CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

Accounting Conservatism and Firm Investment Efficiency

by

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First of all, I am dedicating this thesis to my parents DADA JAN and ADAY JANAY. A special feeling of gratitude to my brother MUHAMMAD NASIR whose words of encouragement and pushes me.

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Abstract

The prime objective of this study is to assess the role of conservatism in exploring firms' investment efficiency. Panel data is used for Pakistani non-financial firms for period (1998-2015). Khan and Watts (2009) proxy of conservatism is used for timely recognition of losses and gains. This conservatism is through size, market-to-book ratio and leverage. G-Score and C-Score are used for capturing the effect of good news as gains and bad news as losses in stock prices of a firm while credit rating is used for information asymmetry effect.

Empirical results of this study show that conservatism significantly affects investment efficiency. Specifically, those firms setting in prone to under-investment, conservatism encourages more investment but do not prefer overinvestment. The results of the study also show that conservatism encourages debt financing in the presence of high information asymmetry. Secondly findings of this study show that equity holder does not provide additional funds to more conservative firms. Conservatism and profitability analysis shows insignificant relationship. Conservatism through timely losses recognition also play vital role in reducing conflicts among equityholders and debtholders. These results suggest that conservatism paly important monitoring role for protecting investors funds and increases overall investment efficiencies.

Keywords: G-Score, C-Score, Asymmetric timeliness, Conservatism, Underinvestment, Overinvestment, Investment efficiency, Information asymmetry.

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Abbreviations

Cons	Conservatism
Under-Invest	Under-Investment
Over-Invest	Over-Investment
InfoAsy	Information Asymmetry
MTB	Market-to-Book Ratio
Lev	Leverage
FASB	Financial Accounting Standards Board
IFRS	International Financial Reporting Standards
IASB	International Accounting Standards Board
CRSP	Center for Research in Security Prices
IRRC	Investors Responsibility Research Center
LPC	Loan Pricing Corporation
DSC	Security Data Corporation
IBES	Intuitional Brokers Estimate System

Chapter 1

Introduction

Managers use accounting policies for provision of different information that play a role of signaling tool about current and expected prospectus of the firm. Investors depend on this reported information and use it for investment decision making. As investor demand higher rate of return if risk or uncertainty is higher, that result in increase in cost of capital. Therefore such financial information should meet certain amount of reliability and credibility to reduce uncertainty for the purpose of decrease cost of capital and hence avoid the consequences to push the value of firm downward. Accounting conservatism also helpful to avoid opportunistic behavior of managers and earning management that results in increase of firm value (Khalifa and Othman 2015, 2016).

In the accounting policies accounting conservatism is widely used from last three decades and for the financial reporting it is considered the most important attributes. However despite this general acceptability, economic benefits of this are continuously a subject of question between policies maker and academician (Givoly and Hyan, 2000; Giner and Rees, 2001; Grambovas and Christodoulou 2006; Basu, 1997; Watts, 2003; Francis, 2004).

According to Lu and Trabelsi (2013) accounting conservatism understates assets in long term. Financial statement reporting trends show that standard setter tries to move towards fair value accounting instead of conservatism by reducing information asymmetry between investors and firms. The provision of credible

comparable information increases benefits of accounting conservatism which also improve information environment.

According to many researchers in financial statements conservatism exists (Dechow and Sloan, 1999; Beaver and Ryan, 2000; Basu, 1997; Givoly and Hayn, 2000). For conservatism researchers propose four explanation, i.e. contracting, litigation, regulation, and taxation (Watts and Zimmerman, 1986; Ball, 1989; Basu, 1997; Watts, 2003).

LaFond and Watts (2008) states that information asymmetry might be another determinant of conservatism. The results after controlling litigation and contracting effects show that information asymmetry affects conservatism. The study argues that financial reports based on conservatism principle create informed capital market where as Financial reports which consisting of unverifiable financial information create information asymmetry.

Firm investment decision is improved by timely reporting of financial information. Hence this improvement in financial information resolves the issues of overinvestment and underinvestment in projects of firms (Biddle and Hilary, 2006; Hope and Thomas, 2008; McNichols and Stubben, 2008).

Financial accounting information plays important roles in decision making of firm investment efficiency. Monitoring expenses and financial cost has effect on investment efficiency of firm. Therefore the reliability of such financial information reduce, biasness of performance measurement on the basis of which mangers are rewarded or punished based on favorable or unfavorable outcomes of selected projects for investment decision respectively. Disclosure of high-quality information decreases information asymmetry that lower, both market inefficiency and cost of financing and facilitates for long-term financing in high-return projects (Bushman and Smith 2001) (Zeng and Lu 2003) (Levine 1997).

According to Basu (1997), accounting conservatism mean conditional conservatism that is defined as "the accountant tendency to require higher degree of verification for recognizing good news as gains than to recognize bad news as losses". This immediate recording of bad news as losses and delaying good news as expected

profit is known asymmetric timeliness of earning. Hence this principle of recording accounting information has effect on the firm value (Watts 2003, Watts and Zuo, 2012).

According to Stein (2003) firms investment efficiency is affected by two types of problems like risk of excessive and inadequate investment however there are two other vital factors agency problem and information asymmetry, which affects investment efficiency. Investment efficiency can be increased by timely reporting of financial information as well as it can alleviate the issue of over and under investment. Accounting information has a vital role of market supervision and hence it decreases the agency problem, improves shareholders supervision abilities and thus plays an important role in selection of favorable outcomes projects that result in investment efficiency (Li and Wang 2010).

According to (FASB, 1999; IASB, 2008), the basic objective of financial reporting of economic entities is the provision of high quality and useful financial information for decision making primarily economic in nature. High quality financial reports enhance overall efficiency by influencing stakeholders (shareholder and credit providers) positively to make better investment and resource allocation decision based on these financial reports. But the quality of financial reporting is broader concept that covers both financial and non-financial information disclosure for decision making (Whittington) and (Beest, Braam, Boelens, 2009).

Ahmed and Duellman (2011) conduct a study on benefits of accounting conservatism in financial reporting to answer the question that standard setter have risen on benefits of conservatism. The study specifically tested monitoring role of investment decision by conservatism which provides evidence that it helps for monitoring of investment decisions. The study state that conservatism helps in monitoring of investment and removal of accounting conservatism would result in increase of monitoring cost.

Mangers are well informed about firm's current and future prospects. They might use this inside information for issuance of securities at premium but due to capital rationing investor withhold their capital which results in relying on internal funds and increase investment to cash sensitivity. Thus conservative accounting helps

to reduce both issues of moral hazard and adverse selection through monitoring and contracting which results to smoothen investment efficiency by resolving such issues between managers and investor (Biddle and Hilary 2006).

According to Bushman, Piotroski and Smith (2010), efficient capital allocation theory promotes that firm should invest funds in those projects that have positive rate of return instead of negative rate of return. Financial information helps managers and investors in value maximization by reducing information asymmetry to allocate resources efficiently. Financial information provides foundation to investor's managers and all other stakeholder for financial decision. Financial accounting provides reliable audited information to investors and outsiders which help them in monitoring and disciplining investment decision of managers of firm.

According to Cheng, Dhaliwal and Zhang (2013), financial information quality has association with real investment efficiency. Conservatism neither allow firm managers to invest negative net do not present values projects nor existing managers defer losses to shift its effect of losses to future. Conservative reporting style of firm prevents both these problem and results in decrease in information asymmetry and resolve the issue of invests inefficiency.

According to Li and Wang (2010) efficient allocation of capital is one objective of financial information reports. It play vital role in the improvement of investment decision of firms. This theory of efficient allocation suggests that under and over investment issues can be alleviated with transparent system of financial information. Investment efficiency objective has to be achieved by decreasing information asymmetry. Several empirical studies provide evidence on the existence of this relationship which includes Biddle and Hilary, 2006; Hope and Thomas, 2008; McNichols and Stubben, 2008; Biddle et al., 2009; Francis et al., 2010.

1.1 Problem Statement

This research study paves the way for identification of relationship between firm efficiency and accounting conservatism. Firms face several challenges like under investment in positive net present value projects or over investment in negative net

present value projects that leads to inefficiency. On the other hand managers are agent managing firms on behalf of owners that may involve in moral hazard or adverse selection at the expense of funds provider because of information asymmetry between mangers and debt or equity financiers. In such cases policies makers needs to make standards and impose regulatory measure. Accounting conservatism is one of those regulatory principles of accounting which require sticker verifiability for anticipated gain to avoid any possible concealment of misstatement of financial information. The study explains the effect of conservatism on firm investment efficiency and information asymmetry in reduction in expense to decrease cost of financing. Hence its results are expected to increase return on net worth of firm by efficient management of resource allocation.

1.2   Research Question

This study explores the use of accounting conservatism principle in financial reporting of firm in an attempt to explain that whether it can enhance the firm efficiency. This relationship between firm efficiency and accounting conservatism can be identified with the help of addressing the following question.

The initial questions that arise after the study of existing literature are that whether Conservatism resolves the issue of under and over investment. The second question is that whether conservative financial reporting of firm helps to mitigates information Asymmetry among shareholders (Owners) Debt providers (creditor) and Managers (Agent) to invest prudently and enhance overall investment efficiency. The another question is that whether accounting conservatism principle can reduce uncertainty by minimizing risk for debt providers to reduce cost of financing and increasing return on net worth for equity providers by timely recognition of losses. The final question of this study is that whether conservative financial reporting can increase the efficient use of resource to increase firm efficiency.

