FORECASTING FUTURE CASH FLOWS BY USING EARNINGS, SHORT TERM AND LONG TERM DISAGGREGATED ACCRUALS

By

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THESIS AND DEFENSE APPROVAL FORM

The undersigned certify that they have read the following thesis, examined the defence, are satisfied with the overall exam performance, and recommend the thesis to the Faculty of Management Sciences.

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Candidate of Master of Science in Business Administration at the National University of Modern languages do hereby declare that the thesis **FORECASTING FUTURE CASH FLOWS BY USING EARNINGS, SHORT TERM AND LONG TERM DISAGGREGATED** ACCRUALS submitted by me in partial fulfillment of MS degree, is my original work, and has not been submitted or published earlier. I also solemnly declare that it shall not, in future, be submitted by me for obtaining any other degree from this or any other university or institution.

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This thesis has been read by me and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and thus fulfils the requirements of this study. It is ready for submission to the Faculty of Advanced Integrated Studies and Research for internal and external evaluation.

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Date:

DEDICATION

I dedicate this research to my parents and especially to my father who is a real source of motivation and inspiration to me, not because he is my father rather because of his conduct, honesty, dedication towards his profession and way of living. No doubt due to special blessing of ALLAH and prayers of my parents today I am able to complete this study.

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I would like to thank the great ALMIGHT ALLAH who made me wise and created opportunities for me in this world. It wouldn't have been possible for me to start and complete this thesis if HE did not enlighten me with the skills to conduct thesis... It was HIS blessings which made it possible for me to pile up and complete my thesis on time.

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Last but not least I am highly thankful to my parents and husband who were there for me and supported me all this time. This thesis is dedicated to ALMIGHTY ALLAH as well as my parents & professors.

Kulsoom Hidayat

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Cash Flow	CF
Financial Accounting Standard Board	FASB
Pakistan Stock Exchange	PSX
Change in account receivables	ΔAR
Change in account payables	ΔAP
Change in inventory	ΔINV
Depreciation	DEP
Earnings	EARN

ABSTRACT

Title: FORECASTING FUTURE CASH FLOWS BY USING EARNINGS, SHORT TERM AND LONG TERM DISAGGREGATED ACCRUALS

This research investigated the predictive ability of earning along with short term accruals and long term accruals to forecast future cash flows by using model developed by Barth in 2001. The main aim of this research is to forecast the future cash flow by using earnings and disaggregated accruals both short and term accruals and to find out that which one of them is the best predictor of future cash flow. Four prediction models are used for the forecasting of future cash flow by using the regression. In order to achieve this aim, data of 50 firms listed on Pakistan stock exchange PSX for the period of January 2008 to December 2017 is utilized as a sample. The insight of this study is that current earning alone is not a better forecaster of future cash flows. The predictive ability of current earning is increased when it is used in a model along with accruals. The findings also suggest that the predictive capability of long term accruals is better than short term accruals. Two models Fixed effect and random effect, is used for the panel data, are tested. After that other tests are organized to find out that which model is suitable for the analysis. Three independent variables *(Earnings, Short Term Accruals and Long Term Accruals)* and one dependent variable *(Cash Flows)* are used in the study.

Keywords: Future Cash Flows, Non-financial companies, short term accruals, earnings, long term accruals.

CHAPTER 1

INTRODUCTION

1.1. Introduction

This part of the chapter gives us the outline and depicts the arrangement of this study. Following are the sections that are discussed in this part. The first part introduces the chapter. Background of the study is given in the next part of the research, the structures well the research purpose which establishes the idea of the study is also given. Than another part of this section tell us regarding the problem statement of the study which tells about the research problem in the research. In the fourth part of the chapter justifies the objectives of the research? In fifth part of the chapter tells about the scope of the research whereas in sixth part of the chapter we have discussed about the importance of the research that what is the importance of this study and how it is going to contribute the companies in their decision making process.

1.2. Background of the Study

The cash flows statement usually assists and helps out all the people who are interested in a business, stakeholders or partners who have concerned with the financial statements regarding the assessments of the company's capability to have enough money as well cash equivalents. In same way the cash flow statement also find out the company need to make use of those cash flows in their operations.

Cash flows forecast area vital role since it is included in different financial decisions. Investors, for case, require data almost for future cash flows, since esteem of their speculation be the display esteem of long run cash flows to them, from side to side

contributing in a corporation. Within the similar method, the capacity of a corporation is to produce or make the cash flow and it is reflected in the value which is offer for it. Investigation is carried out in a country which proposed that cash flows is comprise of more significance to the stocks which are advertise, Narktabtee (2002) . In this way anticipating future cash flows allow financial specialists to foresee the stock cost.

In expansion, the Financial Accounting Standard Board (FASB) recommended by means of intention of money related detailing can offer assistance to client's survey in future cash flows FASB, 1978. In all of the cash related issues cash flow play a very vital part. Majority of the analysts has done to examine the prescient capacity and predicatively of profit beneath an accruals and book keeping premise and cash streams, in foreseeing the future cash flows Neil et al.,(1991). The accounting board FASB in 1978 attested with the aim of profit is far away superior; a greatly superior; a privileged; a stronger; an enhanced and a good sign of the fu ture ca sh streams than cash flows. In any case, past inquire about discoveries have appeared uncertain comes about.

In reacting to the financial community concerns, analysts begin observationally look at the impact of profit superiority on the convenience of bookkeeping information in 1998 by author Decoand Cheng et al.(2013) as well as profit execution and Mustafaet al.,(2014). So the outcomes about of these, thinks about uncover that the consistency off gatherings and cash flow is conditional on the level of profit quality. This think about that the cash flow will utilize an developing show case date to look at the impact of profit quality on the consistency of book keeping information. A few investigate has concluded that the prescient capacity of profit beats with the intention of cash streams in calculating the future cash flow, on behalf of case, thinks about the author Greenberg in 1986 along with other researchers. Within differentiate, a few result showed clashing comes outs about in which cash flows are the way superior sign or display of future cash fl ows Finger (1994), Percy and Stokes (1992). But in 1993, Mc beth redundant both the results and claim that cash flows and nor the profits are the great indicator of future cash streams. During expansion to the particular changeable variable testing, a few analysts include centered on numerous variables, such as the mechanism of profit counting cash

streams and gathering of book keeping information Barth et al., (2001) as well as Stammerjohan and Nassiripour (2001).

