionary accruals by concurrent evaluation of the significance levels and signs of the control variables labelled as ROA and LOSS. Justification of this attitude is based on the selected proxy of earnings management, which is the absolute value of discretionary accruals in our case. As argued by McNichols (2000); whereas, most profitable firms have a propensity to engage in income increasing discretionary accruals, least profitable firms demonstrate just the opposite trait by engaging in income decreasing discretionary accruals. Therefore, since

the dependent variable is in absolute value, the influence of ROA and the dichotomous variable LOSS on earnings management have to be comparatively analyzed.

The control variable labelled as ROA, which is employed in the model to control for the impact of financial performance differences, is found to be positively and significantly related to ABSDAC (z-value = 7.88, p<0.01). This finding is also justified by the Dechow, Sloan and Sweeney (1995), who argue for the importance of controlling for financial performance in the investigation of earnings management stimuli. They emphasize the presence of high discretionary accruals in the case of high earnings. However, no consensus is attained in literature as to the inclusion of a financial performance related control variable in empirical models. Whereas Lin, Hutchinson and Percy (2009) document the negative and significant influence of ROA on abnormal accruals, Adıgüzel (2012) document an insignificant relationship between ROA and the absolute value of discretionary accruals in two of her main models and a negative and significant relationship between the above stated variables in one of her main models. Mitra (2002) also denotes the insignificance of ROS, which is the selected proxy for firms' financial performance, with respect to its association with abnormal accrual variation.

Managers of firms with below zero income are also determined to have a tendency to engage in accruals management as can be seen by the positive and significant coefficient of the dichotomous variable LOSS (z-value = 2.11, p<0.05). Concluding on the positive influence of ROA and LOSS on earnings management can be explained by the dependent variable's being in absolute value associated with the above stated reasoning provided by McNichols (2000). It has to be noted that the coefficient of the former variable is higher than the latter, which signifies that demonstrating better financial performance stimulates earnings management more than being in loss does. Other studies that provide evidence for the same finding related the incidence of losses are those of Baxter and Cotter (2009) and Prawitt, Jason and Wood (2009).

The expected negative relationship between the control variable CFOASST and ABSDAC holds true for our case as can be seen by the significant and negative

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coefficient of the selected proxy for cash flows (z-value = -9.06, p<0.01). This finding supports the argument that firms that have high (low) levels of cash flows from operations will have low (high) levels of accruals. Consistently, firms with low levels of accruals will have less discretionary accruals than those with high levels of accruals reducing their ability to use flexibility in managing accruals (Hsu and Koh, 2005, pp. 814). This inverse relationship between the associated variables of interest is also documented by the studies of Koh (2007), Chung, Firth and Kim (2002) and Lin and Manowan (2012).

The results of the analysis with respect to the control variable CASHR are consistent with the prediction that managers of firms with higher levels of liquidity demonstrate more discretion in managing accruals (z-value = 3.52, p<0.01). The positive and significant relationship between selected proxies for firms' liquidity and earnings management practice undertaken by corporate managers is also evidenced in the studies of Mitra (2002), and Mitra and Cready (2005). Therefore, financial flexibility is found to be stimulated by the liquidity position of the firm.

The only control variable that is demonstrated to be insignificant with respect to its relationship with ABSDAC is the one denoted by AUDQ. This finding is contrary to the expectation that being audited by one of the Big Four Auditors alleviates managerial incentives to adjust reported earnings. Thus, high quality auditing is not reported to be one of the factors that are valuable in controlling managerial discretion in the Turkish context contrary to the arguments of Becker, et al. (1998). One study that documents mixed results with respect to high quality auditing is that of Baxter and Cotter (2009) in that the positive and significant influence of this variable is observed in the model that employs modified version of the Jones (1991) model of discretionary accruals together with insignificant findings documented in the model that employs modified version of the Dechow and Dichev (2002) accrual estimation errors model. The results of the current study with respect to AUDQ is in conformity with the interesting results of Koh (2007) in that high quality auditing is not evidenced to be one of the means of governance mechanism except for firms that beat/meet analyst forecasts. Other studies that document the insignificance of this variable with respect to

the practice of earnings management can be named as those of Chtourou, Bedard, Courteau (2001) and Adıgüzel (2012).

5.3.2.2. The Results of Panel Data Analysis for the 2nd Model

Motivated by the studies of Bushee (1998), Koh (2003), and Hsu and Koh (2005), the co-existence of two opposing views concerning the influence of institutional shareholdings on managerial discretion is probed in the 2nd model. As can be seen in Table 5.8 below, incorporation of the explanatory variable INST^2 enhances the evaluation of the function of the relationship and identifies whether a non-linear relationship exists between the main variables of interest. As a convention, evaluations are based on the findings of the model denoted by MGLS to attain uniformity throughout the study. It has to be noted that same control variables are found to be significant with signs of their coefficients being in conformity as documented by both GLS models. Accordingly, minor differences as to the size of the coefficients are not emphasized in order to prevent recurrence in terms of the evaluation of findings.

The negative and significant coefficient of the explanatory variable INST evidence the validity of the monitoring hypothesis in that institutional investors are found to curtail discretionary accrual management practices (z-value = -2.22, p<0.05). This result is in conformity with the 1st model, which evidences that institutional ownership acts as a means of external control mechanism and curtails agency costs arising from the conflict of interest between the owners and managers. However, the insignificant coefficient of INST^2 rejects the existence of nonlinear relationship between the main variables of interest meaning that active monitoring role played and myopic behavior induced by institutional investors are mutually exclusive within the Turkish context. Thus, these findings do not accept the co-existence the differential impact of transient and long-term oriented institutions in the portfolio firms' earnings management practices. Consequently, it is appropriate to conclude that no variation is observed as to the direction of the relationship in the association between institutional shareholding and the absolute value of discretionary accruals as the level of ownership varies. The reported linear association has been evidenced by the results of numerous

other studies in literature; namely Rajgopal and Venkatachalam (1997), Rajgopal, Venkatachalam and Jiambalvo (1999), Mitra and Cready (2005), and Koh (2007).

Table 5.8

The Results of Panel Data Analysis for the 2nd Model

Dependent Variable : ABSDAC							
Explanatory and Control Variables	**Estimated coefficients (t-value or z-value)[1]**						
	MPOLS	**MPOLS(I)**	**MFE**	**MRE**	**MRE(I)**	**MGLS**	**MGLS(I)**
INST	-0.0338	-0.0150	0.0863	-0.0168	-0.0006	-0.0499	-0.0394
	(-0.89)	(-0.38)	(1.30)	(-0.40)	(-0.01)	(-2.22)**	(-1.74)*
INST[2]	0.0160	0.0007	-0.0763	0.0008	-0.0139	0.0327	0.0248
	(0.38)	(0.02)	(-0.97)	(0.02)	(-0.29)	(1.35)	(1.03)
LNASST	-0.0061	-0.0062	0.0009	-0.0067	-0.0065	-0.0041	-0.0041
	(-2.47)**	(-2.47)**	(0.07)	(-2.44)**	(-2.36)**	(-2.53)**	(-2.59)***
LEVR	0.0835	0.0785	0.0882	0.0833	0.0789	0.0814	0.0820
	(4.78)***	(4.56)***	(2.51)**	(4.80)***	(4.71)***	(7.95)***	(7.93)***
ROA	0.3624	0.3686	0.3333	0.3541	0.3608	0.2823	0.2874
	(3.54)***	(3.65)***	(2.99)***	(3.48)***	(3.58)***	(7.93)***	(8.07)***
AUDQ	-0.0075	-0.0072	0.0351	-0.0043	-0.0043	-0.0020	-0.0026
	(-1.00)	(-0.97)	(2.38)**	(-0.53)	(-0.53)	(-0.47)	(-0.63)
LOSS	0.0183	0.0176	0.0159	0.0179	0.0173	0.0120	0.0103
	(1.58)	(1.60)	(1.28)	(1.47)	(1.49)	(2.01)**	(1.71)*
CFOASST	-0.2051	-0.2052	-0.1966	-0.2050	-0.2051	-0.2152	-0.2218
	(-2.78)***	(-2.83)***	(-2.63)***	(-2.98)***	(-3.00)***	(-9.04)***	(-9.35)***
CASHR	0.0066	0.0048	0.0023	0.0065	0.0049	0.0106	0.0096
	(1.25)	(0.92)	(0.26)	(1.19)	(0.92)	(3.52)***	(3.24)***
INDUSTRY	No	Yes	No	No	Yes	No	Yes
constant	0.1804	0.2016	0.0000	0.1871	0.2089	0.1278	0.1369
	(4.07)***	(4.18)***	(0.00)	(3.80)***	(3.84)***	(4.26)***	(4.38)***
Number of obs.[2]	1010	1010	1010	1010	1010	1010	1010
Number of groups			174	174	174	174	174
F	7.34	6.14	2.49				
Prob > F	0.0000	0.0000	0.0107				
Wald chi[2]				63.09	64.60	181.82	188.93
Prob > chi[2]				0.0000	0.0000	0.0000	0.0000
Goodness of Fit (R^2)	0.1006	0.1107	0.0000	0.2181	0.2611		
legend	*$p<0.10$; **$p<0.05$;***$p<0.01$						

[1] Whereas t-values are provided for the models POLS, POLS(I), FE; z-values are provided for models RE, RE(I), GLS, GLS(I)

[2] Number of obs. denotes number of observations

Contrarily, Koh (2003) and Hsu and Koh (2005), who provide the motivation for the specification of this model, document the statistically significant presence of a concave association between discretionary accruals and institutional ownership. Hsu and Koh (2005) emphasize that the investigated relationship is context dependent and is

not documented to be systematic across all firms. Their findings provide evidence of a nonlinear relationship in the case of income increasing discretionary accruals for all firms with positive discretionary accruals, for all firms with nondiscretionary earnings below prior year earnings, and for firms with nondiscretionary earnings above zero. Additionally, the same association is accepted in the case of income decreasing discretionary accruals for all firms with negative discretionary accruals and for all firms with nondiscretionary earnings below prior year earnings. Contradiction as to the findings of the present study and these two other studies demonstrate the significance of certain country and firm specific factors regarding corporate governance practices and associated external control mechanisms in the determination of the function of the relationship between earnings management and institutional ownership.