1.3   Research Objectives

The study is aimed to meet the following objectives:

1. To provide insight about the role of conservatism in exploring investment efficiency.

2. To explain the influence of conservatism on financing decision of firms.

3. To investigate the impact of conservatism on profitability.

4. To study the role of conservatism in reducing the impact of information asymmetry.

1.4   Significance of this Study

This research study is valuable in many dimensions. Its shed lights on the importance of accounting conservatism in financial statement to efficiently explain the fair value of firm instead of overstatement/misstatement by concealing information. Debt providers and equity providers also gets benefits of conservatism policy in shape of monitoring their investment for best available option without any monitoring cost. It also helps mangers to identify issues of under and over invest to invest prudently and maximize wealth of shareholders.

This study highlights the importance of accounting conservatism that it's make available insider information to financiers minimizing asymmetric timeliness of information to managers and funds provider for better management of firm and enhancing efficiency of firms. So this study identifies the information asymmetry and under investment effect in financial reports of companies which may affects the interest of debt and equity provider under agent principal relationship. Thus managers can prefer investment in those projects which have negative net present value and high risk just for their rewards by concealing the information. However imposing such policies like conservatism alleviates these problems and improves the performance of firm.

In this area very limited work have been done in Pakistan for assessing the effect of conservative financial reporting on firm efficiency or even can state that for the first time. The existing body of knowledge does not provide any reference of study from Pakistan. Thus the findings of this study are important as that contextually extend the body of literature in the field accounting conservatism and may attract shareholders to safeguard the interest.

1.5 Plan of the Study

Remainder of this study is organized as follows. Chapter 2 discusses the expected relationship and association between conservatism and financial decision like financing and investment decision. Chapter 3 covers the research design and methodology while chapter 4 describes in detail the empirical results of this study. Chapter 5 covers conclusion recommendation and future direction for research.

Chapter 2

Literature Review

According to Altman (1968) measurement business firm's performance via ratio analysis is less acceptable by theorist as academician's used it for firm's analysis. The study examine performance of sixty firms and states that qualitative evaluation is also important as like a quantitative evaluation of firm performance in respect of debt and investment. The results show that large firms, having large assets face more difficulties as compared to small firms in terms of meeting debt obligation. Jensen and Meckling (1976) and Watts (1977) explain that purpose of financial reporting is to decrease agency cost for both share market and debt market.

According to study Leverage ratio is related to size. Small firm are less diversified as compared to big firms. The small firms have higher risk of default and are less leveraged. A cost of funds is also related to size of firms. The large firm has lower cost of fund. To minimize the cost of funds small firms are interested to issue quick or short term debt instead of long term (Wessel and Titman 1988). Watts (1993) suggest that conservatism plays important role in contracting and helps to appropriately distribute claims of all stakeholder. Their results are similar of Botosons (1997) and Sengupta's (1998) that a higher quality financial information disclosure reduces cost of financing of firm shareholders and lenders.

Watts (2000) explains the contracting aspects of conservatism, argue that conservatism exist even without contractual use of financial statements and states that

shareholders litigation is another important aspect of conservatism. The study argues conservatism in also use in debt and compensation management for managers in firms. Thus it results in increase in information asymmetry. The association between reporting and taxation also results in conservatism because asymmetric recognition of news helps managers to show lower value of tax. Hence conservatism is beneficial for firms.

Accounting literature provides very limited guidance on establishing criteria for an economically efficient system of public financial reporting and disclosure. Contracting party with firm demands information about firm ability to meet its contractual obligation. Firms therefore agree to incur the cost of supplying information and in return they receive terms of trade from factors owners and customer. These contracting structures fundamentally raise the demand for financial reporting and disclosure. Financial statements information is used in debt and equity markets for primary and seasonal transaction. Truthful information disclosure reduces the risk of contracting parties. Under timely recognition the accounting system capitalize the changes in the expectation and incorporates it in accounting income as time gain/loss. Hence lender prefers financial statements because it more efficiently incorporates economic losses (Ball 2001).

Gompers, Ishii and Metrick (2001) study the relationship between corporate governance and equity prices for the period of 1990 to 1999 for 1500 firm. The data for this research study is taken from Investors Responsibility Research center (IRRC). The study finds that stock returns and corporate governance have stronger relation and governance is correlated with firm value. The study shows association of shareholders rights with earning, like weaker shareholder rights have lower profit, sales growth and capital expenditure. The study report further that agency problem increases shareholder cost and higher agency cost affects firm performance. Book to market values effects market discount so it is taken as control variable. The study conclude that high governance and increase in capital expenditure of firms' results inefficiency after control the effect of BM and corporate governance is strongly correlated with stock return. The study suggests that agency cost decreases after decrease in managerial power, increase in investor net earnings. Firm

values and return on stock increases after controlling industry effect.

Beaver and Ryan (2005) investigate unconditional and conditional conservatism. Unconditional conservatism understates or underestimates book value of net assets due to intentionally determined aspects of accounting process. Book value of assets is written down due to adverse circumstances. However assets are overstated under favorable circumstances. The study defines accounting conservatism as the on average understatement of the book value of net assets relative to their market value.

Tang (2006) analyzes Moody's credit rating format refinement for investigation of information asymmetry and firms access to credit market for obtaining funds. This study focus on cost of financing and Moody's 1982 rating refinement of 780 firms cost of borrowing and its debt maturity information taken from compustate database. Results shows that credit rating significantly reduce information asymmetry in credit market and helps creditor to protect their investment providing their fund to higher credit quality as well as it helps firm to issue more debt instead of equity. The study further report that credit rating by third party reduces information asymmetry and suggest that higher credit rating firm can easily access lower rate of finance while lower credit rating firm face higher cost of borrowing in both capital and credit market. Higher credit rating firm's issue more debt, invest more and its assets grows faster. These results are consistent with Diamond's debt maturity prediction model (1991).

Chang, Dasgupta and Hilary (2006) investigate association between financing decision and analyst coverage. Data is taken form Compustate, CRSP and IBES database for a period of 1985-2000. The study states that in case of high information asymmetry the firms is undervalued and not willing to issue equity because information asymmetry acts oppositely .Pecking Order hypothesis suggest that smaller firms have high information asymmetry and depends on debt financing. Analyst coverage is used as proxy for information asymmetry. The finding of the study shows that fewer analyst coverage of firms prefer to issue more debt as compared to equity. However results also show that more analyst coverage firm

rely less on market conditions for equity financing. The study reports when stock return are favorable than firms issue more equity as compared to debt.

Billett, King and Mauer (2007) investigate growth effect on firm investment opportunity along with leverage, debt maturity and covenants effect. This study also highlights the importance of corporate financial policy which identifies level of leverage, maturity of debt and restrictions in case of violation a debt agreement. Because these determine characteristic of firm and helps in contracting with funds providers. Data for this study is taken from Fixed Investment Security Database and Compustat database for the period of 1960-2003 and include a sample of more than 15000 debt issues of non-financial firms.

The results show that short term lower rated and lower priority debts have more covenant protection while convertible debt issues by regulated firms' have lower covenant protection. The study finds that covenants protect debt and its maturity. Significant negative relation between growth opportunities and leverage is also observed which means that covenant of debt can resolve the issue of agency cost for growing firms. However increasing trend is observed during sample period in all types of debt covenants. The results show that covenant protection increasing in case of high growth and levered firms.

Ahmed, Billings, Morton and Harris (2002) study the mitigating role of accounting conservatism over dividend and cost of debt conflicts issues between debt providers and equity providers. Data is taken for the period of 1993-1998- and 1987-1992 from Industrial Compustate database CRSP data base for 953 firms for Beaver and Ryan (2000) and Givoly and Hayan (2000) proxies of conservatism. First based on lower of market or book values rule and second based on negative accruals. Empirical results show that lower cost of debt and accounting conservatism has association after controlling size of firm. Conflicts on dividend policy increase the probability of accounting conservatism to be followed by firm. Accounting conservatism reduces the conflicts between debtholders and shareholder over dividend policy and reduces cost of debt. These results are consistent with Watts (1993) suggest that conservatism plays vital role in contracting and argues it helps to appropriately distribute claims of all stakeholder. The study state that

increasing conflicts requires higher conservative reporting of financial information while higher conservatism reduces cost of debt by reducing risk of investment for debt provider because higher conservatism means reducing earning and retained earnings to control the excessive payment of dividend to shareholder.

The study also construct proxy for conservatism based on Generally Accepted Accounting principle (GAAP), mandatory conservatism, and choice of managers conservative reporting of financial information of firms. The results are similar of Botosons (1997) and Sengupta's (1998) that a higher quality financial information disclosure reduces cost of financing of firm shareholders and lenders. Bondholder-shareholder conflicts measured by leverage, divides as percentage of assets and operating uncertainty. The concluding remarks provides that firm facing higher uncertainty face intensive shock to earning positively and negatively depending on the nature of shock, while dividend measurement assess the risk of debt holder and higher leverage increase conflicts among shareholder and debtholders controlling the size variable for firm measuring debt aspect (Liu et al 1999). High conservative firm have more favorable debt rating that helps in reducing cost of debt.