However Barth et al., (2001) utilized a straightforward time management show toward analysis the connection among gathering the parts of earnings and future cash streams. They accomplished the each collection part reflect unusual different data involving to future cash flow. Stammer john and Nassiri pour in 2001 simulated Barth, Pack and Nelson (2001) thinking and both these ponders has given prove that models based on cash streams and add up to gatherings gotten a predominant indicator of future cash flows in excess of models based exclusively on profit. Be that as it may Stammerjohan and Nassiripour's study provide powerless prove that forecast model based on cash stream and when add up to accruals do better than models based as it were on the cash flows.

In addition nearly everyone investigate have centered barely on working the cash flows, profit and accrual mechanism of profit. Those past consider have overlooked the possible of further cash flow vari ables, especially cash streams proportions. Cash flow proportions are intended as a result of utilizing information from both money stream explanation arranged on a money premise as well as the wage articulation is going on the collection premise. A cash flow proportion could be an instrument designed for the examining of a firms performance, Plants and Yamamura (1998).

In regard to cash flow information the examines in the past investigate, a few analysts have estimated cash flows by altering the salary from the salary explanations, while small investigate has used a genuine cash stream information straight forwardly inferred from explanations of cash streams McBeth,1993. To explore the use fullness of money cash flow statement, money stream information utilized in investigate analysis should be straight forwardly inferred from the cash stream articulations rather than intermediary cash streams procedures is designed by utilizing the information from the articulations of accruals.

Cash stream forecast ponders have been primarily based on information from the Joined together States. Here is the slight inquire about giving prove on the convenience

of cash stream explanations mostly in respect to the money stream forecast issues. Joined together States Company has been ordered to details the articulations of cash streams since 1988 beneath the Money related bookkeeping regular Number 95 according to the law which is (FAS 95). Within the study case of Thailand based company, a company includes unveiled cash stream statement from the time when 1994 based on that particular company book keeping standard. And hence, a lot of change within the announcing cash streams in every nation Donleavy (1994).

Investors and creditors has a fundamental require of analyzing the cash statements, as the price/cost of shares vary with the peaks and troughs in the firm's executions with respect to cash era. Both investors and creditors have isolated points of view looking at the cash flow statements, the previous examinations about long term and the last mention examinations of the short term capacities of a firm.

There is a great impact on the valuation of the firm's securities when firm has an ability to generate positive cash flows. Because of different accounting techniques used in earning of the firms are more exposed to intentional exploitation by the management compare to cash flows (Holthausen & Robert, 1990). The information is less reliable as the management more manipulates the accruals in the earning. Due to less disclosure to manipulation many analysts and portfolio managers suggest that to evaluate firm's performance so cash flow is a better option compare to earnings. Therefore to evaluate or calculate the firm's performance cash flows are very important.

Investors are interested in cash flows since the rise or drop in firm's cash flows can increment or diminish stock prices of a particular stock. Creditors are interested in deciding the firm's capacity to repay interest and principle amount and cash flow is one of the imperative pointers of firm's liquidity. For providers like creditors cash flows are exceptionally imperative to degree the liquidity of the business. The fundamental reason of this research is to help the investors of the stock exchange in their investment making decision regarding the selection of securities in their portfolio.

As the prices of the shares vary with the ups and downs of firm's performance as regards to its cash creation so the perception of both investors and creditors is different looking toward the cash flows statements.

That's why this study contributes towards the perceptive of the analytical capacity of existing profit and current cash flow for forecasting of future cash flow listed companies on Pakistan Stock exchange (PSX) Pakistan. The existing literature does not share empirical investigations on this theme in Pakistan and subsequently the outcomes about, are relevant to financial specialists in Pakistan who have venture inclinations in non-monetary businesses. In addition, cash flow's pertinence and importance in foreseeing the future cash flow is been tried and subsequently the significance of cash flow data from a stand point of reporting and revelation as required beneath book keeping controls by standards setting bodies is examined.

According to (Gombola, Haskins, Ketz, & Williams, 1987) cash-flows from the operation can be used as a failure's predictor in the short-run. Creditors like other stakeholders analyze both long as well as shorter run performance if it is seen from a general perspective however they are usually interested in considering the short term performance of a company to evaluate whether the firm can easily liquidate its assets and that how much of liquid assets are present in the company to pay back its debts, cash-flows will be the best and appropriate option to assess and gain insight regarding the facts of the company.

If we see it from perspective of investors so they generally rely and assess the facts related to long term performance of the company. This is done for the purpose to know that whether the company will be competitive enough to generate high returns in future or not. So therefore by predicting the future cash-flows this purpose can easily be met. These future cash-flows can be predicted through earnings as well as cash-flows however cash-flows provide a much brighter insight in forecasting the imminent CF's according to some researchers which do the study in their respective markets. Similarly the shareholders are also interested in seeing the financial position of the company in order to see that whether their investment is going to flunk down or not if they invest, which can be again monitored through the dividends as well as capital gains which as a whole are

components of cash flows. These clients and stakeholders have an enhanced capability to assess the ability of a firm to engender cash if they have sufficient information which comprises of finan cial status, capacity, accomplishment and cash-flows of a corporation. Correspondingly, the creditors, investors and the shareholders do analyze statements of the cash flows because prices of share rise and fall because of the company's productivity in terms of general of cash as well as cash equivalent. As investigated and proved by many researchers there have been an important and optimistic affiliation or association am ng cash-flo ws and returns of the stocks as they possess extra content as compared to earnings. Now in order to decide that in which stock to invest and that which stock will give high returns, cash-flows will be appropriate to choose.

Therefore the valuation of model in finance which are based on the values of future cash flows are (Amin, 2013). Thus it is very important to forecast future cash flows accurately because cash flows are of key importance in decision making for the creditors, managers, and investor etc.

Creditors are more attracted in the capacity of firm to disburse back the interest payment and principle amount. Cash flows are key marker of firm's capacity to compensate and give back the interest payment and principle amount. One of the indicator to demonstrate that company is going through financial crises is cash flows (Zwaig &Pickett, 2001).