The control variables that are displayed to be statistically significant are LNASST, LEVR, ROA, LOSS, CFOASST, and CASHR with the levels and signs of their significances being in line with those of the previous model (z-value = -2.53, $p<0.05$; z-value = 7.95, $p<0.01$; z-value = 7.93, $p<0.01$; z-value = 2.01, $p<0.05$; z-value = -9.04, $p<0.01$, z-value = -9.07, $p<0.01$; z-value = 3.52 $p<0.01$, respectively). High quality auditing, which is proxied by a dummy variable standing for being audited by one of the Big Four Auditors, is not found to have any influence on managerial incentives of earnings management. Since the reasoning and theoretical background associated with the results concerning the control variables are provided in the subsections referring to the selection of the variables and the findings of the 1st Model, no additional detail is provided in this subsection. It is noteworthy to emphasize that other studies in literature with similar findings can also be found in the aforementioned subsections.

5.3.2.3. The Results of Panel Data Analysis for the 3rd Model

The results of the 3rd model that probes the link between institutional ownership and earnings management with an emphasis on institutional owners' geographic origin are displayed in Table 5.9 below. It has to be noted that interpretation of findings are based on the model MGLS to maintain consistency throughout the study, which is also emphasized in the evaluation of prior models.

Classification of institutional investors as being domestic or foreign produces results in accordance with the 1st model in that monitoring role of institutional investors is accepted in terms of both domestic and foreign investors denoted by DMINST and FRINST (z-value = -2.11, $p<0.05$; z-value = -2.64, $p<0.01$, respectively). Therefore, segregation of institutional shareholders does not allow us to accept the existence of short-termism within the Turkish context even when being domestic or foreign is incorporated into the model. However, it is important to emphasize the slightly more significant and higher coefficient of foreign institutional owners in comparison to domestic ones.

Gillan and Starks (2003) consistently argue that it is mostly foreign institutional investors who play significant roles in bringing about change in corporate governance systems. The same argument is also put forth by Lel (2013) in that significant portion of corporate shares that are held by foreign institutional investors adds to severity of financial institutions' cross-border equity investments in demonstrating a more active stance in firms' governance environment. Ferreira and Matos (2008) assume that large ownership stakes held by foreign and independent institutions enhance firm value through monitoring mainly by two channels. The first one, which refers to direct monitoring, represents exercising voice to corporate management in the attainment of shareholder interests. The second channel, which is referred to as indirect monitoring, is related to the impact of potential collective divesture of shares by institutions and accompanying rise in the firms' cost of capital. The documented proclivity of foreign and independent institutions in monitoring corporate management is justified by Ferreira and Matos (2008, pp. 28) by the greater pressure they can exert as a result of fewer business relations they can jeopardize with the investee firms. Aggarwal et al. (2011) also evidence the crucial role foreign institutions and institutions originating from countries with strong shareholder protection play in attaining the improvement of corporate governance practices. The results of their study demonstrate that international portfolio investments by institutional investors is associated with enhanced monitoring leading to more effective corporate governance practices.

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Table 5.9

The Results of Panel Data Analysis for the 3rd Model

Dependent Variable : ABSDAC							
Explanatory and Control Variables	Estimated coefficients (t-value or z-value)[1]						
	MPOLS	**MPOLS(I)**	**MFE**	**MRE**	**MRE(I)**	**MGLS**	**MGLS(I)**
DMINST	-0.0170	-0.0102	0.0283	-0.0126	-0.0068	-0.0203	-0.0159
	(-1.10)	(-0.66)	(0.89)	(-0.75)	(-0.41)	(-2.11)**	(-1.66)*
FRINST	-0.0218	-0.0170	0.0202	-0.0204	-0.0160	-0.0219	-0.0185
	(-1.63)	(-1.28)	(0.76)	(-1.56)	(-1.26)	(-2.64)***	(-2.22)**
LNASST	-0.0060	-0.0060	0.0001	-0.0064	-0.0062	-0.0040	-0.0040
	(-2.28)**	(-2.27)**	(0.01)	(-2.26)**	(-2.18)**	(-2.36)**	(-2.38)**
LEVR	0.0842	0.0788	0.0876	0.0837	0.0790	0.0821	0.0830
	(4.79)***	(4.55)***	(2.50)**	(4.78)***	(4.69)***	(8.01)***	(8.01)***
ROA	0.3615	0.3691	0.3329	0.3546	0.3623	0.2807	0.2875
	(3.52)***	(3.64)***	(2.96)***	(3.47)***	(3.58)***	(7.89)***	(8.05)***
AUDQ	-0.0072	-0.0070	0.0361	-0.0041	-0.0042	-0.0012	-0.0020
	(-0.96)	(-0.95)	(2.44)**	(-0.50)	(-0.52)	(-0.28)	(-0.48)
LOSS	0.0185	0.0176	0.0161	0.0180	0.0174	0.0126	0.0106
	(1.61)	(1.61)	(1.28)	(1.48)	(1.50)	(2.11)**	(1.76)*
CFOASST	-0.2052	-0.2055	-0.1978	-0.2052	-0.2054	-0.2162	-0.2232
	(-2.78)***	(-2.83)***	(-2.65)***	(-2.98)***	(-3.00)***	(-9.07)***	(-9.39)***
CASHR	0.0066	0.0048	0.0020	0.0065	0.0049	0.0105	0.0096
	(1.26)	(0.92)	(0.23)	(1.19)	(0.91)	(3.50)***	(3.22)***
INDUSTRY	No	Yes	No	No	Yes	No	Yes
constant	0.1753	0.1971	0.0211	0.1824	-0.0306	0.1214	0.1302
	(3.75)***	(3.90)***	(0.08)	(3.53)***	(-1.57)	(3.89)***	(4.02)***
Number of obs.[2]	1010	1010	1010	1010	1010	1010	1010
Number of groups			174	174	174	174	174
F	7.43	6.21	2.57				
Prob > F	0.0000	0.0000	0.0085				
Wald chi^2				64.78	66.26	180.57	188.24
Prob > chi^2				0.0000	0.0000	0.0000	0.0000
Goodness of Fit (R^2)	0.1005	0.1109	0.0001	0.2169	0.2622		
legend	*p<0.10; **p<0.05; ***p<0.01						

[1] Whereas t-values are provided for the models POLS, POLS(I), FE; z-values are provided for models RE, RE(I), GLS, GLS(I)

[2] Number of obs. denotes number of observations

Consequently, our findings are consistent with the above stated studies in that besides the monitoring role undertaken by both groups of institutional investors, foreign ones are found to slightly exert more pressure on managers; thereby, mitigating their discretion in accruals management. Geographical proximity and potential advantages domestic institutions have in obtaining superior information about their investee firms can be regarded as justifications for the negative and significant influence domestic

institutions have on managerial flexibility besides the broader concept of already demonstrated monitoring hypothesis.

As depicted on Table 5.9 above, the results of the 3rd Model regarding the control variables, namely LNASST, LEVR, ROA, LOSS, CFOASST, and CASHR are consistent with those of previous models utilized in this study in terms of the levels and signs of their significances (z-value = -2.36, p<0.05; z-value = 8.01, p<0.01; z-value = 7.89, p<0.01; z-value = 2.11, p<0.05, z-value = -9.07, p<0.01; z-value = 3.50, p<0.01, respectively). The only insignificant variable is again determined to be the control variable AUDQ. Details with respect to other studies in literature that demonstrate similar findings and associated reasoning can be found in the subsections referring to the selection of the variables and the findings of the 1st Model.

5.3.2.4. The Results of Panel Data Analysis for the 4th Model

The 4th model investigates the influence of the dichotomous variable labelled as DMEDIAN on managerial flexibility in accruals management based on the assumption that substantial amount of share ownership influences the tendency of institutional owners to act as a corporate monitoring mechanism. Managers' utilization of discretionary accruals is argued to be reduced by large institutional shareholdings since institutional blockholders are assumed to be interested in long-run performance contrary to institutional non-blockholders, who tend to engage in frequent stock trading due to their interest in short-run performance (Chung, Firth and Kim, 2000; Cheng and Reitenga, 2009). In accordance with the prior models, the results of the model MGLS are utilized to interpret the outcomes of the current model specification to attain uniformity throughout the study as to the evaluation of findings.

The findings of the 4th model, which are displayed on Table 5.10 below, demonstrate the negative and significant influence of the explanatory variable DMEDIAN on ABSDAC in line with the predictions and assumptions stated before (z-value = -2.91, p<0.01). It has to be noted that the monitoring hypothesis, which is found to exist within the Turkish context as evidenced by the results of the prior models, is also accepted in the current model when a dummy variable capturing the influence of

substantial ownership by institutional investors is incorporated into the model specification. Cheng and Reitenga (2009) provide similar evidence in that institutional nonblockholders are found to exert pressure on management to increase earnings on the condition that earnings pressure is not strong. They also evidence that active blockholders act as corporate monitors when a strong pressure to increase earnings exists. Contrarily, Chung, Firth and Kim (2002) document insignificant results with respect to the relationship between substantial institutional owner stakes and signed discretionary accruals when managers lack incentives to increase or decrease reported profit.