Due to conflicts of interest, managers can use inside information for their own personal objective like compensating themselves to reduce available resources for the real owner of business firms that can be used for valuable positive net present value projects to enhance business growth (Ahmed and Duellman 2007). Watts and Zimmerman (1978) state that small firms as compared to large firms have lesser political cost therefore large firms require use more conservative accounting. LaFond and Watts (2007) state that large firms producing more public information as compared to small firms hence the information asymmetry is higher for small firms as compared to large firms that results the lower demand for Conservative Accounting. However, Givoly et al (2007) argue about the level of conservatism that large firms can infer incorrectly regarding conservatism.

Callen et al (2006) study association between conservatism measurement and pricing of accounting conservatism. Data for the study is taken from Compustate for a period of 1962-2004. The study use new proxy of firm-year conservatism level a

contemporaneous function of good and bad news. It is the ratio of current earnings shock to total earnings news and it measures that how much of total shock to expected future earnings is recognized in current year earnings. The basic argument of the study is that it incorporates bad news faster at the firms and year level than good news. The study reports that association between equity returns and current and expected future cash flows is significantly increase. Results also show that negative earning and special items have positive association.

Ahmed and Duellman (2007) conduct a study on accounting conservatism and managers (inside director) role for the period of 1999 to 2001. The study finds negative relationship. The main issue of business firms is agency problem or conflict of interest between managers and owner. Managers control the assets of business firms without any stake of equity (Jensen and Meckling 1976 Berle and Means 1932). For effective influencing, monitoring and evaluating manager, their decisions and strategies to maximize firm's values owner requires stringent verification of information in which accounting conservatism and financial reporting system plays a vital role to get desired results (Watts and Zimmerman 1986, Bushman and Smith 2001). Conservatism is an important principle of accounting to discipline managers and achieve the main objective of maximization of firm value (Watts 2003, 2006).

Adage about accounting conservatism "anticipate all losses but not profit". All public information is reflected in stock prices if a firm share in efficient market that is a valid proxy for economic shocks to value. According to Pae et al (2005) & Givoly et al (2007), some researchers criticized the model of Basu with a view that asymmetric timeliness coefficient is not a valid measure of conservatism because it is unduly affected by variables like MTB. But according to Ball, Kothari Nikolaev (2013), Basu regression provides economically valid estimate of conditional conservatism. The results show that Basu measure is unbiased and conditional conservatism is a function of a variety of firm characteristics. The study states that conditional conservatism provides new insight into financial reporting. The study criticizes and confirms the work of those researchers who state that Basu Model is biased and be avoided by researcher. Before Basu model conservatism

has been viewed only as an unconditional response to uncertainty. Basu contribution is a concept of financial reporting being more attuned to recognize bad news about firm value than good news. And conditional conservatism is also known as asymmetrically timely loss recognition and the incremental coefficient on negative return is also known asymmetric timeliness coefficient.

Givoly and Hayn (2008) report that accounting conservatism reduces efficiency of loan contract that is significantly different from Watts (2003) whose results show positive conditional and unconditional relationship between debt contracting and accounting conservatism. The study suggests that implicit interest rate and accounting conservatism are negatively correlated and regulators are required to maintain it due to facilitation of debt contracting.

Frankgigler, Chandrakanodia, Sapra and Vengoplan (2008) investigate accounting conservatism and the efficiency of debt contracts statistically. The results are contrary under both conditional and unconditional conservatism. Accounting conservatism decrease efficiency of debt contracts and does not have positive relationship between efficiency and conservatism as suggested by Watts (2003) and other numerous empirical studies of Ball and Shivakumar (2005), Ball, Robin, and Sadka (2008), Wittenberg (2008), and Zhang (2008). This study rejects the suggestion of Watts (2003) to maintain conservatism in current accounting practices.

Ball, Robin and Sadka (2008) study the origin of conservatism for debt market and equity market. Gilman (1939) describes the need of accounting conservatism for debt markets. Secondary data for the period of 1992-2003 is taken from Global Vantage Industrial/ Commercial File of 22 countries. The study specifically focuses on debt and share market variation to highlight the main problem. The study argue that basic object of public financial reporting of firm is provision of financial information to shareholder. The results show significant relation between timely loss recognition and debt market share. Debt and equity have no relation with timely gain recognition. The results also show that larger debt market countries prefer more likely timely loss recognition. The last argument based is that conservatism in financial reporting serves primarily debt markets contracting and

increase debt contracting efficiency because debt covenant violation hand over decision rights to lender. Conditional conservatism does not shed highlights on the importance of equity markets. Consistent with Jensen and Meckling (1976), Watts (1977) explain that the purpose of financial reporting is to decrease cost of agency for both share market and debt market.

Biddle, Hilary and Verdi (2009) conduct study for the period of 1993-2005 on relationship between investment efficiency and quality of financial reporting. In this study 34791 firm years' observation are taken from compustate data base the Center for Research in Security Prices (CRSP) and Institutional Brokers' Estimate System (IBES). The study define that investment in positive net present values projects without monitoring cost and adverse selection is called investment efficiency while quality of financial reporting means if it provides financial information to equity providers about cash flows and operation of firm. Multiple proxies for measurement of financial reporting quality like Dechow and Dichev (2002) and Wysocki (2008) and FOG index are used for financial statements comparability. Liquidity of firm has been measured by two ways cash flows and leverage.

The empirical results of the study shows debt overhangs issues exist if firm is high levered and hence underinvest. Governance also has relation with underinvestment controlling size, market to book ratio and leverage. The study finds empirically high quality financial information deviates from investment predictive level and weaker association with macroeconomic condition of firms. The study finds that unlevered and cash rich firms with good financial reporting quality and investment have lower association instead of higher levered and current liquidity constrains. They also find higher aggregate investment and high financial reporting quality has negative association play vital role in resolving information asymmetry problem which increase investment efficiency. The results proved that financial reporting quality reduces information asymmetry between investors and managers and decrease moral hazard and adverse selection results in efficient investment decision.

Beatty, Liao and Weber (2010) point out the relationship among quality of financial reporting quality, private information and monitoring of firms for the period of 1995-2006 by using 3033 firm observation taken from compustate database. For

subsample 997 manufacturing firm are taken from Loan Pricing Corporation (LPC) and Security Data Corporation (DSC). The study identify by empirical testing that firms that have lower quality financial information prefer more leasing instead providing equity for investment. The study further reports that lower accounting quality firms face more problems in financing due to higher information asymmetry and this issue leads to increase the propensity of leasing assets. The results also provides important information that accounting information is not important for leasing decision making if due diligence cost are higher from lender incentives.

Lara, Osma and Penalva (2009) study relationship of conditional conservatism and firm investment efficiency. Data is taken from Compustat and CRSP data base for a period of 1975-2006 a large sample of US non-financial companies. The study finds that conditional conservatism improves investment efficiency through decreasing information asymmetry. The study also reports that conditional conservatism also helps to avoid risky projects and facilities firm to obtain debt at lower cost from the market. This study reports negative relationship between conditional conservatism and under-over-investment while positive relationship with profitability. The study concludes that more conservatism is associated with corporate governance that reduces information asymmetry and efficiently monitors manager. The study also suggests that more conservative firms perform effectively than other firms. These results are consistent with the results of Ahmed and Duellman (2007).

Denis and Sibilkov (2010) investigate investment, value of cash holding and financial constraints. The study use 74,347 firm years' observation of United States for the period of 1985 to 2006 from Compustat database. The study reports that value of firm and cash has stronger positive association for financially constrained firms which means cash holding is more valuable because it helps to invest more in positive net present value projects. The study also suggests that payout policy is important and relevant for shareholders because it effects investment like too low payout ratio creates agency problems and too high payout ratios badly constrains investment.

Hellman (2008) conduct study on the role of accounting conservatism under international financial reporting standard (IFRS). The results show that in common law countries information asymmetry problem resolved through public communication instead of private communication consistent with the results of (Ball 2001) in United States and United Kingdom (Jarva, 2010).

Faulkender, Flannery and Smith (2011) conduct on cash flows and leverage adjustment. The study argues that firms adjust optimal capital structure if the cost of adjustment lower or higher benefits. The results show that firms of volatile cash flows (higher negative or positive) change aggressively its capital structure. While those firm that have credit rating or pay dividends substantially faster than constrained firms if under-levered and slower if over-lever. Overall these results are consistent with trade-off Hypotheses of capital structure.

Artiach and Clarkson (2010) examine conservatism, disclosure and the cost of equity capital for the period of 1985-994 using 1,782 firm-year observations US non-financial firms. For conservatism measurement negative accruals of Givoly and Hayn (2000) and for firms disclosure proxy the Association for Investment Management and Research (AIMR) is used. The study predicts an inverse relationship between cost of equity and firm level conservatism. Results of the study reports that in accounting principles conservatism play and vital role however the these benefits based on information environment. The study reports that this positive relationship is strong in the presence of higher information asymmetry and negligible in highest information environment. The study results also reports that conservatism and cost of equity has negative association and with the improvement of information environment managerial impact of conservatism reduces. The study concludes that in the firm's financial reporting conservatism and disclosure play an important role.

Ahmed and Duellman (2011) investigate monitoring role in investment decision of mangers through accounting conservatism. Ahmed and Duellman (2011) use asymmetric timeliness proxy of Basu (1997) along with backward cumulation process to capture estimated effect of conservatism (Thornton, and Welker, 2005; Roychowdhury and Watts, 2007). As returns and earning cumulation mitigates

the issue of prior estimation period of conservatism (Roychowdhury and Watts (2007). The study reports that conservatism has positive and significant relation with overall profitably including gross profit and cash flow from operation. Firm with high accounting conservatism in comparison to less accounting conservatism have significantly higher profitability and more conservative accounting also have significant and lower likelihood of taking a special items charge in future. These results are consistent with Watts (2003) and Ball and Shivakumar (2005).