Cash flows are more significant forecaster of firm's performance as compare to firm's profit (Bernstein & Wild, 1993)as they are less subject to handling by the administration due to non-inclusion of depreciation, account receivables etc. Another author Giacomino and Mielke, 1987 compared earnings or profit which is due to the presence of accruals are more subject to control by the managers also said by Holthausen and Robert, 1990.

As distant as commerce administration is concerned, cash must be adequate enough at whatever point you need it. Thus, overseeing cash successfully is basic for the firm's presence, Sharma R and Jones, 2000. Determining makes a difference a supervisor

that predict the challenges related to the trade or a firm , a back director must estimate the consequent and overcome the monetary challenges of a firm (Kelly & O'Connor , 1997) .

Anticipated cash streams offer assistance empowering the company to predict for its future operations and in like manner get ready for the incomes or costs to be made (Plewa&Friedlob, 1995).

The investigation of the variety between real and anticipated cash stream makes a difference decide the firms' executions and that to makes a difference in a capital budget investigation i.e.in inner capital venture (Brown and Cultivate, 1985). Ventures such as unused items, item lines development or stage of a hand resources: all come beneath the umbrella of capital ventures (Bierman, 1988). NPV and IRR are utilized as a device for measuring the execution of the extend Brigham and Gapenski, 1999. Evaluation of the extend requires the investigators or directors to calculate the speculation consumption and yearly cash streams from operations when the venture completes the forecasted working residency (Weaver & Michelson, 2003).

After the evaluation is made utilizing over strategies, supervisor should choose whether to lay off the venture or to acknowledge it. All things considered, estimating future cash flows are generated by the venture isn't a simple assignment to do as the calculations made on the introductory costs don't continuously donate exact outcomes about. Be that as it may, there's no prove of prognosticating future cash streams or any kind of show accessible within the writing of capital budgeting, sill, yearly working cash streams can be anticipated utilizing authentic information (Giaccotto,1990). Other than this, ponders with respect to estimating the future cash streams may be appropriate to capital budgeting as well.

Determining Cash streams may be a noteworthy step fundamental in making a number of financial choices. It is since cash flows contribute a major portion to the decision-making of numerous security analysts, supervisors and leasers (Staubus, 2004). In addition, Frigo and Graziano in 2003 state that for a firm issuing offers, expectation of future cash streams ought to be the exceptionally to begin with duty in measuring the firm's capacity to pay the profits. As a result, investigators are reluctant

to esteem the firm by fair looking at the mere benefit figure and prefer consideration of money stream information for the explanatory reason (Boyd and Cortese-Danile, 2000).

According to (Gombola et al., 1987) cash-flows from the operations can be utilized as a failure's predictor in the short-run. Creditors like other stakeholders analyze both long as well as shorter run performance if it is seen from a general perspective however they are usually interested in considering the short term performance of a company to evaluate whether the firm can easily liquidate its assets and that how much of liquid assets are present in the company to pay back its debts, cash-flows will be the best and appropriate option to assess and gain insight regarding the facts of the company.

Nikkinen and Petri (2004) expanded the cash flow forecast by the of researcher Barth in 2001, he said that disaggregating profit is interested in cash flow and the mechanism of collections with the day and time and nation impacts, to study the effect of book keeping background on the cash stream expectation. The outcome performs well in nations where the collections are utilized basically to accurate cash stream to superior reflect current benefit of the firm, i.e., in nations with high data substance of collections. It is implied that money streams forecast model by the researchers is utilized in numerous sorts of accounting environments.

If we see it from perspective of investors so they generally rely and assess the facts related to long term performance of the company. This is done for the purpose to know that whether the company will be competitive enough to generate high returns in future. By predicting imminent cash-flows this purpose can easily be met. These imminent cash-flows can be predicted through earnings as well as cash-flows however cash-flows provide a much brighter insight in forecasting the imminent CF's according to some researchers which do the study in their respective markets.

One of the first essential primary concerns these days is to look forward to the future cash-flows of companies. Since of this method of reasoning a principal run the show has been set by FASB to bless data which could help the firm who donate credits or loans, investor as well as other customers to estimate the size and timings of the unavoidable cash-flows. FASB is of the see that revenue as compared to up-to date cash

flows are predominant in forecasting inescapable cash flows. However various researchers carried out diverse studies some of which supported facts presented by FASB while others presented a different viewpoint in distinctive markets hence it is complicated to generalize same viewpoint for all the markets.

So we can assume that there are two key schools of belief; one favors the truth that earnings forecast the cash flows more precisely as supported by FASB, while the ot her fav ors truth that cash flows along with disaggregated accruals foresee futu re ca sh flo ws more accurately said by Barth in 2001.

This study will follow the model given by Barth in 2001 which favors the fact that disaggregated accruals and cash flows are so much helpful in forecasting the future cash flows for a company. In this research we will also examine the predictive ability of short term accruals and long term accruals that which one will be better forecaster of future cash flows by using short term and long term accruals at the same time in a model by analyzing that analytical capability of earni ng to predict the futu re ca sh flo ws will be improved or not. This research will be a parallel research with another research which will determine the analytical capability of current earnings and cash flows to forecast future cash flows. The research on this topic is already carried out in a lot of countries using different models but still the outcomes of the researches have been dissimilar for different countries.

1.3. Problem Statement

In developing countries like Pakistan to predict the company future cash flow accurately is challenging all along with this research is going to help out all the investors/creditors by providing them a tool to forecast firm's future cash flows effectively. Here in this study the predictive ability of current earnings when used with disaggregated accruals to forecast future cash flows is analyzed. This study is also comparing the analytical ability of short term accruals and long term accruals to find out which one of them is betterpredictor or forecaster of future cash flows by using data of non-listed financial companies of PSX(Pakistan Stock Exchange) 100 index from 2008 to 2017.

1.4. Research Question:

This study replicates the work of Barth et al. (2001) by applying the model specified by them to the Pakistan market. The model is based on a series of equations with each one taking into account a variable or set of variables and testing the predictive ability of those for future cash flows. This set of equations would provide with the answers to the following research questions.

- Is future cash flows prediction improved by using earnings?
- Does disaggregating accruals into its parts provide additional information than using earnings in predicting future cash flow?
- Does addition of the short and long term disaggregated accruals to the current earning model provide informational gains in the prediction of future cash flows?