Table 5.10
The Results of Panel Data Analysis for the 4th Model

Dependent Variable : ABSDAC							
Explanatory and Control Variables	**Estimated coefficients (t-value or z-value)[1]**						
	MPOLS	**MPOLS(I)**	**MFE**	**MRE**	**MRE(I)**	**MGLS**	**MGLS(I)**
DMEDIAN	-0.0102	-0.0067	0.0097	-0.0072	-0.0045	-0.0120	-0.0097
	(-1.46)	(-0.97)	(0.72)	(-0.95)	(-0.60)	(-2.91)***	(-2.36)**
LNASST	-0.0069	-0.0068	0.0007	-0.0075	-0.0072	-0.0048	-0.0047
	(-2.81)***	(-2.78)***	(0.05)	(-2.84)***	(-2.70)***	(-3.15)***	(-3.11)***
LEVR	0.0833	0.0780	0.0873	0.0829	0.0782	0.0814	0.0822
	(4.73)***	(4.50)***	(2.48)**	(4.74)***	(4.67)***	(7.97)***	(7.97)***
ROA	0.3606	0.3678	0.3315	0.3531	0.3606	0.2808	0.2863
	(3.51)***	(3.63)***	(2.98)***	(3.46)***	(3.56)***	(7.88)***	(8.02)***
AUDQ	-0.0083	-0.0080	0.0357	-0.0053	-0.0052	-0.0024	-0.0031
	(-1.14)	(-1.10)	(2.41)**	(-0.65)	(-0.65)	(-0.58)	(-0.77)
LOSS	0.0181	0.0173	0.0158	0.0176	0.0171	0.0124	0.0103
	(1.58)	(1.59)	(1.27)	(1.45)	(1.48)	(2.08)**	(1.71)*
CFOASST	-0.2061	-0.2062	-0.1964	-0.2064	-0.2063	-0.2167	-0.2230
	(-2.78)***	(-2.83)***	(-2.66)***	(-2.99)***	(-3.01)***	(-9.10)***	(-9.40)***
CASHR	0.0066	0.0048	0.0017	0.0065	0.0049	0.0104	0.0096
	(1.27)	(0.92)	(0.19)	(1.20)	(0.92)	(3.48)***	(3.22)***
INDUSTRY	No	Yes	No	No	Yes	No	Yes
constant	0.1912	0.2121	0.0149	0.2015	0.2229	0.1363	0.1434
	(4.50)***	(4.58)***	(0.06)	(4.31)***	(4.32)***	(-4.89)***	(4.92)***
Number of obs.[2]	1010	1010	1010	1010	1010	1010	1010
Number of groups			174	174	174	174	174
F	8.29	6.74	2.86				
Prob > F	0.0000	0.0000	0.0052				
Wald chi^2				61.14	63.44	181.66	188.23
Prob > chi^2				0.0000	0.0000	0.0000	0.0000
Goodness of Fit (R^2)	0.1001	0.1104	0.0005	0.2184	0.2627		
legend	*p<0.10; **p<0.05;***p<0.01						

[1] Whereas t-values are provided for the models POLS, POLS(I), FE; z-values are provided for models RE, RE(I), GLS, GLS(I)

[2] Number of obs. denotes number of observations

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The control variables denoted by LNASST, LEVR, ROA, LOSS, CFOASST, and CASHR are found to exert significant influence on ABSDAC in line with the predictions and results of the prior models (z-value = -3.15, $p<0.01$; z-value = 7.97, $p<0.01$; z-value = 7.88, $p<0.01$; z-value = 2.08, $p<0.05$, z-value = -9.10, $p<0.01$; z-value = 3.48, $p<0.01$, respectively). The control variable AUDQ is again found to exert no significant influence on proclivity of managers to undertake earnings management practices in conformity with the above documented models. Details with respect to the reasoning and prior empirical studies with similar outcomes regarding the control variables can be found in the subsections related to the selection of the variables and the findings of the 1st Model.

5.3.2.5. The Results of Panel Data Analysis for the 5th Model

The classification scheme provided by ISE Settlement and Custody Bank together with MKK is utilized in the 5th model to investigate the influence of different types of institutional investors on the proclivity of managers to increase or decrease reported profits. The breakdown of institutional investors based on various attributes of trading patterns has also been utilized by previous other studies (Eng, 1995; Bushee, 1997; Eng and Shackell, 2001; Cox, Brammer and Millington, 2004; Cheng and Reitenga, 2009). Consistent with the prior models, the relationship between institutional investor types and the practice of earnings management are interpreted according to the findings of the model MGLS, which are displayed on Table 5.11 below.

Table 5.11

The Results of Panel Data Analysis for the 5th Model

Dependent Variable : ABSDAC						
Estimated coefficients (t-value or z-value)[1]						
Variables	**MPOLS**	**MPOLS(I)**	**MFE**	**MRE**	**MRE(I)**	**MGLS**	**MGLS(I)**
DMFND	-0.2202	-0.2319	-0.3725	-0.2487	-0.2541	-0.2301	-0.2376
	(-1.91)*	(-1.94)*	(-1.63)	(-1.78)*	(-1.75)*	(-2.59)***	(-2.71)***
DMCORP	-0.0147	-0.0084	0.0317	-0.0102	-0.0048	-0.0197	-0.0161
	(-0.94)	(-0.54)	(1.03)	(-0.61)	(-0.29)	(-2.01)**	(-1.66)*
DMTRUST	-0.0336	-0.0069	0.2415	0.0064	0.0241	-0.1618	-0.1949
	(-0.10)	(-0.02)	(0.64)	(0.02)	(0.07)	(-0.57)	(-0.71)
DMOTHR	-0.1851	-0.1493	-0.0574	-0.1693	-0.1396	-0.1077	-0.0856
	(-3.53)***	(-2.86)***	(-0.65)	(-3.42)***	(-2.85)***	(-1.97)**	(-1.56)
FRFND	-0.0124	-0.0071	0.0223	-0.0116	-0.0070	-0.0059	-0.0044
	(-0.61)	(-0.36)	(0.63)	(-0.61)	(-0.39)	(-0.46)	(-0.35)
FRCORP	-0.0323	-0.0277	0.0173	-0.0306	-0.0264	-0.0342	-0.0313
	(-2.22)**	(-1.91)*	(0.57)	(-2.11)**	(-1.77)*	(-3.60)***	(-3.29)***
FROTHR	-0.0195	-0.0049	0.0538	-0.0192	-0.0062	-0.0210	-0.0148
	(-0.32)	(-0.08)	(1.11)	(-0.81)	(-0.25)	(-0.39)	(-0.27)
LNASST	-0.0056	-0.0055	0.0019	-0.0060	-0.0057	-0.0036	-0.0035
	(-2.05)**	(-2.02)**	(0.14)	(-2.04)**	(-1.95)*	(-2.07)**	(-2.05)**
LEVR	0.0823	0.0772	0.0853	0.0819	0.0774	0.0808	0.0801
	(4.64)***	(4.41)***	(2.35)**	(4.60)***	(4.49)***	(7.81)***	(7.79)***
ROA	0.3586	0.3669	0.3304	0.3515	0.3598	0.2776	0.2843
	(3.46)***	(3.58)***	(2.91)***	(3.41)***	(3.51)***	(7.70)***	(7.87)***
AUDQ	-0.0052	-0.0052	0.0384	-0.0021	-0.0023	-0.0009	-0.0016
	(-0.69)	(-0.70)	(2.56)**	(-0.25)	(-0.29)	(-0.22)	(-0.40)
LOSS	0.0182	0.0175	0.0149	0.0174	0.0170	0.0127	0.0107
	(1.58)	(1.59)	(1.16)	(1.42)	(1.45)	(2.11)**	(1.77)*
CFOASST	-0.2057	-0.2056	-0.1942	-0.2049	-0.2048	-0.2189	-0.2246
	(-2.79)***	(-2.84)***	(-2.59)**	(-2.98)***	(-2.99)***	(-9.14)***	(-9.40)***
CASHR	0.0066	0.0047	0.0019	0.0064	0.0048	0.011	0.0098
	(1.24)	(0.90)	(0.21)	(1.16)	(0.88)	(3.63)***	(3.24)***
INDUSTRY	No	Yes	No	No	Yes	No	Yes
constant	0.1714	0.1902	-0.0082	0.1766	0.1993	0.1177	0.1265
	(3.55)***	(3.66)***	(-0.03)	(3.38)***	(3.54)***	(3.68)***	(3.82)***
Number of obs.[2]	1010	1010	1010	1010	1010	1010	1010
Number of groups			174	174	174	174	174
F	5.95	5.21	2.22				
Prob > F	0.0000	0.0000	0.0089				
Wald chi^2				88.18	91.75	198.95	207.53
Prob > chi^2				0.0000	0.0000	0.0000	0.0000
Goodness of Fit (R^2)	0.1066	0.1161	0.0002	0.2322	0.2733		
legend	*p<0.10; **p<0.05;***p<0.01						

[1] Whereas t-values are provided for the models POLS, POLS(I), FE; z-values are provided for models RE, RE(I), GLS, GLS(I)

[2] Number of obs. denotes number of observations

As can be seen by the results of the current analysis, notable differences as to the significance and degree of institutional investor influence on discretionary earnings management exist among different types of institutions. The explanatory variables labelled as DMFND, DMCORP, DMOTHR, and FRCORP are found to be negatively and significantly associated with the dependent variable ABSDAC (z-value = -2.59, p<0.01; z-value = -2.01, p<0.05; z-value = -1.97, p<0.05; z-value = -3.062, p<0.01, respectively). As the categorical breakdown demonstrates, greatest influence is exerted by domestic investment funds including domestic mutual funds and private pension plans. Additionally; domestic banks, financial intermediaries and corporations, which are denoted by the explanatory variable DMCORP, are found to exert the least amount of influence. This relatively inactive role undertaken by these types of investors can be explained by the associated business relationships they have to engage in with the investee firms. Consequently, this model is found to provide evidence in line with the prior analyses in that institutional investors are still displayed to act as an external control mechanism for the practice of earnings management even when data set is segregated according to certain ownership types.