Conservatism plays vital role in investment decision by mitigating agency problem among managers and investor. Firms with lower accounting conservatism have lower cash flows and gross profit (Watts, 2003). Ahmed and Duellman (2011) provide that conservatism helps to reduce the burden of monitoring cost of managers. The study also states that board of director can implement such accounting choice to directly monitor the mangers. Its existence in accounting literature helps standard setter for monitoring mangers investment decision. Watts and Zimmerman (1986) states conservatism based on firm characteristic which is stable and as a linear relation of size, age, and industry and debt structure. However firm level of conservatism changes gradually over a period. Growth and Size variables are control because growing firm has lower returns and profit as well as negatively related (Anthony and Ramesh, 1992) and while size is positive relation to accounting performance.

Christensen and Nikolaev (2011) study financial covenants to reduce conflict among firms and creditors. This study use accounting data of firms. Accounting reduces the issue of agency cost by separation of financial covenant in firm performance and capital covenant. Performance covenant based on income statement item (profit and efficiency) and Capital-covenant based on balance sheet item (source of funds and resources). The study reports negative correlation between P-and C covenants. Reports also show that performance covenant relative capital covenants increases recuing the information asymmetry in contracting. Finally the results show that those companies that have lower tangibility in term of assets rely less on performance covenant than capital covenant and vice versa. These overall findings supports that accounting information is useful for alignment of controlling the

conflict of interest that increase the performance of firm consistent with Contract theory of Aghion and Bolton (1992).

Ahemd and Duellma (2012) study relation between conservatism and managerial overconfidence. The study states that overconfident mangers intentionally delays loss recognition and overestimate future return. The study use a sample of 14,641 firm-years for a period of 1993-2009 taken from S&P 1500 firms. The proxies are based on Basu (1997) asymmetric timeliness and C-Score measurement of Khan and Watts (2009). The study report that their all four measures of accounting conservatism have negative relation with overconfidence despite of controlling firm fixed effect and firm specific determinants.

They find significant negative relationship between conditional and unconditional accounting conservatism and Chief Executive Officer Overconfidence. The results are consistent with the results of Schrand and Zechman (2011) that managerial overconfident affects behavior of financial reporting which destroy firm by inducing their decision on corporate policies. They do not find any relation between over-confidence and conservatism in respect to external monitoring. According to them reason of negative relation between conservatism and overconfidence is managers behaviors of avoiding conservatism in reporting financial information.

Lara, Osma & Penalva (2012) investigate association between conservatism consequences and real and accrual earning management for the period of 1991-2010 using a sample of US companies. This study use conditional conservatism firm-specific proxy proposed by Givoly and Hayn (2000), Kahn and Watts (2009) and Callen, Segal and Hope (2010) Jones (1991) for accrual measurement and Roychowdhury (2006) model for real earning management.

Result of the study shows that conservatism helps to facilitate monitoring accounting choices of firms and reducing opportunities of accrual-based earning. The study report negative relationship between accrual base earning and conservatism while positive relation between real earning management and conservatism. These results are consistent with the results of (Graham, Harvey and Rajgopal 2005). The study also finds that conservatism help to avoid any earning management choices to achieve earning benchmark. The study reports that profitability decreases by

using more conservatism because firms engages in earning management and firms manipulates financial statement. The study concludes that firm's trade-off between different types of management.

Becker and Stromberg (2012) study the relationships between fiduciary duties of managers and den-equity conflicts for a period of 1986-1997. Data of US firms for the study taken from compustate database. The study argue that one of the important attribute of corporate governance is that managers of should act for maximization of shareholder wealth. The study also states that shareholder of distress firms prefer to reduce new equity for investment. Results of the study show that after Credit Lyonnais investment and debt increase for distress firms however return on assets decrease leveraged firms.

Bens and Monahan (2012) investigate disclosure quality and the excess value of diversification for a period of 1980-1996 of US firms. Industry -adjusted rating of Association for Investment Management and Research (AIMR) is used for quality disclosure that is mostly used and well accepted among researchers. The important argument of the study is that disclosure of higher quality increases preciseness of investment decision. The finding of study shows that disclosure play vital role in monitoring management operating decisions. The study also reports positive association between disclosure quality and excess value of diversification.

Ball et al (2013) study that conditional conservatism is asymmetric accounting recognition of shocks or bad news that is dependent on various markets, political and institutional variables. According to them the negative shocks or bad news that is measured by fiscal year stock returns and the incremental coefficient on negative returns is the best proxy. As the accounting income incorporates shocks of firm value depends on their sign (Ball and Shivakumar 2005). They use Market to book ratio as a proxy. Basu (1997) defines conservatism the accountant tendency to require a higher degree of verification to recognize good news as gains than bad news a loss. The study use data for the period of 1963 to 2010 taken from Compustat merged fundamental annual profile and CRSP data base. The control include for BTM, Leverage and Volatility variables.

Ball, Kothari and Nikolaev (2013) state that Basu asymmetric timeliness proxy for conservatism is valid because efficient market hypothesis suggests all available public information is quickly reflected in stock return and prices are adjusted according to this information. The study also describes that recognition of loss by negative return measurement for bad new or negative shock is also valid measure. The study also test and provide evidence for Basu prediction that incremental coefficient of both bad news and good news effect is positive because of quickly recognition of bad news as loss than good news as profits. Thus in financial accounting Basu [1997] piece-linear regression of accounting profit becomes principal model. Later on, Dietrich, Muller, and Riedl (2007) criticize that this model is not a valid measurement of accounting conservatism because it is affect by firm characteristic like Book-to-market ratios. Research should avoid this model in measurement of accounting conservatism many researchers also argue that Basu coefficient is unduly affected by variables Pae, Thornton, and Welker (2005), Givoly, Hayn, and Natarajan (2007), Roychowdhury and Watts (2007), Patatoukas and Thomas (2011).

However results by Kothari and Nikolaev (2013) suggest that Basu measure of asymmetric timeliness is a valid measure of estimation of conditional conservatism and show that conditional conservatism can be estimated through this model with assumption of efficient market theory. The study also states that it is unbiased if information are equally available to managers and funds providers. The result reports that negative relation exist between asymmetric timeliness and market to book ratios.

Haw, Lee, and Lee (2014) investigate relationship between conditional conservatism and public debt financing in private firm to show cross-sectional and time-series variation. Data taken from KIS-Value (Korean information service) data and Korean capital market for 13094 private firm and 79002 firm year observation for a period of 1995- 2006. The results report significant increase in conservatism for issuing public debt for first time by private firms, in existence of higher information asymmetry and having higher credit risk. The study argues that in emerging market the need of information arises to overcome the agency problem through

conservative reporting. The result reports that private firm with public debt show higher asymmetric loss recognition as compared to private firm having private debt which means that bondholders demand higher conservative accounting.

Lara, Osma & Penalva (2014) investigate the role of information consequences of accounting conservatism using US firms for a period of 1977-2007. The data for this study is taken from Compustat, Center for Research in Security Prices (CRSP) and Institutional Brokers' Estimate System (IBES The study uses Khan and Watts (2009) firm specific conservatism proxy to measure conservatism and conservatism proxy of Callen, Segal and Hope (2010). The study predicts that decease in information asymmetry results in decrease in bid-ask spread and stock volatility. The study reports that conservatism is beneficial for shareholders and equity provider. The study reports that increasing conservatism result in increase of information environment, decrease in information asymmetry among managers and investors. Verification of gain is difficult in income statement and increase information asymmetry. Hence the benefits of conservatism are only limited for debt contracting and has no need to be impose for other decision making purpose in financial statements (Kothari, Ramanna, & Skinner, 2010). Results further shows that disclosure of bad news decreases cost of capital because risk sharing among various investors results in decrease in future stock volatility. The study concludes that conservatism reduces manipulation in earnings, thus improves firms' investment efficiency.

Ball and Shivakumar (2014) study earning quality of private firms. Data is taken from Financial Analysis Made Easy database for the period of 1989-1999. This data consist 147 and 6,208) private and public companies respectively. Financial reporting quality is measured based on new accruals and measurement of loss recognition of Basu (1997) method. Financial reporting quality is defined as the usefulness of financial reports for all stakeholders (investors, managers, creditors and potential contracting parties). The study states that U.K. private firms follow the same regulation (auditing, accounting standards and taxes) as like public firm but markets for both these types of firms significantly different. Results of the study shows that based on large sample size, private firms financial reporting

despite of the same regulation are of lower quality. This lower quality of financial report based on market demands because private firms reduce information asymmetry through private communication between managers and other parties. Size, MTB and leverage are taken as control variables and argue that these controls have no effects on the results. However the study show that lower quality financial reports does not mean any failure of accounting or auditing standards.

Razzaq et al (2016) conduct a study on accounting conservatism. The results show that conservatism facilitates access to external fund, reduce the chances of underinvestment and minimize cost of funds by limiting the role of agents of shareholders as well as reducing agency problems. Conservatism plays an important role of governance to identify losses earlier and delay the upward shift in firm's values in response of quick recognition of revenues or upward valuation of assets, discouraging negative net present values and higher risk projects and state that information asymmetries reduces cost of fund between internal and external funds providers. The study conclude that conditional conservatism increases investment efficiency and have positive and significant relationships more over under and over investment problem of firms are mitigated by accounting conservatism. However in emerging market the relationship between investment and conservatism is negative while the level of conservatism is also lower.