1.5. Objective of the Research

- To forecast the future cash flows through up to date cash flows and disaggregated accruals.
- To find out whether the actual cash flows & disaggregated accruals have better explanatory power as compared to earnings.
- To find whether the findings of this research support the result given by model of Barth et al., (2001).

1.6. Importance of the Research

Various researchers have studied and highlighted the relation of forecasting of future cash flow using earning and disaggregated accruals short term and long term accruals. Yet, there are few studies have been conducted in many countries using different models for the predication of future cash flows but still the results of the studies have been different and not same for different countries. Hence, going into the detail the study that will design to narrow the gap between the outcomes or conclusions of the already existing researches. By using the non-financial companies listed on Pakistan stock exchange PSX as a sample of the research and compare the outcomes of the study with the other research's conducted in other developed countries.

Furthermore, it will also be a source of information and data for the investors, researchers and other related field master like academicians, managers etc as Pakistan comprises of a weak market where investors seek a lot of information before investing in different companies. The research will help out the stakeholders specially investors for decision-making, who are interested in forecasting the imminent cash-flows because; they need information about future cash flows, because the value of their investment is the present value of the future cash flows to them, through investing in a company. The reason being is, this correlation among these variables is imperative and warranted for the stakeholders and fund managers to take the investment decisions. The same will also become a reason of references to more investigate the topic in Asian market and also in developing countries.

1.7. Scheme of the Research

- Chapter 2 tells about the literature review the previous researches or studies done on predicting of future cash flows by using earning, short term accruals and long term accruals.
- Chapter 3 tells about fine points of interest with respect to the methodology used for this research, through which sources data is gathered, about the formation of

theoretical models that are used in this study all is going to be discussed in this chapter.

- In Chapter 4 we will tell that how the data is analyzed by using different software's and then we will clarify the research conclusion.
- Whereas in Chapter 5 it will give a short and brief ending on the subject of the study.
- In the end of the study there are references with the help ofwhich this study is done and is used for the purpose of this study.

1.8. Summary

Here in this chapter the main objective is that this section will give information regarding the cash flow to the investors. The information will help the investors in their decision making. Financial specialist anticipates getting more returns from their savings. It also help them that in future where to invest in which companies. For the forecast of future cash flow accounting information will useful for the users and it will give advantage to them, so that they can easily access to the future cash flows of the companies. Creditors or analyst moreover require get to, to future cash flow of a firm for their specific purposes.

In the later part or section there is a review of literature review given by the earlier researchers regarding cash flows, earnings and disaggregated accruals. Also, earlier studies done in the United States and extra countries, connecting to cash flow forecasting and predicationis reviewed, in order to separate the gaps between research and build up research issues, within the following thesis.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

The foremost point of the section, to provide the literature asssment via keeping in view the key abstract problems associated to the research proposal of by means of earning, accruals (accruals of short and long term both). It also includes the cash flowrecords in the forecasting of future cash flows and to present the models of cash flow forecast.

The foremost reason of this section is to give the literature review by taking into consideration the most hypothetical problems associated to the study sugestion of using accrual accounting and cash flowdata in forecasting the future cash flows and to present models of cash flow to foreast.

2.2. Prior Studies

There have been numerous studies, the outcome of several supports while others disfavor the truth that current cash-flow s along with disa ggregated accr uals could be better or higher astrologer of fut ure cash-flows.

The basic function of accounting information according to FASB is to fulfill the information requirements of the user of financial statements. In accrual accounting system transaction based on cash are not of importance in doing reporting concurrently as events occur (AlNajjar and Riahi-Belkaoui, 2002). Expenses must be matched with revenues of same period according to Matching Principal of GAAP and due to presence of matching and timing problems in cash flows accrual got more importance. Firm's

performance better measure is an accrual accounting system because it helps to match the revenues and expenses (Cheng and Yang, 2003).

Expectation is a vital portion of the decision making prepare, since choice building reflects what will take place within the future. In financial choice making, money related forecast is a major action. Each financial choice involves a choice between alternative means of accomplishing a known objective. Each elective includes an anticipation of getting superior benefits within the future. The choice producers ought to foresee the results of the alternatives and select the elective which is anticipated to supply the more noteworthy benefits.

2.3. Cash Flow Importance

Cash flow forecast could be an errand required indifferent financial choices, since cash streams play an imperative role in nearly all the choice creation of numerous parties counting security analysts, creditors and managers. Moreover, the choice creators are inquisitive about a firm's cash flows. Since they anticipate that current cash flow may influence the future cash flow (Neill et al., 1991).

There will be an intrigued in evaluating the fu ture c ash of the firm streams to the extent that it all give a clean sign of the ca shfirm's stream within the prospect. In a further terms, a universal idea of principal examination can be estimate the future of the com pany's.Cash flows (Starbus, 2004), since money streams are the premise for profits, intrigued installments and repayment of obligation.

Particularly in security venture decisions, examiners or security agents must be guess the money come back from their theory inside the capital markets. Cash return consolidates cash from either share profits or capital picks up when offers are sell. This decision deals with which offers to buy, hold, or offer and the fitting time for purchase or arrangement of those shares. The limit of a business to pay benefits is reflected by the limit of the business to create its future cash flows. In this manner, in creation of venture choices, foreseeing the cash flows of a corporation issuing shares may be an essential errand in demonstrating the firm's capacity to give dividends for the long period of time span (FrigoandGraziano, 2003; Neill et al., 1991).

In grantee loaning choices, foreseeing insolvency issues of a client or client know how to help out the lenders to avoid the misfortunes due to awful obligations. There are various early caution symptoms of signifying it a corporation is encountering budgetary trouble. Cash flow is an imperative monetary marker of a budgetary issue (Zwaig et al., 2001).Epstein and Pava1992; Zwaig and Pickett 2001 said that a decrease in cash flow can offer an untimely caution flag of insolvency to lenders and other concerned parties .

With regard to the company administration, cash flow is seen as th e 'life blood' of a trade industries and big corporations or companies (Schaeffer,2002). As money should be accessible when it is required.Subsequently a firm's capability to oversee ca sh is very important to continued existence and riches (Sharma et al., 2000). Foreseeing the flows of cash of future periods can offer assistance a supervisor distinguish future money related issues (Kelly and O'Conlnor,1997). Cash flow forecast permits the business to memorize its cash arrangement and to take step the fundamental consumptions for these things as obligation reimbursement, acquisitions and paid of costs (Plewaand Friedob, 1995). In expansion, the contrast involving estimate and real money streams has to be dissected to get it and degree a company execution.