In accordance with the prior empirical models, the current model evidences the control variables labelled as LNASST, LEVR, ROA, LOSS, CFOASST, and CASHR to be significantly related to the dependent variable ABSDAC with predicted signs and similar degrees of influence as to their coefficients (z-value = -2.07, p<0.05; z-value = 7.81, p<0.01; z-value = 7.70, p<0.01; z-value = 2.11, p<0.05, z-value = -9.14, p<0.01; z-value = 3.63, p<0.01, respectively). The control variable denoted by AUDQ is again documented to be insignificant with respect to its influence on the absolute value of discretionary accruals. Associated reasoning and other studies in literature evidencing similar results with respect to the selected control variables of the current study are provided in the prior subsections.

5.3.2.6. The Results of Panel Data Analysis for the 6th Model

The potential presence of differences among institutional investors based on their investment horizons and types of relationships they engage in with the investee firms is probed in the 6th model, which employs explanatory variables labeled as

LNGINST and SHRTINST. Whereas the first variable represents institutional investors with long-term orientation, the latter proxies those that are oriented towards short-run objectives with the adaption of the classification schemes provided by Brickley, Lease and Smith (1988), Cox, Brammer and Millington (2004), and Cheng and Reitenga (2009) to the Turkish context. Interpretation of the outcomes of this model are also based on the findings of model MGLS in consistency with all other models of the study.

As can be seen on Table 5.12 below, the explanatory variables denoted by LNGINST and SHRTINST are negatively and significantly associated with the dependent variable ABSDAC (z-value = -1.92, p<0.10; z-value = -2.87, p<0.01). Therefore, categorizing institutional investors as being long- or short-term oriented results in findings that are in conformity with the 1st model in that institutional owners are demonstrated to act as an external control mechanism without regard to their investment horizons. However, it has to be noted that LNGINST exerts a slightly more strongly pronounced influence on the absolute value of discretionary accruals than SHRTINST. Even though more strongly pronounced by long-term oriented institutional owners, both categories are found to curtail accounting discretion in managing reported earnings. These results also provide evidence for the rejection of managerial myopia induced by institutional investors even when investment horizons and business ties are taken into consideration within the Turkish context.

Table 5.12

The Results of Panel Data Analysis for the 6th Model

Dependent Variable : ABSDAC							
Explanatory and Control Variables	**Estimated coefficients (t-value or z-value)[1]**						
	MPOLS	**MPOLS(I)**	**MFE**	**MRE**	**MRE(I)**	**MGLS**	**MGLS(I)**
LNGINST	-0.1122	-0.0886	0.0098	-0.0988	-0.0794	-0.0830	-0.0682
	(-2.11)**	(-1.69)*	(0.17)	(-1.81)*	(-1.53)	(-1.92)*	(-1.60)
SHRTINST	-0.0189	-0.0137	0.0246	-0.0164	-0.0118	-0.0208	-0.0173
	(-1.63)	(-1.20)	(0.97)	(-1.44)	(-1.07)	(-2.81)***	(-2.32)**
LNASST	-0.0063	-0.0063	0.0003	-0.0068	-0.0066	-0.0040	-0.0041
	(-2.53)**	(-2.53)**	(0.03)	(-2.51)**	(-2.43)**	(-2.48)**	(-2.55)**
LEVR	0.0839	0.0786	0.0883	0.0834	0.0787	0.0820	0.0827
	(4.78)***	(4.54)***	(2.48)**	(4.81)***	(4.72)***	(8.00)***	(8.01)***
ROA	0.3549	0.3633	0.3308	0.3484	0.3567	0.2753	0.2821
	(3.44)***	(3.56)***	(2.93)***	(3.40)***	(3.50)***	(7.69)***	(7.87)***
AUDQ	-0.0067	-0.0066	0.0359	-0.0038	-0.0040	-0.0010	-0.0018
	(-0.88)	(-0.89)	(2.41)**	(-0.47)	(-0.50)	(-0.24)	(-0.43)
LOSS	0.0181	0.0173	0.0159	0.0175	0.0170	0.0126	0.0107
	(1.58)	(1.58)	(1.25)	(1.44)	(1.46)	(2.10)**	(1.76)*
CFOASST	-0.2059	-0.2060	-0.1978	-0.2059	-0.2059	-0.2185	-0.2245
	(-2.80)***	(-2.84)***	(-2.65)***	(-3.00)***	(-3.01)***	(-9.17)***	(-9.45)***
CASHR	0.0068	0.0050	0.0019	0.0060	0.0051	0.0110	0.0101
	(1.29)	(0.95)	(0.22)	(1.21)	(0.93)	(3.69)***	(3.38)***
INDUSTRY	No	Yes	No	No	Yes	No	Yes
constant	0.1819	0.2035	0.0168	0.1903	0.2126	0.1228	0.1324
	(4.16)***	(4.24)***	(0.06)	(3.95)***	(3.98)***	(4.12)***	(4.26)***
Number of obs.[2]	1010	1010	1010	1010	1010	1010	1010
Number of groups			174	174	174	174	174
F	7.77	6.47	2.55				
Prob > F	0.0000	0.0000	0.0089	0.0000			
Wald chi[2]				65.57	67.48	182.95	189.80
Prob > chi[2]					0.0000	0.0000	0.0000
Goodness of Fit (R[2])	0.1023	0.1119	0.0000	0.2248	0.2666		
legend	*p<0.10; **p<0.05;***p<0.01						

[1] Whereas t-values are provided for the models POLS, POLS(I), FE; z-values are provided for models RE, RE(I), GLS, GLS(I)

[2] Number of obs. denotes number of observations

In accordance with the predictions and findings of the previous models, the control variables labeled as LNASST, LEVR, ROA, LOSS, CFOASST, and CASHR are found to have significant coefficients; thereby, influencing the selected proxy for earnings management in the expected directions (z-value = -2.48, p<0.05; z-value = 8.00, p<0.01; z-value = 7.69, p<0.01; z-value = 2.10, p<0.05, z-value = -9.17, p<0.01; z-value = 3.69, p<0.01, respectively). Consistently, managerial incentives for adjusting reported earnings is not documented to be affected by high quality auditing as displayed

by the insignificant coefficient of the dummy variable AUDQ. Since the findings of the current model are in line with those of the previous model specifications, no additional justifications and explanations with respect to studies demonstrating similar findings and associated theoretical issues are provided.

5.3.2.7. The Results of Panel Data Analysis for the 7th Model

The 7th model probes the influence of geographic orientation on discretionary accruals management with a perspective on individual investors. Based on the reasoning provided in the subsections related to variable selection and model specifications, this model incorporates shareholdings by domestic and foreign individual investors rather than aggregate individual ownership. Conventionally, the findings are evaluated on the model MGLS in line with the interpretation of the prior models' outcomes.

The coefficient estimates, which would be produced on the condition that a model were constructed employing aggregate amount of individual shares instead of foreign shares, would be positive and significant evidencing the stimulating influence of individual investors on earnings management practice undertaken by managers. Therefore, it is appropriate to conclude that; whereas, institutional investors act as a control mechanism, individual investors do not demonstrate such a trait and induce managerial myopia. This finding is in conformity with all the previous empirical studies in literature provided in the subsections related to prior research and findings of the 1st model supporting the view that institutional ownership acts as a monitoring mechanism alleviating managerial incentives of earnings management relative to individual ownership. As emphasized by David and Kochhar (1996), the tendency of individual investors to engage in monitoring is reduced by lack of resources and incentives. Additionally, degree of investor sophistication and access to timely information can be considered as other factors for recognizing the practice of earnings management and taking any corrective action if appropriate (Balsam, Bartov and Marquardt, 2002).

Table 5.13

The Results of Panel Data Analysis for the 7th Model

Dependent Variable : ABSDAC							
Explanatory and Control Variables	**Estimated coefficients (t-value or z-value)[1]**						
	MPOLS	**MPOLS(I)**	**MFE**	**MRE**	**MRE(I)**	**MGLS**	**MGLS(I)**
DMIND	0.0201	0.0145	0.0242	0.0176	0.0127	0.02110	0.0174
	(1.74)*	(1.27)	(-0.95)	(1.56)	(1.15)	(2.85)***	(2.34)**
FRIND	-0.1489	-0.1514	-0.0568	-0.1480	-0.1491	-0.0207	0.0077
	(-1.70)*	(-1.70)*	(-0.26)	(-1.76)*	(-1.61)	(-0.30)	(-0.11)
LNASST	-0.0064	-0.0064	0.0003	-0.0069	-0.0068	-0.0042	-0.0042
	(-2.55)**	(-2.55)**	(0.02)	(-2.52)**	(-2.45)**	(-2.56)**	(-2.58)***
LEVR	0.0840	0.0785	0.0879	0.0834	0.0786	0.0819	0.0829
	(4.78)***	(4.53)***	(2.50)**	(4.81)***	(4.71)***	(8.00)***	(8.02)***
ROA	0.3651	0.3725	0.3320	0.3573	0.3649	0.2853	0.2907
	(3.55)***	(3.67)***	(2.98)***	(3.50)***	(3.60)***	(8.00)***	(8.12)***
AUDQ	-0.0069	-0.0068	0.0361	-0.0039	-0.0041	-0.0011	-0.0020
	(-0.92)	(-0.92)	(2.44)**	(-0.48)	(-0.51)	(-0.26)	(-0.49)
LOSS	0.0184	0.0176	0.0160	0.0178	0.0173	0.0133	0.0112
	(1.61)	(1.61)	(1.28)	(1.47)	(1.50)	(2.23)**	(1.85)*
CFOASST	-0.2027	-0.2029	-0.1974	-0.2030	-0.2032	-0.2147	-0.2222
	(-2.75)***	(-2.80)***	(-2.64)***	(-2.95)***	(-2.97)***	(-8.99)***	(-9.31)***
CASHR	0.0060	0.0042	0.0018	0.0060	0.0044	0.0103	0.0095
	(1.14)	(0.79)	(0.21)	(1.08)	(0.81)	(3.39)***	(3.13)***
INDUSTRY	No	Yes	No	No	Yes	No	Yes
constant	0.1646	0.1927	0.0417	0.1755	0.2045	0.1051	0.1167
	(3.27)***	(3.51)***	(0.16)	(3.22)***	(3.43)***	(3.06)***	(3.28)***
Number of obs.[2]	1010	1010	1010	1010	1010	1010	1010
Number of groups			174	174	174	174	174
F	7.48	6.24	2.51				
Prob > F	0.0000	0.0000	0.0100				
Wald chi[2]				65.53	68.23	181.73	188.86
Prob > chi[2]				0.0000	0.0000	0.0000	0.0000
Goodness of Fit (R[2])	0.1018	0.1121	0.0000	0.2241	0.2691		
legend	*p<0.10; **p<0.05;***p<0.01						