The efficiency of a country financial reporting and disclosure system is crucial to its development and economically efficient public corporation and public security market as well as to the development of whole economy. The country, political, legal and institutional complexity cause changes in the in the financial reporting and disclosure of financial information. Due to the risk of litigation managers and auditors are motivated to increase transparency to disclose bad decision and report it in a timely fashion. To achieve an open market process with a genuine demand for reliable public information, establishing a system for setting and maintaining high quality independent accounting standard and establishing an independent legal system for detecting and penalizing frauds . Information asymmetry is to be resolved through public rather than private communication.

Private companies are more likely to resolve information asymmetry by an insider access model. Timely loss recognition increases financial statements usefulness generally, particularly in corporate governance and debts agreement. Hence timely loss recognitions of economic losses in an important attribute of financial reporting quality. Accounting income is barometer for evaluating financial reporting in general. The governance effect of timely loss incorporation is due to mitigating agency problems associated with manager's investment decision. Timely loss recognition increase managers' incentive to act quickly to limit economic losses and therefore increase efficiency of contracting between firms and managers. Debt agreements do not generally transfer decision right and accounting rules and practices are fundamentally asymmetric. Stock returns proxy for economic gains and losses assuming some degree of market efficiency.

Majeed, Zhang, and Wang (2016) examine the impact of product competition on accounting conservatism. The sample period of the study contain all A-listed non-financial companies of China Securities Regulatory Commission and have 17,428 firm-year observations for competition intensity with complete data in 38 industries. It covers the period of 2000-2014 and use Khan and Watts (2009) measure of conservatism. Results of the study suggest that non-price and intensity of competition increases conservatism and market industry based leader reveal lower conservatism. The study also reports that higher competition among rival and conservatism have positive association. The study concludes that competition and IFRS changes affects financial reporting and influences the impact of competition on conservatism and competition.

Watts and Zimmerman (1986) defines conservatism that the accountant should report the lowest possible value among possible alternative values for assets and highest value for liabilities. Revenues should be recognized later rather than sooner and expenses sooner than later. Conservatisms is capturing accountants' tendency to require a higher degree of verification for recognizing good news than bad news in financial statements. Under my interpretation of conservatism earning reflects bad news more quickly than good news. Debt contracting differences between private and public companies constitute a potentially important determinant of

financial reporting quality. Private companies have more debts and less long term than median company. The study use data for the period of 1989 to 1999 taken from financial analysis made easy supplied by bureau Vandijik. The study controls the Size to eliminate size difference between private and public firms.

Faulkender and Wang (2006) conduct study on corporate financial policy and value of cash. The study argue that financial constraint have association with information asymmetry that increase the cost of fund for firms. The study state that financially constraint firm with more and better investment opportunity have higher marginal benefits of higher cash. Shareholder likes more cash in hand in firms with lower debt to equity ratio instead of raising fund from capital market with high cost due to information asymmetry. Data for this study is taken from Compustat and CRSP databases for the period of 1971 to 2001 for non-financial firm and escaped negative net assets, negative equity value and negative dividend firm-year. Size and book-to-market values are taken as proxy for equity to capture the common risk sensitivity in stock prices by Fama and French (1997).

Accounting system keeps record of total wealth provided by investors and generated from operation. All these financial information recorded in balance sheet income statement and statement of changes in owner equity disclosed at the end of fiscal years. Under conservative accounting, operating and financial assets are reported separately because in stochastic behavior it significantly differs and conservative accounting results are complex (Feltham and Ohlson 1995).

Firm's value is unaffected in efficient market and all projects are funded that increase value of firm Modigliani and Millers (1958). However, growth opportunities and capital market imperfection affects firm's investment opportunities by increasing cost of debt relative to cost of equity (Greenwald, Stiglitz, and Weiss, 1984; and Myers and Majluf; 1984).

Hendriksen (1982) state that the idea of overstating liabilities and understating assets, reporting expenses earlier and delaying's profits decreases the relevance of financial information of firms. International accounting standards over a time increasingly become future oriented to serve a sole objective of usefulness in financial decision making and reduced governance role (IASB framework; IASB, 2006) and

the same board state that the concept of prudence and accounting conservatism are not desirable qualities of financial reporting information. Accounting objective is to provide timely financial information used in decision making by investors about security prices and all economic event that affect the value of firm over a period of time.

Current accounting use double entry system for last 500 years and still consider backbone of financial statements structure (Beaver 1998). Annual published financial statements meet heterogeneous demands of different users. Information asymmetry is reduced by mandatory financial reporting and disclosure of financial information of firm between managers and shareholders and lenders (Ball 2001). Givoly & Hayn (2000) observe increasing trends in reporting conservatism over time. Jarva (2010) discuss unconditional and conditional accounting conservatism. Financial reporting demand arises due to agency conflicts and information asymmetry (Healy & Palepu 2001). Watts (2003) argue that this issue of agency conflicts arises when managers use private information for their personal gains.

Feltham and Ohlson (1995) define conservatism on the bases of balance sheet valuation that in long run higher market value of net assets are expected. Penman and Zhang (2002) define that keeping net assets book values lower than market value selection method is conservative accounting. Accounting conservatism is a measurement principle of instead of stricter verifiability of good news as gain and bad news as loss by accountants or auditors. Accounting keeps record of all complex economic transaction unobservable to outsider. Accountant and auditors provides the summaries of all these transaction in shape of financial statistic in annual reports contracting upon. Recording downward shift in value of assets or losses immediately but delaying profit and increase in assets called principle of conservatism. This conservatism results in timely loss recognition results allowing debtholders to exercise contractual rights and restrict managers' action because of earlier violation of debt covenants. Thus accounting conservatism improves efficiency of debt contracts (Watts 2003a) (Beaver & Ryan 2005).

Chapter 3

Methodology

3.1 Sample and Data

This study investigates the performance of non-financial firms through accounting conservatism. It quantitatively examines the role of accounting conservatism in business investment efficiency. The data is taken from Karachi Stock Exchange, KSE100 index and annual reports of sample companies for the period of 1998 to 2015. The main reason of exclusion of financial firms is the differences in its accounting year and financing restriction.

Cross Sectional and time series data which is collectively called panel data is used for analysis of this study. Total 50 non-financial firm of KSE100 in 2016 is taken for analysis as Sample. Total number of firms of each sector is mentioned year wise. Table 3.1 reports the Description of sample for panel data.

TABLE 3.1: Sample Description.

S. No.	Industries Name	No. of Companies
1	POWER GENERATION & DISTRIBUTION	2
2	OIL & GAS EXPLORATION COMPANIES	2
3	FERTILIZER	1
4	CEMENT	8
5	OIL & GAS MARKETING COMPANIES	4

S. No.	Industries Name	No. of Companies
6	FOOD & PERSONAL CARE PRODUCTS	3
7	CABLE & ELECTRICAL GOODS	1
8	ENGINEERING	1
9	GLASS & CERAMICS	1
10	TEXTILE COMPOSITE	4
11	PHARMACEUTICAL	4
12	SYNTHETIC & RAYON	1
13	TOBACCO	1
14	AUTOMOBILE ASSEMBLER	4
15	CHEMICAL	1
16	PAPER & BOARD	1
17	REFINERY	2
18	AUTOMOBILE PARTS & ACCESSORIES	1
19	SUGAR & ALLIED INDUSTRIES	1
20	MISCELLANEOUS	2
21	TEXTILE SPINNING	1
22	LEATHER & TANNERIES	2
23	WOOLLEN	1
24	VANASPATI & ALLIED INDUSTRIES	1

3.2 Pakistan Stock Exchange

In Pakistan there are three main stock exchanges named as Islamabad stock exchange ISE, Lahore stock exchange LSE and Karachi stock exchange KSE. Karachi stock exchange is leading stock exchange in Pakistan. It is placed in Karachi and incorporated in 1949 while LSE incorporated in 970 and ISE established in 1989. All these three stock exchanges of Pakistan have 559 listed companies collectively. The indices as KSE-all share index, KSE-100, KSI-30 index, KSE-30 index. Its

market capitalization is \$89 billion till 2016. The indices as KSE-all share index, KSE-100, KSI-30 index, KSE-30 index.

3.3 Descriptive Statistics

These statistics describes the basic features of data. Descriptive statistics provides information about measures of central tendency and measures of dispersion. Mean, median and mode are included in measures of central tendency. Central tendency measures for a given set of data shows the central position and most common pattern of data analyzed through mean, median and mode. Mean or arithmetic mean is calculated by adding all numbers in data set and then the sum of all number is divided by count of number. Median describes the middle number in data set. While modes represents that number of data set which appears most in data set.

Measure of dispersion provides detailed information about standard deviation or variance, the minimum and maximum variables, and kurtosis and skewness. Standard deviation measures the dispersion in a set of data from its mean. It is calculated as the square root of variance by determining the variation between each data point relative to the mean. As much the data points close to the mean there be lower the deviation in data. Kurtosis statistically measures the distribution of observed data around the mean. Skewness in statistics means the asymmetry from normal distribution in given set of data. It may be negatively or positively skewed i.e. skewed the left (negative) and right (positive) respectively.

3.4 Correlation Matrix

Correlation analysis helps to identify the issue of multicollinearity (collinearity) among independent variables. It is a phenomenon where two or more independent variables in multivariable regression are correlated highly which means one independent variable predicts another independent variable linearly with accuracy.