In states of the centrality of income data, money streams as a level of an association's exhibition isn't as quite a bit of subject to mutilation than its the net advantage figure (Bernstein, 1993), since the count of incomes from tasks ousts the reasons for the mutilation, for example, devaluation methodologies , yield charges ,accommodation or altruism paying back. While the assurance of whole benefit beneath collection bookkeeping requires approximation, deferrals, assignments and valuation. These strategies permit directors to control their firm benefits. They could select book keeping strategies, from the different strategies to find out the devaluation and esteeming inventories. To deliver high or more benefit as that need. The same as an estimated, investigators as a rule taking cash flow to assess firm's achievements in expansion to the benefit (Boyd & Cortese-Dan ile 2000/2001; Kremer and Rizzuto 2000).

In expansion, money flow are anticipated to be a normal elective execution marker to estimate a firm's execution. Since profit are not enlightening, when they a retemprary

and extraordinary and cash flows are as of now accessible to be utilized in cash stream articulations (Cheng et al. 2003). The financial specialists too believe that cash stream is a maintainable presentation estimator for a firm's value.

In addition, the contrast among profit and money streams from daily operations could be utilized as a significant flag of possibly false monetary announcing that reviewers and analysts shall take, in expansion to different variables for example use, held profit and market points Lee, Ingram, & Howard, 1999. The overabundance of profit over cash streams demonstrates the fraud chance within the occurred long time. Typically since the false firms frequently have destitute financial achievements but they conceal their execution by exaggerating profit.

Money flows data has an issue related to coordinating the incomes and costs of same period. Moreover the cash flows are subject to sudden ups and down as compare to profit which is less uncovered to questionable vacillations (Kremer & Rizzuto, 2000).One the other hand earnings are being manipulated by the administration because of different accounting ways of doing things (Holthausen & Robert, 1990).

According to Financial Accounting Standard Board FASB current money flows has unfinished data for evaluating future cash flows and explanation of gaining has way better data in assessing future cash flows (FASB 1984, Para. 24). Earlier investigates on the issue give blend outcomes about a few favors the FASB point of view and a few are against FASB statements. The earlier investigates that were conducted on expectation of future cash flows can be categorized into two bunches. The first group focus more in the aggregate earning's predictive and existing money flo w analytical capability of ca sh flo ws and the second group analyzed that whether dividing the earnings into components like cha nge i n acc ount rece ivables and in inv entory etc. enhance the predictive ability of earning or not. Robert et al., 1987 explored the capacity of earning as compare to money flow to estimate two and one financial period upcoming cash flow. He utilized five distinctive calculatorsof ca sh flow s and earning to estimate fu ture cash flows. The test was made of 324 U.S firms. Information of 10 years a long time span from 1971 to 1981 was collected. Simple linear forecast model to forecastone and two period ahead cash flow based on lacked values of indicator variable was utilized. Earning was utilized

as indicator variable in one demonstrate and five diverse measures of existing cash flows was used as a predictor variable in five other models. Discoveries from the investigate recommends that existing cash flow compare to earning has more prescient capacity to estimate one and two period ahead cash flows (Bowen, Burgstahler, & Daley, 1986). After Bowen et al.,1986 other authors investigate (Percy and Stokes, 1992; Quirin, O'Bryan, Wilcox, and Berry, 1999) moreover use the same model created by Bowen et al.,1986 the discoveries from these investigates too propose that current cash flows is a way better forecaster of future cash flows as compare to profit not at all like the FASB declaration that earnings has predominant prescient capacity to estimate the future cash flows compare to existing cash flows.

On the other hand Greenberg et al., 1986 developed a model of existing cash flow and existing money flow to forecast future money flows.He utilized the information of 29 a long time from 1963 to 1992 and a test of 1337 firms. In this model cash flows were forecasted for one to five a long time. The discoveries from the investigate show that curr ent earni ngs has predominant prescient capacity to estimate fut ure ca sh flo ws as compare to existing cash flow Greenberg et al. ,1986.

The discoveries from the author Greenberg investigate bolster the FASB statement that earning is a way enhanced indicator of future cash stream.Murdoch & Krause, 1990 moreover upheld the discoveries of Greenberg et al. and FASB that earning has advanced analytical capability to predict the future cash flows as compare to current cash flows.

Greenberg et al., 1986 also examined the model contain as it were current earnings and it were existing cash flowwith the skylines period of five to one year and utilize different time period of two or three a long time to anticipate the future cash flow. Their discoveries appear that the larger part of company demonstrate cur rent earrings may be a way better indicator of future money flow than the existing ca sh fl ow. Later, Lorek and Willinger(1996) and Dechow et al. (1998) discover the similar results.

Furthermore Catherine A. Finger in 1994 examined the predictive capability of gaining to forecast future earnings and cash flows. The test was made of 50 US fortune companies. He utilized information of 50 years from i.e. 1935 to 1987. In this study he

inquiries about the earnings ability to predict one to eight years ahead future earnings and money flows was tested using time series data. Simple regression and firm specific regression analysis was used to test earning capability to predict the future money flows and earnings in both shorter and longer time horizons. Result from study propose that the capacity of money flow to predict future cash flow for shorter time horizons i.e. one or two periods ahead forecast is superior as compare to earnings and the analytical ability of both earnings and current money flows is same for long span of time horizons(Finger, 1994).

Greenberg, Johnson, and Ramesh, (1986) also with the help of five years data in their research showed that the current earnings provide a better information as compared to up to date cash flows while predicting the future money flow.

Whereas Lorek and Willinger, (1996) examined the relationship of earning short term accruals and existing money flows with future money flows.They created a multivariate time series replica to foresee future cash flows. In a time series regression cash flow was used as a dependent variable and earning, cash flows and short term accruals are used as independent variables. Quarterly figures were utilized from 1989 to 1991.The conclusion from the study support the FASB point of view that cash flows expectation is enhanced by means of earning and accrual accounting data.