[1] Whereas t-values are provided for the models POLS, POLS(I), FE; z-values are provided for models RE, RE(I), GLS, GLS(I)

[2] Number of obs. denotes number of observations

Segregation of individual investors as being domestic and foreign facilitates the observation of any potential differences that may exist between these two types of investors in terms of their attitude towards flexibility in managing reported earnings. The findings with respect to the explanatory variables labelled as DMIND and FRIND denote that domestic individual investors are the ones that enhance discretionary earnings management (z-value = 2.85, p<0.01). The insignificant coefficient of FRIND evidences that foreign individual investors have no influence on earnings management

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unlike foreign institutional investors. The insignificance of the this variable can be explained by the small amount of ownership stakes held by this type of investors, which is demonstrated in the subsection related to descriptive statistics. Consequently, they are not considered to have sufficient percentage of shares to exert influence on managerial flexibility.

Consistent with the results of prior model specifications, the findings of the 7th model provide evidence for the significant influence of the control variables labelled as LNASST, LEVR, ROA, LOSS, CFOASST, and CASHR on the absolute value of discretionary accruals (z-value = -2.56, $p<0.05$; z-value = 8.00, $p<0.01$; z-value = 8.00, $p<0.01$; z-value = 2.23, $p<0.05$, z-value = -8.99, $p<0.01$; z-value = 3.39, $p<0.01$, respectively). The only control variable that is documented to be insignificant with respect to the relationship between types of individual ownership and earnings management is AUDQ showing that high quality auditing does not act as a factor curtailing managerial flexibility. The reasoning and theoretical background associated with the control variables can be found in prior subsections.

5.3.2.8. The Results of Panel Data Analysis for the 8th Model

Consistent with the 4th model, the current model investigates the influence of substantial institutional ownership on the absolute value of discretionary accruals by extending the prior analysis with the inclusion of specific dummy variables generated. As also emphasized in the prior subsection related to model construction, the additional variables labelled by CPFGMEDIAN and CGFPMEDIAN are employed in the model specification to control for managerial incentives associated with firm performance to increase or decrease reported earnings. As the model mainly investigates the impact of substantial institutional ownership on earnings management practice, managerial incentives are incorporated into the model as an interaction variable taking the level of institutional shareholding into account. Therefore, the model adapted to the Turkish context from the study of Chung, Firth and Kim (2002), facilitates the understanding of whether the monitoring role exerted by substantial institutional ownership is affected by the presence of managerial incentives associated with the financial performance of the firm. As the reasoning and theoretical background associated with the generation of the

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above stated control variables are provided in the subsection related to variable selection, this subsection focuses on the findings of the model displayed on Table 5.14 below based on the model MGLS in line with the previous analyses.

Table 5.14

The Results of Panel Data Analysis for the 8th Model

Dependent Variable : ABSDAC							
Explanatory and Control Variables	**Estimated coefficients (t-value or z-value)[1]**						
	MPOLS	**MPOLS(I)**	**MFE**	**MRE**	**MRE(I)**	**MGLS**	**MGLS(I)**
DMEDIAN	-0.0137	-0.0088	0.0051	-0.0101	-0.0061	-0.0116	-0.0093
	(1.64)	(-1.08)	(0.31)	(-1.09)	(-0.69)	(-2.48)**	(-1.97)**
CPFGMEDIAN	0.0355	0.0348	0.0258	0.0325	0.0320	0.0268	0.0272
	(2.16)**	(2.16)**	(1.67)*	(2.09)**	(2.08)**	(3.46)***	(3.56)***
CGFPMEDIAN	0.0048	0.0032	0.0062	0.0056	0.0043	-0.0019	-0.0031
	(0.41)	(0.28)	(0.43)	(0.46)	(0.36)	(-0.28)	(-0.46)
LNASST	-0.0031	-0.0029	0.0110	-0.0037	-0.0033	-0.0025	-0.0028
	(-1.25)	(-1.13)	(0.67)	(-1.34)	(-1.12)	(-1.65)*	(-1.82)*
LEVR	0.0521	0.0457	0.0275	0.0503	0.0448	0.0402	0.0401
	(2.64)***	(2.26)**	(0.65)	(2.35)**	(2.08)**	(4.13)***	(4.12)***
AUDQ	-0.0050	-0.0050	0.0495	-0.0009	-0.0011	-0.0007	-0.0008
	(-0.58)	(-0.59)	(2.66)***	(-0.10)	(-0.12)	(-0.16)	(-0.19)
CFOASST	-0.0855	-0.0818	-0.1213	-0.1008	-0.0970	-0.0869	-0.0826
	(-1.22)	(-1.19)	(-1.55)	(-1.47)	(-1.43)	(-3.91)***	(-3.72)***
CASHR	0.0131	0.0109	0.0068	0.0130	0.0112	0.0150	0.0132
	(2.23)**	(1.92)*	(0.69)	(2.21)**	(1.92)*	(4.74)***	(4.20)***
INDUSTRY	No	Yes	No	No	Yes	No	Yes
constant	0.1379	0.1514	-0.1529	0.1475	0.1764	0.1124	0.1328
	(3.15)***	(3.27)***	(-0.49)	(3.05)***	(3.17)***	(3.96)***	(4.28)***
Number of obs.[2]	843	843	843	843	843	843	843
Number of groups			174	174	174	174	174
F	4.62	4.18	1.74				
Prob > F	0.0000	0.0000	0.0929				
Wald chi²				28.25	31.54	89.86	90.75
Prob > chi²				0.0004	0.0005	0.0000	0.0000
Goodness of Fit (R²)	0.0454	0.0566	0.0328	0.1029	0.1396		
legend	*p<0.10; **p<0.05;***p<0.01						

[1] Whereas t-values are provided for the models POLS, POLS(I), FE; z-values are provided for models RE, RE(I), GLS, GLS(I)

[2] Number of obs. denotes number of observations

Consistent with the monitoring hypothesis and results of the 4th model, the coefficient of the explanatory variable DMEDIAN is found to be negative and significant (z-value = -2.48, p<0.05). Thus, presence of large institutional shareholdings is displayed to attenuate managerial use of discretionary accruals in line with the

findings of prior models specified. However, the positive and significant coefficient of the control variable CPFGMEDIAN is contrary to the findings of Chung, Kim and Firth (2002), who provide evidence in favour of the prediction that substantial institutional shareholdings reduce the tendency of managers to use income increasing discretionary accruals in the presence of incentives to boost reported earnings (z-value = 3.46, p<0.01). Thus, incorporation of managerial incentives associated with the financial performance of the firm is demonstrated to overwhelm the active monitoring role exerted by substantial institutional ownership within the Turkish context in the case of current poor and future good performance. On the other hand, the statistically insignificant coefficient of CGFPMEDIAN provides evidence that neither managerial incentives nor substantial institutional shareholdings exert any influence on the magnitude of discretionary accruals in the case of current good and future poor performance.

The findings of the 8th model regarding the other control variables display the significant influence of the control variables labelled as LNASST, LEVR, CFOASST, and CASHR on the absolute value of discretionary accruals (z-value = -1.65, p<0.10; z-value = 4.13, p<0.01; z-value = -3.91, p<0.01; z-value = 4.74, p<0.01, respectively). These results are in conformity with the prior models in terms of signs of the coefficients though minor differences exist as to their size. Accordingly; the predictions, explanations, and documented studies with similar findings are binding for this model as well. It has to be noted that the only control variable that does not exert any significant influence on ABSDAC is found to be AUDQ, which is evidenced by all other models of the study specified with panel data analysis.

5.3.3. The Issue of Endogeneity: Clientele versus Monitoring Effects of Institutional Investors

Numerous models have been applied in the thesis to provide a multidimensional evaluation of the association between institutional ownership and firms' earnings management strategies with the major empirical findings supporting the negative relationship between the selected proxy of earnings management and the main explanatory variable, which is the level of institutional stockholding. However, it is not

straightforward to interpret this relationship, as it is difficult to differentiate between the two main views that may be drivers of the documented results without additional analysis. Whereas the first one is consistent with the monitoring role of institutional shareholders in mitigating discretionary choices of managers regarding corporate earnings, the second one adheres to the clientele effect leading institutional investors to disproportionately invest in firms with certain characteristics. Thus, what is inferred from the analyses can be affected by the existence of certain exogenous factors that may constitute drivers of institutional investment in that firms that display a low level of accrual management may attract institutional investors together with various other firm characteristics, which will be described below. The ambiguity that occurs due to the issue of endogeneity has to be dealt with to differentiate between a 'causal relationship' and a 'clientele effect' in line with the studies of Wahal and McConnell (2002), Mitra (2002), and Mitra and Cready (2005).

Econometric problems may arise in empirical studies due the issue of endogeneity. On the condition that an explanatory variable x_j is correlated with the disturbance term u due to any reason, x_j is said to be an endogenous variable. Contrarily, if x_j is uncorrelated with $u,$ it is said to be exogenous. However, because the error term is unobservable, it is not possible to conduct a test that evaluates the correlation of a selected variable with the error term. Therefore, it can never be statistically guaranteed that the issue of endogeneity has been dealt with (Roberts and Whited, 2012).