3.5 Panel Data Analysis

Finally this study uses panel data analysis as it uses time series and cross-sectional data. This analysis is performed by common constant (common confident) model, fixed effect model and random effect model. In this investigation of the effect of conservatism common constant (intercept) is applied on data of sample companies listed at Pakistan stock exchange for the period June 1998 to June 2015. F-statistics is used for selection between common coefficient and fixed effect models. F-statistic if show insignificant results for fixed effect model then common coefficient model are used. Similarly decision between fixed affect model and random effect model is taken on the basis of Houseman test.

3.6 Conservatism (CONS)

Conservatism is measured by using proxy proposed by Khan and Watts (2009). According to Khan and Watts (2009), Conservatism is "the annual decile ranks of the three-year average (year's t, t-1, and t-2) of total timelines of loss recognition (G-score and C-score) as known as CONS". This conservatism is based on size, market-to book ratio and leverage. For conditional conservatism, the firm-year proxy is the proxy of Khan and Watts (2009). To capture the effect of good news, at the firm level (G-Score) is used that is developed by Basu (1997) and bad news effect is measured by C-score. By adding both, (G-score and C-score) the total timeline of news recognition is obtained. According to Lara et al (2015), this Conservatism helps to assess long term conditional conservatism, which has contracting value and the same is used by Ball and Shivakumar (2005). Khan and Watts (2009) and Callen et al. (2010) studies support stability of proxy of conservatism. According to Lara et al (2105), this measurement of conservatism by Khan and Watts (2009) changes if the determinants of Conservatism change while size leverage and market to book ratio are the three linear determinants of it. It is also supported by the Ettrege, Huang and Zhang (2012) and Jayaraman

(2012) that variation in firm level Conservatism is measured by Khan and Watts (2009) proxy of Conservatism.

The theory of conservatism shows that accounting conservatism varies with variation in these specific characteristic of firm and empirical testing support it (La fond and Watts 2008). The whole process of this proxy development and its basics equation is given here.

In the first step, data for non-financial firms is collected for ordinary share, capital shareholder equity, total assets, debt to equity, market price of share and return on assets.

Return on assets are used as proxy of earning where

$$\text{Earn}_j = \text{Return on Assets}$$

Returns are calculated from market price of share to capture the effect of good news and bad news respectively at the end of fiscal years (June price) by taking log of current year market price of share divided by previous year (market price of share) MPS (Lara 2015).

$$\text{Return} = \ln (\text{p-t/p-t+1})$$

After this calculation of return for all firms' yearly, G-Score that is called timelines of earning to good news and incremental timeliness of earning (C-Score) is drawn from the Basu (1997) cross- sectional specification as follows:

$$Earn_j = \beta_0 + \beta_1 Neg_j + \beta_2 Ret_j + \beta_3 Nge_j Ret_j + \varepsilon_j \tag{3.1}$$

Earn shows Earning of firm, *Ret* means Returns which measure news While β_0 is intercept of this equation, *Neg* is dummy variable that equals to 1 when *Ret* is Negative and 0 otherwise. In this equation, β_2 shows good News and β_3 measure incremental timeliness of bad new over good news. By adding β_2 and β_3 the total timeliness of bad news is obtained. However for measuring the firm-level conservatism Khan and Watts (2009) modified this model by adding of annual G-Score and C-Score.

3.7 G-Score and C-Score

$$G - Score = \beta_2 = \mu_1 + \mu_2 Size + \mu_3 MTB + \mu_4 Lev \qquad (3.2)$$

$$G - Score = \beta_3 = \lambda_1 + \lambda_2 Size + \lambda_3 MTB + \lambda_4 Lev \qquad (3.3)$$

In above equation μ_1 and λ_i (i = 1-4) are annually estimated cross- sectional regression. It remains constant across firm however change over time. Due to variation of cross sectional firm's characteristics (Size, MTB, Lev) G-score and C-Score also varies.

Now complete data set is available like name of company, year, Earning, Return, Neg (Dummy variable) and Neg-Return for running initial test of this study for β_2 and β_3 measurement. While the effect of bad news (Negative return) is measured by using Dummy variable that negative return is identified by 1 and positive return by 0 by using "IF" function in excel and then this Dummy is multiplied with return of each year and every company. After running the equation on this data set the results of return Coefficient (β_2) and negative return coefficient (β_3) are calculated and place with every respective company yearly.

After the calculation of β_2 and β_3 of Equation (3.1) G-Score and C-Score are estimated by using equations (3.2) and (3.3) as reported above. From results the Intercept (μ_1) and coefficient of Size, MTB and Leverage are taken and G-Score for each company is estimated. The same procedure is applied for calculating C-Score by estimating (β_3) from equation (3.3). The sum of total timeliness is obtained by adding both G-Score and C-Score and then three year cross sectional average (t, t-1, and t-2) of total timeliness is taken that result in Conservatism.

Rayan (2006) criticize Basu measure of conservatism despite of its most wide use because it has limitation that whether it is estimated for industry or firm years timeliness. The study argue that measuring conservatism for industry consider firms are homogeneous that does not capture cross sectional variation while firm level measurement of conservatism is effected by assumption of same operating characteristic of firm. Callen et al (2008) and Rayan (2006) support Khan and

Watts (2009) measure of conservatism because it captures both changes in conservatism variation across firms within industry and overtime.

This study also uses the same proxy of conservatism that capture the whole effect of cross section and time series variation in conservatism Khan and Watts (2009) as well as Lara et al (2015) use the same for studying investment efficiency of non-financial firms.

3.8 Conservatism and Investment Efficiency

In this study link between accounting conservatism and investment efficiency is explained by Biddel et al (2009) and Lara (2015) methods. The model is modified by considering the presence of information asymmetry in the market. The basic reason behind using this model is its ability of reducing the effect on over and Under Investment. This model captures the effect of Conservatism on Investment of Firms as under:

$$Investment_t = \beta_t + \delta_1 CONS_t + \delta_2 CONS_t \times InfoAsymt$$
$$+\delta_3 CONS_t \times UnderInvest\delta_4 CONS_t \times UnderInvest_t \times \qquad (3.4)$$
$$InfoAsymt + Size + MTB + Lev + \varepsilon_{t+1}$$

Investment mean investment calculated on the basis of average industry investment of firm over a time in all goods irrespective of capital or non-capital nature of goods, research and development expenditure, all acquisition expenditure except cash receipts from sale of any fixed assets like property, plant and equipment. Cons is that firm-year-specific conservatism measurement which is calculated by using Khan and Watts (2009) proxy of conservatism, i.e. three year annual average of G-Score and C-score which is linear function of Size, MTB and Leverage characteristic of firm. Size is the log of the market value of equity. MTB is the market-to-book value of equity ratio. Leverage equals short-term plus long-term debt scaled by the market value of equity. Under/Invest mean if any firm invest less or more than industry average in that specific time.

UnderInvest is used as a proxy for detection of firm settings prone to under or over investment in relation to aggregate industry average investment. For this purpose Biddle et al. (2009), Lara et al (2015) method of aggregate industry under or over investment method is used. In this method individual firm investment is compared with overall average of industry- year investment than if a firm invest more than industry average called overinvestment otherwise underinvestment. In each industry minimum number of observation are 18 and it depends on the number of firms in an industry. The Study further investigates whether firm investments are reduced by conservatism if high information asymmetry exists. Lara et al (2015) expects that in the presence of asymmetric information effect of conservatism is conspicuous on investment.

Conservatism, underinvestment, and Investment are defined and explained in the first equation estimation process. However information Asymmetry is new variable in this regression estimation. This variable is used for debt providers. Therefore the credit rating is used for all firms. All those firms which have credit rating are marked 1 over a period and 0 for those years that have no credit rating. This credit rating in Pakistan for non-financial firm is done by JCR-VIS (Japan Credit Rating Agency Limited, Vital Information Services Pvt Limited) and PACRA Pakistan Credit Rating Agency. LaFond and Watts (2008) use market-based proxy for debt providers and researcher have Bid-Ask Spread too but this study use credit rating for information asymmetry as suggested by Sufi (2007, 2009), Faulkender and Petersen (2005) and Lara et al (2015) who also use this proxy in their studies for measuring information asymmetry. The logic behind it is if a firm has no credit rating will have higher information asymmetry than those whose credit rating exists.

3.9 Association between Conservatism and Debt Financing Decision of Firm

The link between Conservatism and debt financing is explained by Lara et al (2015). However the above modified model is used to capture the effect of conservatism on debt financing of firms as under:

$$
\begin{aligned}
DebtIssuance = \beta_t &+ \delta_1 CONS_t + \delta_2 CONS_t \times InfoAsymt \\
&+ \delta_3 CONS_t \times UnderInvest_t + \delta_4 CONSUnderInvest_t \times \\
&\quad InfoAsymt + Size + MTB + Lev + \varepsilon_{t+1}
\end{aligned} \tag{3.5}
$$

Change in debt issuance is dependent variable in this equation. It is the change in total debt of firm from average industry and then for each year. This total debt means long-term debt and current debt or short term debt. According to Lara et al (2015) if a firm is less conservative and overinvest issue less debt as compared to more conservative firm that is in setting prone to underinvestment hence the sum of δ_1 and δ_2 expected to be positive and significant.