Krishnan and Largay III, (2000) moreover inspected the relationship between the earning, short term accruals and future cash flow utilized the same demonstrate created by Lorek and Willinger but instead of total cash receipt and payments they used only cash flows generated from operations. A test of 405 firm's observations was used in this study. The conclusion from the study suggests that past or existing money flow have better prognostic capacity to estimate future cash flows as compare to past earnings and accrual accounting data. The finding also proposes that the exactness in forecasting improved when both earnings and cash flows are used.

Whereas Bowen, Burgstahler, and Daley, (1987) in their study regarding incremental facts and informational tables of cash flow vs. accruals described that cash-flows have additional illustrative power as compared to the earnings because the working

capital derived from the operations. The sample size was comprised of 98 companies or firms having data from 1972-1981 whereas the analysis was carried out through cross sectional regression.

Lorek and Willinger, (2009) analysed the analytical capability of current earning and current cash flows to forecast future money flows by using different models for current earning and existing money fl ow. Data from 1990 to 2004 was used and sample of 1174 firms was used .The statistics was collect from the annual report of industrial companies. All the company specific time series regression and cross sectional analysis was used to examine the data. The conclusion from the research suggest that current cash flow based model has better analytical capability to forecast future money flow as compare to the model which used current earning to predict future money flows.

Similarly on the same way (Percy & Stokes, 1992) did their research on additional evidence on the relationships among cash-flows and earnings by examining the model given by (Bowen et al., 1986). A total of 107 companies from stock exchange of Australia were included in the sample size with a time span of 7 years i.e. from 1974-1985. Chi-square Pearson correlation test was used statistical tools to analysis the hypothesis. The study was summarized with findings showing that there is a high association amongst regular measures of money-flows and earnings. And those regular procedures of cash-flows are superior in forecasting cash-flows as compared to models of earnings. The limitations to this study are that these findings cannot be generalized for all the industries especially for the builders and ponderous engineering industries.

Dechow,(1994) however did a research on role of the accounting accruals and cash-flow as well as earning as gauges of the firm's performance. The sample comprises of data taken from NYSE which is divided into three categories i.e. 5,157 of four-yearly observations of firms from time period of 1964-1989, 19,733quarterly observations of firm from session of 1980 to 1989 while 27,308 annual observations for the years 1960-1989. Regression analysis, Pearson correlation and two-tailed tests were used a statistical techniques to test the various hypothesis mentioned. The findings show that accruals meet the role of providing enhanced and closer insight towards short time performance as

compared to cash-flows however cash flow's ability to forecast improves as the time frame lengthens.

Other factors derived from the results are that earnings have more rapport with the returns of stock while the account for cash-flows have little association in the firms which have to experience huge variations in investments, working capital and activities related to financing. According to Dechow accruals do play a role in enhancing the linkage between earnings and returns of stock but there is little possibility for them to mitigate the problems related to timings and matching in case of accounted for cash flows.

Greenbnerg et al.,(1986) also examined the model contain as it were cur rent earnings and it were existing cash flowwith the skylines period of five to one year and utilize different time period of two or three a long time to anticipate the future cash flow. Their discoveries appear that the larger part of company demonstrate current earrings may be a way better indicator of future money flow than the existing ca sh flow. Later,Lorek and Willinger(1996) and Dechow et al., (1998) discover the similar results.

Correspondingly (Lorek & Willinger,1996) in further supporting the study conducted by Lorek in 1993 did a research on a multi variable time series forecasting model for the data of cash-flow. A total of 174 companies comprising of time frame of 1989-1991 were taken as sample size. This sample size was derived from annual as well as quarter data bases of COMPUSTAT. The statistical techniques which were used were ARIMA as well as regression models. The facts of this research are consonant with those stated by FASB defining that prediction of the cash-flows is enhanced by contemplation of earnings and accruals. However the limitation to this research is that these findings can only be pertained to the companies which are large and prosperous.

On the contrary, (Charitou, 1997) conducted a research on the capacity of cash-flows as well as accruals in elucidating the returns of security. The specimen comprises of data from time frame of 1984-1992. Regression and Pearson correlation models have been used as a statistical apparatus for the analysis. The results concluded from this research show that there is a high linkage among cash-flows and returns of stock as compared to that of earnings with the returns; the cash-flows possess useful information

content as compared to gaining. A limitation to the study is that cash flows do have to face setback as the time span increases due to matching as well as timings impasse.

(Dechow, Kothari, & L Watts, 1998) later did a research on relationship among earnings & cash-flows with the sample size constituting of 137 companies having data from 1963 to 1992.Cross-correlation and time series analysis was used to test the hypothesis. The outcome concluded that earnings predicted better future money flows as compare to the up to date operating cash-flows.

Contrarily (Krishnan & Largay III, 2000) conducted their research on the forecasting capability of direct methods of information of the cash-flows showing that whether direct or indirect ways of the cash-flow particulars be better in forecasting of upcoming cash-flows. Size of sample comprises of data from time frame of 1988 to 1990. The statistical methodology used for analysis is cross-sectional regression. The conclusion derived from the analysis shows that facts of direct methods have superior forecasting capability as compared to the indirect method. Similarly the results also show that gross sum as compared to net sum of cash payments as well as receipts are much appropriate and significant for forecasting the future cash-flows. Another important factor that resulted from the study is that previous cash-flow facts are more functional in forecasting intended cash flows as compared to earnings and further accruals data which again differs from the view of FASB.

In 1996 an another researcher Lorek and Willinger, also examined the relationship of earning short term accruals and existing money flows with future money flows.They created a multivariate time series replica to foresee future cash flows. In a time series regression cash flow was used as a dependent variable and earning, cash flows and short term accruals are used as independent variables. Quarterly figures were utilized from 1989 to 1991.The conclusion from the study support the FASB point of view that cash flows expectation is enhanced by means of earning and accrual accounting data.

Barth et .al (2001) divided earnings into accruals and examined that whether dividing the current gaining into cash stream and accruals like *change in account receivable, and in inventory*, *change in account payable*etc. increase the analytical

capability of earnings to estimate the future cash flow or not. The sample includes 10164 firms and data was collected by their profiles and research files. Finding from the study suggest that cash flows and disaggregated earnings components like change in *account receivables, change in inventory, change in depreciation, change in account payables* etc. has better analytical capacity to forecast future cash flows as compare to aggregated earning. This research will also follow the model to build up by Barth et al. to determine the predictive ability of short term accruals and long term accruals.(Hollister, Shoaf, &Tully, 2002) also followed the model made by Barth et al., (2001) and examined firms from UK, Germany, Japan and USA separately. The findings from the research were constant with the conclusion of Barth et al. model.