Three major ways are defined in econometrics as constituting the reasons for endogeneity; namely, omitted variables, measurement error, and simultaneity. When a key variable is omitted from the model because of data unavailability or some other reason, some of the explanatory variables and the error term can become correlated. The second problem; namely, measurement error occurs when only an imperfect measure of a particular variable can be obtained. Lastly, simultaneity arises when at least one of the explanatory variables is jointly determined with the dependent variable, in which case simultaneous equations have to be estimated. Even though three sources have been

identified for the issue of endogeneity, it is not always possible to determine the specific source in every case (Wooldridge, 2009; Wooldridge, 2002).

This part of the empirical analysis deals with the kind of endogeneity that may arise between the dependent variable and selected explanatory variable causing a simultaneous equation bias. Evaluation of results without giving emphasis to the existence of certain exogenous variables attracting institutional shareholders to the firm may result in misleading conclusions about the significant and negative finding between the above stated main variables of interest. Because endogeneity is detrimental to the strength of the tests associated with the causal nature of the hypothesis generated to evaluate the monitoring role of institutional owners, a set of factors have been identified as determinants of institutional ownership concentration in the firm based on previous empirical studies.

According to the study of Demsetz and Lehn (1985), a firm's ownership structure, which is evaluated on the basis of concentration and owner groups such as family, individuals, and institutions, can be affected by various factors such as firm size, degree of regulation, industrial classification, and profitability consistency. Other studies that demonstrate the indicators of institutional ownership level can be named as those of Bhojraj and Sengupta (2003), Bennett, Sias and Starks (2003), and Bushee, Carter and Gerakos (2009).

Numerous studies utilize log of market value of common equity or log of total assets as a determinant of institutional investment decision since larger firms are regarded to be preferred by institutions due to prudent person standards (O'Brien and Bhushan, 1990; Bushee and Noe, 2000; Ajinkya, Bhojraj and Sengupta, 2005; Bushee, 2001; Bhojraj and Sengupta (2003), Bennett, Sias and Starks (2003); Mitra and Cready, 2005). Based on the results provided by Potter (1992), institutions have a tendency to invest in larger firms associated with the existence of an information rich environment. Dividend distribution policies are also considered as a significant factor in that firms that distribute dividends are preferred by institutions (Cready, 1994; Bushee, 2001; Mitra and Cready, 2005; Dahlquist and Robertsson, 2001). Furthermore, dividend yield is considered as a proxy for firm performance, thus, a positive link is expected between

the two variables (Ajinkya, Bhojraj and Sengupta 2005). Leverage ratio is employed to capture the impact of risk preferences of the institutional investors in line with the studies of Bushee (2001), Ajinkya, Bhojraj and Sengupta (2005), Bushee and Noe (2000); Bhattacharya and Graham (2009). The ratio of market value to book value of equity or just the opposite is used to control for the association between firm's being either a growth and value one and associated investor preferences (Gompers and Metrick, 2001; Dahlquist and Robertsson, 2001; Ajinkya, Bhojraj and Sengupta, 2005). Furthermore, the degree of the firm's investment in R&D is also taken into account as a determinant of institutional investment and controlled by the proxy for R&D intensity, which is measured by the ratio of R&D expense to sales (Bushee, 2001). Elyasiani and Jia (2010) argue that an issue of endogeneity may exist between firm performance and institutional ownership in that; whereas, firm performance can be improved by institutional shareholding, institutional investors can be attracted by the firms with good performance. Accordingly, ROA is also included in the model as a decision criterion for investment to account for the financial performance differences among the firms. Finally, auditor quality is taken into consideration based on the study of Ajinkya, Bhojraj and Sengupta (2005).

Two-stage least squares (2SLS) regression based approach is applied to deal with the impact of clientele effect, which can influence the association between accounting flexibility and institutional ownership. Therefore, INST is regressed on firm-specific factors that attract institutional investors to the firm's shareholding structure in the first-stage panel data model, which can be demonstrated as in Equation 5.2 below:

$$INST_{it} = \beta_0 + \beta_1 LNMVE_{it} + \beta_2 LEVR_{it} + \beta_3 ROA_{it} + \beta_4 AUDQ_{it} + \beta_5 DIVYIELD_{it} + \beta_6 MVBV_{it} + \beta_7 RDSALES_{it} + \epsilon_{it}$$

(Eq. 5.2)

where;

$INST_{it}$ = The ratio of the number of shares that are held by institutional investors to total shares outstanding at year *t* for firm *i;*

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$LNMVE_{it}$ = Natural log of market value of equity in year t for firm i;

$LEVR_{it}$ = The ratio of total debt to total assets in year t for firm i;

ROA_{it} = Ratio of net income to total assets in year t for firm i;

$AUDQ_{it}$ = Dummy variable equal to unity if the firm i is being audited by one of the Big Four Auditors in year t, and otherwise equal to zero;

$DIVYIELD_{it}$ = The ratio of dividend per share to price per share in year t for firm i;

$MVBV_{it}$ = The ratio of market value of equity to book value of equity in year t for firm i;

$RDSALES_{it}$ = The ratio of net income to total assets in year t for firm i;

i = firm index;

t = year index for the years included in the estimation period for firm i;

ϵ_{it} = error term in year t for firm i;

The estimated intercept and coefficients from the first-stage regression are utilized to compute the value of PINST that proxies for predicted value of institutional ownership based on exogenous factors. Accordingly, the value of UNEXPINST is generated as the difference between the actual value of institutional ownership and predicted value of institutional ownership denoted by INST and PINST, respectively. The equation can be demonstrated as in Equation 5.3 below:

$$UNEXPINST_{it} = INST_{it} - PINST_{it}$$

(Eq. 5.3)

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To differentiate between the significance of monitoring and clientele effects on accrual management, the second stage panel data model is estimated as in Equation 5.4 below:

$$ABSDAC_{it} = \beta_0 + \beta_1 LNASST_{it} + \beta_2 LEVR_{it} + \beta_3 ROA_{it} + \beta_4 AUDQ_{it} + \beta_5 LOSS_{it} + \beta_6 CFOASST_{it} + \beta_7 CASHR_{it} + \beta_7 PINST_{it} + \beta_7 UNEXPINST_{it} + \epsilon_{it}$$

(Eq. 5.4)

where;

$PINST_{it}$ = Predicted value of institutional ownership estimated from the intercept and coefficients of Equation 5.2 in year *t* for firm *i;*

$UNEXPINST_{it}$ = Unexpected value of institutional ownership not determined by firm-specific exogenous factors in year *t* for firm *i;*

and the other variables are defined and denoted as before.

As can be seen in the second regression, PINST and UNEXPINST replace INST in Equation 4.10. It is important to note that; whereas, the results regarding PINST stands for institutional investment influenced by firm-specific factors other than ABSDAC, those regarding UNEXPINST stands for some part of the ABSDAC-driven institutional ownership. Therefore, these variables represent a causal relationship and a partial clientele effect, respectively. Importantly, these two generated variables should not be correlated as they proxy for different dimensions of institutional shareholding. Based on the methodology and reasoning provided by Mitra and Cready (2005), the coefficient of both PINST and UNEXPINT should be negative and significant depending on the monitoring hypothesis of institutional investment. Furthermore, detection of a negative coefficient of PINST eliminates the potential of INSTI to be influenced by ABSDAC making the researcher clearly conclude on the monitoring role

of institutional investors that mitigate earnings management activities of corporate managers.

However, the existence of the simultaneity problem has to be tested prior to the application of 2SLS since estimators produced by OLS will be consistent and efficient on the condition that there is no simultaneous equation. Therefore Hausman's simultaneity test, which is also referred to as Hausman test of endogeneity is utilized in order to indentify whether the explanatory variable is an endogenous regressor or not (Gujarati and Porter, 2009; Adkins and Hill, 2011).

The structural Equation 5.5 below describes the case where there is only one suspected endogenous variable, denoted by y_2, and where z_1 and z_2 are defined to be exogenous together with two additional exogenous variables not included in the equation, namely z_3 and z_4.

$$y_1 = \beta_0 + \beta_1 y_2 + \beta_2 z_1 + \beta_3 z_2 + u_1$$

(Eq. 5.5)

As suggested by Hausman (1979), OLS and 2SLS estimates should be compared to observe whether the differences among the estimates of the two models are significant. If the result of the test specifies that there is significant difference among the two estimates, y_2 is classified as being endogenous on the condition that z_j are exogenous.

It is suggested to utilize a regression based Hausman test as it can be applied to heteroskedastic data as well, which is not possible under the automatic 'contrast test' available in the software packages (Adkins and Hill, 2011). Thus, firstly the reduced form equation, which simply means writing an endogenous variable in terms of exogenous variables, is formed as can be seen by the Equation 5.6 below;

$$y_2 = \pi_0 + \pi_1 z_1 + \pi_2 z_2 + \pi_3 z_3 + \pi_4 z_4 + v_2$$

(Eq. 5.6)

The reduced form equation is estimated by OLS by regressing y_2 on all exogenous variables including those in the structural equation and the additional instrumental variables to obtain the residuals of the reduced form denoted by $\dot{v}_2$. Subsequently, the below artificial Equation 5.7 is estimated to employ the usual t-test for the significance of $\dot{v}_2$.

$$y_1 = \beta_0 + \beta_1 y_2 + \beta_2 z_1 + \beta_3 z_2 + \delta_1 \dot{v}_2 + error$$

(Eq. 5.7)

Thus, the hypothesis below is tested by using a t statistic:

$H_0 : \delta_1 = 0$ (no correlation between y_2 and u_1)

$H_1 : \delta_1 \neq 0$ (correlation between y_2 and u_1)

Overall, y_2 is endogenous if H_0 is rejected at a small significance level or if the coefficient of $\dot{v}_2$ is statistically different from zero (Wooldridge, 2009; Adkins and Hill, 2011).