3.10 Association between Conservatism and Equity Financing

$$
\begin{aligned}
EquityIssuance, t+1 = \beta_t &+ \delta_1 CONS_t + \delta_2 CONS_t \times InfoAsymt \\
&+ \delta_3 CONS_t \times UnderInvest_t + \delta_4 CONS_t \times UnderInvest_t \times \\
&\quad InfoAsymt + Size + MTB + Lev + \varepsilon_{t+1}
\end{aligned} \tag{3.6}
$$

Equity issuance is dependent variable in this equation. It is the total shareholder equity.

Shareholders equity is calculated by subtracting total liabilities from its total assets. Lara et al (2015) predict that conservatism have negative association firm prone to underinvest setting with equity issuance. The study use equity issuance as dependent variable without any change in existing model. The argument and

logic of negative relationship (association) based primarily on two reasons. First equity providers prefer that debtholders provide funds for new projects because they monitor efficiently in case of underinvest. Second thing is that shareholders are not interested to provide funds to more conservative firms. Hence conservatism helps to avoid investment in negative net present value project and risky projects. Therefore the δ_1 δ_2 sum is expected to be negative for equity issuance.

3.11   Conservatism Impact on Profitability

$$
\begin{aligned}
ROA_{(t+1,t+2,t+3)} = \beta_t &+ \delta_1 CONS_t + \delta_2 CONS_t \times InfoAsymt \\
&+ \delta_3 CONS_t \times UnderInvest_t + \delta_4 CONS_t \times UnderInvest_t \times \\
&InfoAsymt + Size + MTB + Lev + \varepsilon_{t+1}
\end{aligned}
\tag{3.7}
$$

Average return on assets is dependent variable to measure accounting performance of firms. Income before interest and tax divide by total assets is taken as return on assets as percentage. Three year average of return on assets is used for two reasons. First to reduce error of measurement and second is that new investment will take time to produce return.

Lara et al (2015) state that conservatism effect profitability because its impact on investment and financing consequences of firm. The study reports that in case of overinvestment conservative firms reduce investment in risky and negative net present value projects that results in higher profitability. These results are consistent with the prediction of (Hope and Thomas, 2008), (Francis and Martin, 2010) who also finds that more conservatism improves profitability. However Lara et al (2015) state that in case of under investment the effect of conservatism on profitability after investment and financing effect is not clear. Shareholders prefer prudent projects that have lower risk and positive rate of return. Therefore more conservative firms return on assets will be lower than less conservative firms.

Chapter 4

Results and Discussion

4.1   Descriptive Statistics

Table 4.1 reports the descriptive statistics of variables. It includes mean, median, maximum and minimum, Standard Dev., skewness and kurtosis. Average or mean of Conservatism is 0.001611 while it has maximum value 0.064435 and minimum value is -0.24714 during sample period. Average deviation of conservatism is 0.026526. This is negatively skewed with kurtosis value (25.2327). This value of kurtosis is greater than 3 hence it indicates that data is peaked. The Jarque-Bera test shows the distribution of data. If its probability is small it means that null hypothesis of normal distributing is rejected. Here it shows that it is not normally distributed. Average of size is 84806368 while its maximum value is 3.23E+09 and minimum value 0 during sample period. Average deviation of size is 2.50E+08 positively skewed with kurtosis value 49.08995. This value of kurtosis is greater than 3 hence it indicates that data is peaked. The Jarque-Bera shows that a null hypothesis of normal distribution is rejected.

Mean of the MTB is 0.129596 while its maximum value is 2.197738 and minimum value is -1.35407. Deviation in the MTB from mean is 0.188947. It is positively skewed with kurtosis value 36.76633. This value of kurtosis is greater than 3 indicates that data is peaked. The Jarque-Bera probability is small which shows that data is not normally distribute.

TABLE 4.1: Descriptive Statistics.

	CONS	SIZE	MTB	LEV	InfoAsym
Mean	0.001611	84806368	0.129596	186.3747	0.818286
Median	0.009395	88359.92	0.081654	52.2	1
Maximum	0.064435	3.230000	2.197738	48754.6	1
Minimum	-0.24714	0	-1.35407	-6129.2	0
Std. Dev.	0.026526	2.500000	0.188947	1716.358	0.385829
Skewness	-4.00883	5.7251	3.697096	26.14804	-1.65082
Kurtosis	25.2327	49.08995	36.76633	736.0757	3.725212
Jarque-Bera	20364.75	82227.77	43561.85	19692418	416.6013
Probability	0	0	0	0	0

Mean of the MTB is 0.129596 while its maximum value is 2.197738 and minimum value is -1.35407. Deviation in the MTB from mean is 0.188947. It is positively skewed with kurtosis value 36.76633. This value of kurtosis is greater than 3 indicates that data is peaked. The Jarque-Bera probability is small which shows that data is not normally distribute.

Average of leverage is 186.3747 whiles its maximum value is 48754.6 and minimum value is -6129.2. Average deviation in leverage is 1716.358. It is positively skewed with kurtosis value 736.0757. This value of kurtosis is greater than 3 which mean that data of leverage is peaked. Jarque-Bera probability indicates that null hypothesis of normal distribution is rejected.

Information asymmetry mean value is 0.818286 while maximum value is 1 and minimum value is also 1.

4.2 Correlation Matrix

Table 4.2 reports correlation between Size, MTB and leverage to test the problem of multicollinearity among these variables. None of these variables have the issue of multicollinearity because all variables report insignificant relationships. The relationship or associations among these variables is negative. These results of

correlation are consistent with the results of Lara et al (2015) results who also report insignificant and negative relationship among Size, Market-to-Book ratio and Leverage.

TABLE 4.2: Correlation Matrix.

	Size	MTB	Lev
Size	1	-0.12261	-0.03651
MTB	-0.12261	1	-0.0265
Lev	-0.03651	-0.0265	1

Table.4.3 Reports the results of impact of Conservatism on investment efficiency in the presence of information asymmetry. This study studies the impacts of conservatism on investment efficiency in the presence of information asymmetry. In Table 4.3, the value of intercept 0.1189 is insignificant. Conservatism is significant which means conservatism effects investment efficiency. Conservatism coefficient is -1.32E+08 have negative sign (-) shows negative relationship between conservatism and investment. These results are consistent with study of Lara et al (2015) study. This negative and significant relation confirms that conservatism constraints investment in firms.

Further conservatism is used in interaction term with underinvestment and information asymmetry to test the combine effect of these variables. Second variable used in interaction term is Cons-InfoAsy (Conservatism*Information Asymmetry). It is significant. It means that Conservatism*Information Asymmetry significantly affect investment efficiency. Its coefficient is 1.59E+08 which indicate positive relationship among Investment efficiency and Cons-InfoAsy. It means that in the presence of high information asymmetry conservatism contribute to greater investment efficiency of firms. These results are consistent with the results of Lara et al (2015). These results suggest that conservatism is beneficial for investment in firm having high information asymmetry.

TABLE 4.3: Impact of Conservatism on Investment Efficiency.

Variables	Coefficient	t-stat	Prob
C	451722.7	1.560976	0.1189
CONS	-1.3200000	-4.25655	0
CONS_UNDER	-5.700000	-1.20244	0.2295
CON_INFOASY	1.590000	6.424947	0
CONS_UNDER_INFOR	-6.70000	-1.35233	0.1766
SIZE	0.009594	4.298028	0
MTB	4270190	3.626711	0.0003
LEV	66.68518	0.576077	0.5647
Adjusted R-Squared	0.31218		
F-statistic	57.60401		
Prob(F statistic)	0		

The p-value for Conservative-Underinvestment is 0.2295 and Conservative-Under-investment-Information-asymmetry 0.1766. These variables show insignificant impact on investment efficiency. The other variables (SIZE, MTB and LEV) are control variable which means that the effects of these variables are controlled on investment efficiency as like Lara et al (2015). Size is significant and positive indicates that big firms have investment efficiency as compared to small firms.

Adjusted R-Squared is 0.31218. This explanatory power of model is considered sufficient in such studies like Lara et al (2015) and Biddle et al (2009) reports Adjusted R-Squared as 0.339 and 0.337 respectively. F-statistics significant means is correctly specified as all betas are not zero.

Table 4.4 Reports the results for impact of conservatism on debt financing.

This exact significant positive relationship between conservatism and debt financing timeline recognition of good and bad news increase the confidence of debt providers. The study reports that relationship between conservatism and debt finance indicates that conservative firm issue more debt as compared to less conservative firms. Previous study Lara et al (2015) predict that more conservative

firms issue more debt than less conservative firms. The Cons-InfoAsy is significant. Its coefficient is -4.25E+08. Its negative relationship shows that information asymmetry reduces the uses of debt. The remaining independent variables including control variables are insignificant which means that these have no effect on change in debt financing. Conservatism-underinvestment coefficient is -1.42E+08 and conservatism-underinvestment-information asymmetry coefficient is 1.29E+08. While coefficients of control variables Size, MTB and Leverage are 0.00283, -3902613 and -77.147 respectively.

TABLE 4.4: Impact of Conservatism on Debt Financing.

Variables	Coefficient	t-stat	Prob
C	809911.3	1.134349	0.257
CONS	4.6000000	6.015681	0
CONS_UNDER	-1.4200000	-1.21876	0.2233
CON_INFOASY	-4.2500000	-6.94231	0
CONS_UNDER_INFOR	1.29000000	1.060512	0.2892
SIZE	0.00283	0.513789	0.6075
MTB	-3902613	-1.34504	0.179
LEV	-77.147	-0.27012	0.7871
Adjusted R-Squared	0.068509		
F-statistic	10.18294		
Prob(F statistic)	0		

Adjusted R-squared value is 0.068509. This explanatory power of model is usually low consistent with the explanatory power value of previous study of Lara et al (2015) which is 0.033. F-statistic is significant which means the model is correctly specified as all betas are not zero.