In 2001 (Mary E Barth, Donald P Cram, and Karen K Nelson, 2001) came with a different perspective. They conducted a research regarding accruals and the forecasting of the upcoming cash-flows which was construct on the basic mock-up of (Dechow et al., 1998). The sample comprises of data from year 1987 to 1996 which was collected from the research files as well as the annual industrial files. The statistical technique used was regression and descriptive statistics for the analysis. The findings of the study agree to Dechow's model to the extent that accruals can be better predictors of imminent cash-flows as compared to up to date cash-flows. Another key finding which is opted from the study is that earnings in disaggregated form i.e. six components of key accruals and cash-flows provide more insight and enhance the predicting ability as compare to earnings in aggregate form and that cash-flow disaggregated from cumulative accruals further enhance the ability to forecast imminent cash-flows.

Myungsun Kim and William Kross in 2005 alternatively examined the capability of earning to forecast future cash flow over time. The sample includes 100266 observations of US firms and the information was composed from theannual industrial file. The information was accessible for the 29 years i.e. 1972 to 2001. In this study use annual cross sectional regression analysis and examine the time series inclination of the helpful power of earning to analysis the analytical capability of current earnings to predictfuture cashflows. Current earning was used as a predictor variable in this research. conclusion from study recommend that the explanatory power of earning or analytical capability of

the earning to calculatefuturecash flow is enhanced with the passage of the time(Kim & Kross, 2005).

However (Lorek & Willinger, 1996) examined the relationship of earning short term accruals and existing money flows with future money flows. They created a multivariate time series replica to foresee future cash flows. In a time series regression cash flow was used as a dependent variable and earning, cash flows and short term accruals are used as independent variables. Quarterly figures were utilized from 1989 to 1991.The conclusion from the study support the FASB point of view that cash flows expectation is enhanced by means of earning and accrual accounting data.

In 1994 Dechow in his study tell that the most important variable in predicting the cash flow is the length of operating cycle. Whereas in 1998 Dechowin his research model of accruals , profit and working income which are associated with records of sales, stock , and record payable find that present accumulation net gain is a faraway prevalent indicator of future working incomes than current incomes from activities.

Barth et al., (2001) further explore this exertion by analytical the situation of gathering total compensation in predication of future working incomes. They discover that amassing collection bookkeeping into various part model change in creditor liabilities, change in money due, and change in stock, amortization, deterioration, and different accumulations will expand the prescient capacity of current income to gauge the future working incomes and it is improved than current working incomes.

However, Barth et al.,(2001) in his study declared that Dechow et al.,(1 998) without being seen the outcome on income and money installments identified with the new degrees of cost of merchandise sold and stock emerging from the post-quake tremors, closeout of an item . He clarified that nor is neither current income nor current income a decent factor for the future income. He again worked on his model to stop the criticisms of other researchers. He started working further on the investigation of research model of Dechow et al.,(1998) to expand his investigation and discover that special accruals and part of earnings have dissimilar information not only about delaying the past transaction related to cash flows yet additionally about expecting future incomes which

are identified with the administrations contributing exercises and expected future incomes. Barth et al., (2001) needs to investigate the collecting profit into incomes and the most significant pieces of gatherings to examine its relationship to conjecture the future income occurring over the timeframe, or further. In the wake of investigating the relationship he discover that accumulating profit into income and the most significant collection parts have altogether increasingly diagnostic capacity for gauging the future income than seven slacks of total profit. His discoveries later on was additionally bolstered by different scientists, Al-Attar and Hussein (2004). Barth et al. (2001) additionally uncovered that upgrade in the lighting up power isn't inferable only to the whole number of logical factors.

On the counterfeit up of Barth et al., (2001), Al-Attar and Hussein (2004) the income predication was revamped and modified the model to re – check the illustrative intensity of factors, for example, profit, income, collections with worried to clarify future income. Correspondingly the outcome was same and consistent with Barth et al., (2001) results, the collected income shows that the ability of future income is predominant than the total profit. Anyway an equivalent issue was again raised: that climate there will be any instructive increment by adding the gatherings data to the false up which as of now have accumulations information certainly as income. So to test the above question the model was additionally expanded. In the wake of breaking down the outcome and including the momentary accumulations, long haul gatherings and both collection principle parts to the model produce higher logical power than the model with total income as it were.

Barth et al.,(2001) model of money gauge was likewise expanded further by Jurassic Nikkei and Petra Maelstrom (2004) complete the income, including totaling profit into income and the component of gatherings with the year and nation impacts, to check the effect of bookkeeping condition on the expectation of income. So the discoveries show that consequence of the examination have a decent effect in the nations where the collections are utilized consistently with the income to have a decent and better gainfulness of the organizations in those nations who have more data in regards to the gatherings and its sort. With the goal that's the reason it is was demonstrated that the

forecast of income model by Barth et al., (2001) can be utilized in different sort of bookkeeping conditions.

In separate, Bowen et al., (1986) coordinate the limits of benefit and cash stream to anticipate one and over the time of cash stream. They satisfied that earnings does not give distant better; a much better; a higher; a stronger; an improved distant better expectation of future cash streams than past cash streams. Thais final product is advance supported by Al-Attar and Hussein (2004). Moreover, Finger (1994) itemized that cash stream might be a way upgraded indicator in shorter horizons (for example one to two pants), yet for longer horizons (i.e. four slacks), both benefit and cash stream perform comparably well in real money stream desire. They additionally found that including benefit data to a show starting at now contain income information didn't manual for striking progressions in farsighted limit.

On the other hand in 2009 Lorek and Willingeranalysed the analytical capability of current earning and current cash flows to forecast future money flows by using different models for current earning and existing money flow. Data from 1990 to 2004 was used and sample of 1174 firms was used .The statistics was collect from the annual Compustat industrial. All the company specific time series regression and cross sectional analysis was used to examine the data. The conclusion from the research suggest that current cash flow based model has better analytical capability to forecast future money flow as compare to the model which used current earning to predict future money flows.