Accordingly, the reduced form equation can be demonstrated as below;

$$
\begin{aligned}
INST_{it} \quad = \ & \beta_0 + \ \beta_1 LNASST_{it} + \ \beta_2 LEVR_{it} + \ \beta_3 ROA_{it} + \ \beta_4\, AUDQ_{it} + \\
& \beta_5\, LOSS_{it} + \ \beta_6 CFOASST_{it} \ + \beta_7 CASHR_{it} + \ \beta_8\, LNMVE_{it} + \\
& \beta_9\, DIVYIELD_{it} + \ \beta_{10} MVBV_{it} \ + \beta_{11} RDSALES_{it} + v_2
\end{aligned}
$$

(Eq. 5.8)

where;

the definitions of the selected variables are the same as before.

Adding the residuals of Equation 5.8, which is labeled by **RES,** as an additional regressor to the structural equation produces the below artificial Equation 5.9, to test the significance of this lastly added variable.

$$ABSDAC_{it} =$$

$$\beta_0 + \beta_1 LNASST_{it} + \beta_2 LEVR_{it} + \beta_3 ROA_{it} + \beta_4 AUDQ_{it} +$$
$$\beta_5 LOSS_{it} + \beta_6 CFOASST_{it} + \beta_7 CASHR_{it} + \beta_7 INST_{it} +$$
$$\beta_8 RES_{it} + \epsilon_{it}$$

(Eq. 5.9)

When the results of the regression based Hausman test of endogeneity are evaluated, it can be concluded that the structural form equation is not contaminated by the issue of endogeneity, as can be seen by the insignificant coefficient of the variable denoted by **RES** in Table 5.15 below.

Table 5.15

Results of Regression Based Hausman Test of Endogeneity

Dependent Variable : ABSDAC			
Explanatory and Control Variables	**Coefficient estimates**	**Standard errors**	**z-statistics**
LNASST	-0.0029	0.0049	-0.59
LEVR	0.0995	0.0071	14.02***
ROA	0.3721	0.0177	21.00***
AUDQ	0.0004	0.0039	0.11
LOSS	0.025	0.0029	8.53***
CFOASST	-0.1783	0.0147	-12.10***
CASHR	0.0086	0.0016	5.41***
INST	-0.0111	0.0059	-1.88*
RES	-0.0581	0.0442	-1.31
constant	0.1129	0.0792	1.43
Number of obs.[1]	982		
Number of groups	171		
Wald chi2(9)	2097.19		
Prob > chi2	0.0000		
legend	*p<0.10; **p<0.05; ***p<0.01		

[1]Number of obs. denotes number of observations

Even though the results of the overall analyses are not influenced by the issue of endogeneity, additional analyses, which enhance a 2SLS regression based approach, are still conducted to differentiate between the different impact of monitoring and

clientele effects of institutional shareholding on discretionary accruals and have an understanding of the dominating factor by evaluating the coefficients of the variables labeled as PINST and UNEXPINST. Accordingly, Table 5.16 below provides the results of the 2SLS regression based approach with respect to the reduced and full models. Whereas the first and second reduced models utilize PINST and UNEXPINST in isolation respectively, the full model utilizes both explanatory variables.

As can be seen by the findings of the reduced model 1, PINST has a negative and significant coefficient in the presence of the control variables that are utilized in the main model of the empirical part of the thesis (z-value = -2.32, p<0.05). As this variable represents factors attracting institutional investment to the firm other than firms' strategy regarding accrual management, this finding eliminates the possibility that ABSDAC is influencing PINST. Thus, the argument that institutional shareholding alleviates accounting discretion in managing accruals in valid. Therefore, this model provides support for a causal relationship between the main variables of interest.

The reduced model 2, which investigates the impact of a partial clientele affect by the utilization of the variable denoted by UNEXPINST standing for any potential ABSDAC-driven institutional investment, also demonstrates the negative and significant influence of the associated control variable (z-value = -1.81, p<0.10). Thus, it is appropriate to emphasize that institutions may be motivated to invest more (less) in firms with low (high) discretionary accrual management practices. This finding provides support for a partial clientele effect with the coefficient of UNEXPINST being less than that of PINST still demonstrating the dominance of the causal relationship.

The findings of the full model that concurrently employs PINST and UNEXPINST display the negative and significant influence of the associated explanatory variables on the absolute value of discretionary accruals (z-value = -2.11, p<0.05; z-value = -1.78, p<0.10, respectively). When the findings related to the coefficients of PINST and INST, which are reported on Table 5.7 above, are compared, PINST is documented to have a more robust negative relationship with ABSDAC than INST with the coefficients being -0.0493 and -0.0213, respectively. Thus, the monitoring role of institutional investors is found to be the dominant factor of the

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overall negative relationship between ABSDAC and INST in the main model of the thesis. Accordingly, only a partial influence can be attributed to the tendency of institutional investors to divert their portfolios to firms with lower accrual management practices. As the findings of the 2SLS analysis of institutional monitoring influence on earnings management are in conformity with the main analysis regarding the control variables, no further explanations as to their significance and associated signs of their coefficients are provided in the current empirical analysis.

Table 5.16

The Results of the Two-Stage Least Squares Analysis of Institutional Monitoring Influence on Earning Management

	Dependent Variable : ABSDAC								
Explanatory and Control Variables	**Reduced Model 1**			**Reduced Model 2**			**Full Model**		
	Coefficient estimates	**Standard errors**	**z-statistics**	**Coefficient estimates**	**Standard errors**	**z-statistics**	**Coefficient estimates**	**Standard errors**	**z-statistics**
LNASST	-0.0062	0.0021	-2.90***	-0.0100	0.0012	-8.11***	-0.0063	0.0022	-2.90***
LEVR	0.1007	0.0069	14.59***	0.0996	0.0066	15.12***	0.1018	0.0070	14.51***
ROA	0.3724	0.0183	20.31***	0.3614	0.0178	20.30***	0.3747	0.0181	20.73***
AUDQ	0.0020	0.0039	0.52	-0.0030	0.0033	-0.91	0.0014	0.0040	0.35
LOSS	0.0230	0.0030	7.65***	0.0245	0.0030	8.15***	0.0246	0.0029	8.46***
CFOASST	-0.1888	0.0136	-13.83***	-0.1817	0.0140	-12.92***	-0.1826	0.0139	-13.08***
CASHR	0.0091	0.0016	5.68***	0.0081	0.0016	5.19***	0.0088	0.0016	5.48***
PINST	-0.0527	0.0227	-2.32**				-0.0493	0.0234	-2.11**
UNEXPINST				-0.0109	0.0060	-1.81*	-0.0106	0.0059	-1.78*
constant	0.1700	0.0353	4.81***	0.2273	0.0235	9.65***	0.1699	0.0360	4.73***
Number of obs[1]	982			982			982		
Number of groups	171			171			171		
Wald chi^2(9)	1610.99			1862.00			2108.67		
Prob > chi^2	0.0000			0.0000			0.0000		
legend	**p<0.10; **p<0.05;***p<0.01*								

[1]Number of obs. denotes number of observations

6. CONCLUSION

This section provides an overview of the study and a summary of the research findings. The primary aim of the thesis can be emphasized as contributing to existing literature with respect to the relationship between opportunistic earnings management practices and the presence of institutional investors in the firms' ownership structure as a potential monitoring mechanism. Based on an extensive review of accounting and finance literature in the current topic, the existence of a significant group of shareholders has been revealed to act as a tool of corporate governance by curbing accounting discretion in managing earnings with recent empirical evidence from an emerging country, Turkey. This section also focuses on the study's implications to policy makers, accounting and finance professionals, and academicians together with any shortcomings as to the analyses and potential suggestions for future research.

The recent corporate scandals encountered at the end of the 20th and beginning of the 21th century add to the significance of the quality of financial reporting and reliable disclosure for the protection of corporate shareholders. Thus, earnings management practices undertaken by managers to engage in impression management and achieve specific objectives have become a hotly debated topic to be dealt with to regain the loss of investors' confidence in the integrity of financial reports. The resulting agency costs and associated conflict of interest that specifically occurs due to the mismatch between the goals and desires of the principle and the agent representing the owners and the managers of the firm are considered to be rigorously related to managerial discretion exercised in earnings management. Therefore, agency theory and associated corporate governance practices that alleviate agency costs arising from the separation of ownership and control are considered to act as the main elements of the conceptual framework for the hypotheses generated. The significant rise in the level of institutional ownership and accompanying degree of activism result in this specific class of investors' acting as an external control mechanism of corporate governance. Thus, concentration of shares in the hands of institutional owners is considered to mitigate agency costs associated with earnings management practices. Consequently, the current study is founded on the interrelation among the concepts of earnings management,

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institutional investors, and corporate governance based on the theoretical framework provided by agency theory.

This thesis generates significant theoretical and professional implications by demonstrating recent evidence regarding the link between a prominent ownership based control mechanism and earnings management with accompanying issues as to the quality of reported earnings. The implications for theory are novel to existing literature as academicians interested in the topic can evaluate and add to the comprehensive recent evidence provided from a developing country, Turkey. As summarized in the introductory part and provided in detail in the subsequent sections, the theoretical foundation of this thesis is mainly based on agency theory emphasizing the conflict of interest among various parties within the organization and associated agency costs. Accordingly, the results are supportive of the monitoring hypothesis in that the active monitoring role undertaken by institutional investors is found to curb managers' opportunistic behavior in accrual management, which is proxied by the absolute value of discretionary accruals. Stated differently, the problems that arise due to the separation of ownership and control and increased tendency of managers to undertake self interested behavior can be mitigated to a certain extent by constraining managerial accounting flexibility. Thus, improvements in the quality of financial reporting and transparency can be achieved.