Table 4.5 reports the impact of conservatism on equity financing in the presence of information asymmetry.

TABLE 4.5: Impact of Conservatism on Equity Financing.

Variables	Coefficient	t-stat	Prob
C	2943525	7.230352	0
CONS	-6.0000000	-13.7534	0
CONS_UNDER	-2.270000	-3.42818	0.0006
CON_INFOASY	5.2000000	14.89817	0
CONS_UNDER_INFOR	1.1200000	1.604633	0.1089
SIZE	0.01172	3.73224	0.0002
MTB	10096646	6.102949	0
LEV	42.99744	0.264037	0.7918
Adjusted R-Squared	0.57969		
F-statistic	173.2025		
Prob(F statistic)	0		

Here in this case of equity financing, intercepts is significant. This significance shows that these variables do not fully explains the effect on equity financing some other omitted variables exist. Conservatism, conservatism-underinvestment, conservatism-information asymmetry significantly affect equity financing. Conservatism has significant negative impact on equity financing. It means more conservative firms do not prefer equity financing. The coefficient of conservatism-information asymmetry is 5.20E+08 showing positive association which means in the existence of information asymmetry firms are forced to use equity as debt providers are not willing to investment. These results are consistent with results of Lara et al (2015) and Artiach and Clarkson (2010) that exhibit negative association between conservatism and equity issuance for firms. The reasons of negative association are shareholder prefer prudent new projects to be financed through debt. Hence debtholders monitor efficiently through contracting. Similarly underinvestment firms found it difficult to arrange equity financing as significant. Insignificant relationship result is observed between conservatism-underinvestment-information asymmetry under equity financing. Control variable size is significant in equity indicates big firms use more equity financing. Market to Book ratio is also significant

and positive indicating growing firms can go for high level of equity financing. Adjusted R-Squared value is 0.57969 which is high and sufficient explanatory power as compared to previous study of Lara et al (205) has observed 0.043. F-statistics is significant that confirms this model is valid.

Table 4.6 reports the impact of conservatism on profitability.

TABLE 4.6: Impact of Conservatism on Profitability.

Variables	Coefficient	t-stat	Prob
C	14.58987	29.30489	0
CONS	-65.7689	-1.23322	0.2178
CONS_UNDER	-14.3976	-0.1778	0.8589
CON_INFOASY	-174.792	-4.09383	0
CONS_UNDER_INFOR	2.491172	0.029265	0.9767
SIZE	-1.830000	-4.77593	0
MTB	-6.99684	-3.45829	0.0006
LEV	-0.00032	-1.59408	0.1113
Adjusted R-Squared	0.120391		
F-statistic	18.08897		
Prob(F statistic)	0		

The effect of conservatism on investment and structure of financing is tested earlier. Investment and financing mix influence the firms' profitability. Therefore the analysis of profitability is also important.

In this analysis, intercept is 14.58987 and its Prob value is significant. It means some other omitted variables exist that can effect return on assets. In this study only one variable significantly affect profitability that is Conservatism-Information asymmetry. It coefficient -174.792 is significant. Its sign is negative which means that in the presence of information asymmetry negatively affect profitability. All other variables are insignificant that means these variables have no effect on profitability. These results are contradictory with results of Francis and Martin (2010) and Hope and Thomas (2008) who argue that conservatism increase future return

on assets by reducing investment in negative-NPV projects and that better financial reporting lead to higher profitability respectively. However the Lara et al (2015) suggest that firms exposed to under investment have not a clear effect on ROA after the effects of investment and financing.

Adjusted R-Squared value in this study is 0.120391 while a similar study by Lara et al (2015) has 0.138. F-statistics is highly significant which means that all betas are not zero.

Chapter 5

Conclusion and Recommendation

5.1 Conclusion

The aim of this study is to identify and explain the relationship among conservatism and investment efficiency, financing and profitability. It also highlights the effect of conservatism in the presence of information asymmetry. The empirical result of this study shows that conservatism and investment has significant negative relationship that means conservatism has significant effect on investment efficiency and conservatism constrain investment. However, conservatism- information asymmetry have positive related to investment efficiency which also confirm that in the presence of high information asymmetry conservatism contribute to investment efficiency. Specifically this study finds that more conservative firms make less investment. Conservative reporting of financial information in presence of high information asymmetry compels managers to close negative-NPV projects with higher risk and improves investment efficiency.

In this study the relationship between conservatism and debt financing is significant which means that conservatism encourages debt provider. Results of this study shows that more conservative firms prefer to finance projects through debt financing. However the finding of the study show that relationship between debt financing and information asymmetry is negative. This negative relationship shows that in the presence of high information asymmetry reduces debt financing. These

results are consistent with previous studies of Lara et al (2015) Gox and Wegenhofer (2009). The reason behind it as suggested by Lara et al (2015) that debtholders efficiently monitor their investment through debt contracting.

Results of the study show that conservatism, conservatism-under investment and conservatism and information asymmetry has significant effect on equity financing. Conservatism has negative significant relationship with equity financing which means conservatism reduces the use of equity financing. However information asymmetry has positive relationship with equity financing. It means that in the presence of high information asymmetry equity be used as compared to debt financing. Results also show that growing firms are encouraged to use equity financing as compared to debt financing. Further findings of this study show that shareholders do not provide additional funds to more conservative firms and do not prefer to overinvest for purpose to reduce investment inefficiencies.

The relationship between conservatism and profitability provides that conservatism has no impact on profitability. Finding of the study shows that conservatism and conservatism information asymmetry and profitability have significant relationship and this study provide evidence that in the presence of information asymmetry profitability further declines. So on the basis of the results of study it stated that conservatism reduces profitability. Lara et al (2015), Francis and Martin (2010) and Hope and Thomas (2008) also suggest that conservatism destroy overall profitability in the presences of information asymmetry.

Finally, overall finding of this study suggest that more conservatism is beneficial for investors to protect their funds in the form of investment efficiency and avoiding investing funds in risky projects of negative-NPV.

These results suggest that conservatism improve investment efficiency by closing risky projects soon. The finding of this study also show that firms' uses more debt because equityholders do not provides further equity and discourages overinvestment. The study suggests managers in the presence of high information asymmetry use pet projects which helps them in achieving their personal financial objective. These more debt and high information asymmetry effect profitability.

Hence this study contribute to body of existing knowledge of conservatism that the timelier recognition of losses in financial statements, results positive economic outcomes. This study also rejects the opinion of researcher who argues that conservatism should be eliminated from accounting regulatory frameworks. The elimination of conservatism not only leads to higher cost of monitoring but will results investment inefficiencies (Ahmed et al, 2002; Guay and Verrecchia, 2007; LaFond and Watts, 2008; Wittenberger-Moerman, 2008; Zhang, 2008; Garcia Lara et al, 2011;Gormley et al, 202; Jayaraman and Shivakumar, 2013).

5.2 Recommendation

Debt-holder should demand conservative financial reporting from firms to report losses on time. Hence debt-holder can protect investment through debt contracting.

Conservatism is helpful for shareholders of business to safeguard their investment and maximize the value of firm. Conservative reporting identifies negative net-present value projects and risky projects earlier.

Regulators and standards setter should implement conservatism in financial reporting for purpose to direct managers for showing the real situation of firms to shareholder. Thus it will resolve the agency problem.

5.3 Direction for Future Research

In this research few variables are taken into consideration like under-over-investment and information asymmetry. While future studies may link accounting conservatism with corporate governance, directors role in contracting and standard setters regulation are some important area. That may help further to explore the role of accounting conservatism for investors and debt providers.

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Appendix

Investment

It is Investment mean investment calculated on the basis of average industry investment of firm over a time in all goods irrespective of capital or non-capital nature of goods, research and development expenditure, all acquisition expenditure except cash receipts from sale of any fixed assets like property, plant and equipment.

Conservatism

Conservatism is that firm-year-specific conservatism measurement which is calculated by using Khan and Watts (2009) proxy of conservatism, i.e. three year annual average of G-Score and C-score which is linear function of Size, MTB and Leverage characteristic of firm. G-Score and C-Score purpose is to capture the effect of good news, at the firm level (G-Score) is used that is developed by Basu (1997) and bad news effect is measured by C-score. By adding both, (G-score and C-score) the total timeline of news recognition is obtained.

Size

Size is calculated by Number of Shares of a firm into Price of a share. Size is the log of the market value of equity.

MTB

MTB stand for Market to Book Ratio. MTB is the market-to-book value of equity ratio.

Leverage

Lev stands for Leverage. Leverage equals short-term plus long-term debt scaled by the market value of equity.

Under/Invest

It means if any firms invest less or more than industry average in that specific time. Under/Invest is used as a proxy for detection of firm settings prone to under or over investment in relation to aggregate industry average investment. In this method individual firm investment is compared with overall average of industry-year investment than if a firm invest more than industry average called overinvestment otherwise underinvestment.

Information Asymmetry

InfoAsym stands for Information Asymmetry. It is based no credit rating of firm and used for debt providers. Therefore the credit rating is used for all firms. All those firms which have credit rating are marked 1 over a period and 0 for those years that have no credit rating.