The empirical part of the thesis investigates the existence of two prominent hypotheses; namely, active monitoring role undertaken or managerial myopia induced by institutional investors, in a multidimensional perspective with the specification of numerous models. The dataset covers firms listed on BIST during the seven year period between 2005 and 2011, inclusive. The final sample is made up of 177 companies resulting in 1.062 firm-year observations covering the industries named as Manufacturing, Wholesale and Retail Trade, and Technology mainly due to limitations associated with the measurement of earnings management. Discretionary accruals are measured by the performance adjusted cross-sectional industry based accrual model proposed by Kothari, Leone and Wasley (2005) to proxy for the degree of discretion exercised by management in earnings management based on extent literature review and

associated superiority of the selected proxy over other measures of aggregate accruals. Monitoring hypothesis and the competing hypothesis are initially tested to evaluate the influence of aggregate institutional ownership on managerial accounting discretion. Additional models utilized incorporate the impact of the function of the relationship as being either linear or quadratic, institutional investors' origin as being either domestic or foreign, amount of institutional shareholding using sample median institutional share ownership percentage as a benchmark, type of institutional owner, and institutional investors' investment horizon as being either long- or short-term on the associated link between the main variables of interest. The influence of domestic and individual investors has also been modeled to provide further insight into relationship between earnings management and certain types of shareholders. Additionally, a specific model has been constructed to investigate whether managerial incentives associated with firms' current and future financial performance exert any influence on the management of reported earnings in the presence of substantial institutional ownership.

The major finding of the study with respect to aggregate institutional ownership provides the negative and significant influence of institutional investor presence on managerial discretion exercised in opportunistic management of accruals. Thus, the proclivity of managers to engage in earnings management practices is found to be mitigated by institutional shareholdings demonstrating the influence of investor sophistication in monitoring and disciplining corporate managers. Therefore, the hypothesized monitoring role of institutional shareholders is found to be statistically valid within the Turkish context in line with the findings of previous studies in literature (Rajgopal and Venkatachalam, 1997; Rajgopal, Venkatachalam and Jiambalvo, 1999; Chung, Firth and Kim, 2002; Ebrahim, 2004; Mitra and Cready, 2005; Koh, 2007; Cornett, Markus and Tehranian, 2008). Active monitoring role undertaken by these investors acts as an external control mechanism of corporate governance enhancing the quality of financial reporting and transparency of disclosures.

The findings of the additional models utilized provide results consistent with the monitoring hypothesis demonstrating different dimensions of the associated relations. The second model approves the existence of a linear relationship between

institutional ownership and earnings management in that the active monitoring role played and myopic behavior induced by institutional investors are mutually exclusive within the Turkish context. Thus, no variation is expected to be observed as to the direction of the relationship in the association between the main variables of interest as the level of institutional ownership varies. The third model classifies institutional investors as being either domestic or foreign and also provides evidence of the role of institutional owners as an external control mechanism. This model does not except the existence of any hint for the short-term oriented behavior of institutional investors even after segregating them according to their country of origin. Based on the findings of the fourth model, managerial flexibility in accruals management is found to be curbed by substantial shares that are held by institutional owners. Therefore, monitoring hypothesis is again supported. The fifth model utilizes a categorical breakdown of investor types and finds domestic investment funds to exert the greatest influence on managerial accounting discretion captured by the absolute value of discretionary accruals. Domestic corporate, foreign corporate, and domestic other institutions are found to be the other significant classifications of institutional investors with a negative influence on earnings management. The sixth model investigates the presence of differences among institutional investors based on an arbitrary classification scheme of investment horizon depending on the studies of Brickley, Lease and Smith (1988); Cox, Brammer and Millington (2004); Cheng and Reitenga (2009). The findings demonstrate the significant and negative influence of both long- and short-term oriented institutional investors on the selected proxy of earnings management. However, the long-term oriented category is to have a slightly more strongly pronounced impact on the absolute value of discretionary accruals. The seventh model utilizes domestic and foreign individual investors as explanatory variables and documents the stimulating influence of the former group on discretionary accounting practices. The last model incorporates the influence of managerial incentives associated with firm performance to increase or decrease reported earnings. Even though the presence of substantial amount of institutional share ownership is found to attenuate managerial use of discretionary accruals, incorporation of managerial incentives into the model is found to overwhelm the active monitoring role exerted by substantial institutional ownership.

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Certain prominent implications and contributions of the study's results for professionals including regulators, investors, and accounting and finance specialists are noteworthy to emphasize. Regulators and policy makers have to consider the role of a prominent class of investors; namely institutional investors, in mitigating opportunistic behavior of managers exercised in accounting practices, which can prove to be utterly detrimental to the transparency and quality of financial reports. The importance of institutional investors as an external control mechanism of corporate governance should be taken into account as governance systems and strategies are being determined. Thus, appropriate policies can be applied to increase the level of both domestic and foreign institutional ownership in the firms' ownership structure. The increased tendency of institutional investors to be involved in corporate control and associated corporate management practices should not be underestimated as corporate governance policies are being designed. Two prominent developments associated with institutions and corporate strategy has been argued by Graves and Waddock (1990) as the increasing important role pension funds and other funds play in behind-the-scenes financing of corporate takeovers and the power they have in dealing with corporate governance strategies together with the increase in the amount of their investments. Thus, policy makers have to take into account the dominance of these types of investors in the financial markets as they develop rules and regulations.

The results of the study should also concern financial analysts since investment decisions are affected to a great extend by the integrity of financial reports. Because the presence of institutional investors is found to constrain earnings management practices, the perception of the market regarding the quality of financial reporting will improve with the prominence of these investors in the firms' ownership structure, which would result in the financial statements being considered as reliable tools for investment decisions. On the condition that corporate shareholders and other stakeholders can rely on the information obtained from the disclosed financial statements, the accuracy and effectiveness of their financial decisions will improve.

The interesting findings regarding the relationship between earnings management and high quality auditing should concern regulators and financial

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statement users. Auditor quality is regarded to be one of the factors that contribute to the effectiveness of auditing based on the assumption that information asymmetries that exist between managers and firm stakeholders are reduced with the increase in the validity of financial statements (Becker et al., 1998). Thus, auditing process with a specific emphasis on auditor quality can be considered as an external monitoring mechanism of management. However, the findings based on all models estimated by GLS are contradictory to the aforementioned expectations in that high quality auditing is not reported to be one of the prominent factors that control managerial discretion in Turkey. Another study that demonstrates the insignificance of this variable with respect to the practice of earnings management within the Turkish context is that of Adıgüzel (2012). Consequently, this specific finding is considered to be of utter importance for external auditors, regulators and stock market participants. Regulators, who are attempting to improve the validity of financial reporting and disclosed accounting numbers, should focus on issues that enhance investor protection.

Several limitations of the study are worthwhile to emphasize to enhance a better understanding and interpretation of the analyses' outcomes. The major drawback of the empirical part refers to the measurement of the selected proxy of earnings management. Even though the use of aggregate accrual models has been theoretically justified and supported in literature, potential measurement errors may arise due to problems encountered in classifying the discretionary and nondiscretionary part of total accruals. The predetermined assumptions associated with the calculation of discretionary accruals are some of the significant factors adding to the severity of misclassifications. Thus, it is important to note that the accuracy of the models used in estimating discretionary accruals contribute to the validity and generalizability of the findings.

Issues associated with the selection of the sample constitute another concern in the evaluation of the findings. The predetermined criteria that have been identified in literature regarding the proxy for earnings management and certain other variables of the models lead to the construction of a non-random sample. The model specification issues that have been revealed in the subsection numbered as 4.3.1 cause the sample

size to be limited to 177 companies from 3 industrial groupings. Thus, methodological issues encountered in model generation limit the researcher in selecting a random sample.

The limitations encountered in the construction of the sample have to be taken into account in generalizing the results to all publicly listed firms in Turkey. Exclusion of certain firms due to information availability and certain issues related to the nature and size of the industries in which they operate within the boundaries of model specifications leads to compulsory elimination of some firms that would otherwise add to the generalizability of the findings. Additionally, the restrictions in use of data belonging to firms listed on BIST have to be considered in the applicability of findings to other stock markets and institutional settings. Even though the outcomes of the current study are in conformity with most other prominent studies in literature, divergences in regulations and economic characteristics of other capital markets have to be kept in mind in the generalizing the research findings to other countries.

This thesis makes significant contribution to earnings management related literature by providing recent evidence from Turkey with respect to the link between the presence of institutional investors in the firms' ownership structure and managers' opportunistic behavior. The numerous models utilized, sound methodological methods applied, and causal relationships considered are some of the factors that add to the significance and robustness of the study's findings. However, several recommendations can be made to extend the current study by further research.

Limitations regarding the construction of the dataset can be overcome by the passage of time as the number of companies listed on BIST increase due the enhancement policies undertaken by the regulators in the area of public offering process of corporations. Consequently, more industries can be represented in the final sample contributing to the generalizability of the findings to both Turkey and other developing countries. Additionally, extending current literature to other prominent industries including financial companies would provide crucial insight into the role of an important element of external monitoring mechanism onto the earnings management practices undertaken within the Turkish context.

Due to the recently evolving and prominent role of institutional investors in the ownership structure, this thesis mainly focuses on the influence of these investors by providing a multidimensional perspective with the incorporation of numerous models. However, utilization of other attributes of the ownership structure may add to the findings of the already comprehensive study in determining the effectiveness of certain other controlling mechanisms. Though not considered within the boundaries of the current study, other corporate governance attributes can also be incorporated into the analyses, which would go beyond and extend the main research question of the thesis.

Another suggestion for future research could be emphasized as conducting a comparative study by incorporating evidence from another country with a similar institutional and regulatory framework. Thus, the current results could be extended with the use of data from different countries and go beyond what is displayed by providing evidence with respect to monitoring mechanisms in other countries. Extending the current evidence with that from other stock markets would prove to provide international insight into the association between the practice of earnings management, which is a significant element of recent corporate scandals, and a prominent factor of ownership as an external monitoring tool. Last but not least, various other proxies of earnings management can be utilized to evaluate the sensitivity of research findings to other aggregate accrual models or real earnings management activities.

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