Chowder et al., (1998) speak to income and the gathering get ready identified with records of sales, creditor liabilities, and stock to decide the conjecture that present benefit is the best pointer of future income. They revealed that the firm-explicit assortment in income figure errors dependent on total benefit is by and large lower than that dependent on income. They additionally point by point that in firm-explicit backslide of future income on current total benefit and income, both have gradual illustrative control.

Whereas (Bowen, Burgstahler, &Daley, 1987) in their study regarding incremental facts & informational tables of cash-flows vs. accruals described that cash-flows have additional illustrative power as compared to the earnings because the working capital

derived from the operations. The sample size was comprised of 98 companies or firms having data from 1972-1981 whereas the analysis was carried out through cross sectional regression.

Barth et al., (2001),in any case assess of the relative affiliation that is found among whole deal working incomes, past benefit or working incomes, close by the trial of differences in enlightening control. That is the run of the mill relationship of the predication limit of the both once-over measures. They together evaluate the relationship that is found among future working money streams, current working money streams, along the edge past benefit. That is in the wake of collecting the benefit into absolute social affairs and money streams. The test is done to see the effect of the coefficients all in all benefit part. The tests are reiterated in the wake of amassing the accumulation part of benefit into its key segments.

Ebaid, (2011) assess the overall capacity of current period income and benefit, close by its parts, to figure long haul income from tasks in Egypt, for one year. In his consider, cash stream estimate models that were worked out by Barth et al.,(2001), were used to consider the evaluating limits of benefit and income for up-coming money streams, along the edge the accumulating accumulations into its basic parts, extraordinarily growing the assessing limit of benefit.

In rising markets, Ragbag and Comrade (2006) study the regard of net pay in stock valuation. They found that bookkeeping benefit in Egypt had steady data content roughly a company's regard in contrast with stock expenses. They recommend that the choice may exhibit that differing contending information sources, e.g., money related investigators studies and benefit figures. These methodologies are not as significant as opposed to accounting benefit that are progressively strong since the budgetary declaring is of a superior quality.

Farshadfar et al. (2008) utilizing the Australian information over the period (1992-2004) archive the prevalence of cash flow over profit in foreseeing the future cash streams. They comes about to appear that this prevalence isn’t influenced by the measure of the company.

Ahmad et al., (2013) examine the impact of overflow free cash among other variables on the consistency of profit foe future flow. They contend that the tall level of overflow free cash stream suggest that detailed profit is swelled. They conclude that the consistency of profit is declining as the increment within the level of overflow free cash streams.

In Palestine Daraghma, (2010) examined the comparative and the incremental data substance of profit and working cash streams. His ponders test incorporate 23 firms on the Palestinian Stock Trade from 2004 to 2008 and find that there incremental data substance for profit comparing with working flows is good.

However Burgstahler et al., (2006) utilized an expansive test of firms that were working with amid that the time period of 1988-1998. In a combination of relevant settings it was found that ponder appeared that the cash flows displayed significantly more illustrative control than the total profit in determining future cash flow. In Jordan, a few considers look at the data substance of collections and cash streams utilizing the coordinate approach.

Similarly Al-Debi'e (2011) utilizing Jordanian information (2000-2009) give prove on the prevalence of the cash flows over profit in foreseeing future cash flows. His think about moreover uncover that this predominance is improved for the huge companies, brief working cycle, and positive working cash streams. In 2013, Shubita receive Barth et al., (2001) results to conclude that profit components beat total profit in anticipating future cash streams.

Numerous price-based considers look at the impact of profit superiority on the data substance of profit and cash flows. Cheng et al., (1996) discover prove on the incremental data substance of working cash streams past profit when there is diminish in earnings execution. Within the same line, another study discover that breaking down profit into cash flows and collections have incremental data substance past profit as it were when either profit is negative or as well greater. Murdoch in 1990 discover extra data substance of working cash streams past profits when winning execution is extraordinary and cash flow execution is direct. Where the past price-based ponders utilize profit execution to

capture the quality of profit , Cheng et al.,(2013) utilize profit quality measures i.e. the adjusted Jones demonstrate (MJ), the adjusted Jones demonstrate with return on resources (MJROA) and gathering quality (AQ). The outcomes about of their consideration uncover that the data substance of working cash flows is improved when the quality of profit is superior.

However (Bowen, Burgstahler, & Daley, 1986) conducted a research on relationship between cash flow's various measures and earnings. A sample of 324 firms was selected out of 1,289 companies from duration of 1971 to 1981. The statistical technique used was sign test for testing of the hypothesis. The findings resulting from the tests showed that there is a low correlation amongst traditional and alternative measures of the cash-flows and that there is a high association among the earnings and traditional measures of the cash-flows. Another significant finding resulted was that NIPDA as well as WCFO seem as the preeminent predictors of CF's resulting from operations and that earnings do not forecast the better future cash-flows.

Similarly (Bowen, Burgstahler, & Daley,1987) in their another study regarding incremental facts & informational content of cash-flows vs. accruals described that cash-flows have additional illustrative power as compared to the earnings as well as working capital derived from the operations. The sample size comprise of 98 firms having data from 1972-1981 whereas the analysis was carried out through cross sectional regression. In the same way (Percy & Stokes, 1992) did their research on additional evidence on the relationships among cash-flows and earnings by examining the model given by (Bowen et al.,1986). A total of 107 companies from stock exchange of Australia were included in the sample size with a time span of 7 years i.e. from 1974-1985. Chi-square Pearson correlation investigation has used statistical tools to check the hypothesis. The study was summarized with findings showing that there is a high association amongst regular measures of cash-flows and earnings. And those regular procedures of cash-flows are superior in forecasting imminent cash-flows as compared to models of earnings. The limitations to this study are that these findings cannot be generalized for all the industries especially for the builders and ponderous engineering industries.

(Lorek & Willinger, 2009) analysed the predictive capability of current earning and current cash flows to estimate future cash flows by means of different models for current earning and current cash flows. Data from 1990 to 2004 was used and sample of 1174 firms was used .the facts and figures and statistic was gathered from the annual Compustat industrial. Both firm specific time series regression and cross sectional analysis was used to examine the data. The findings from the study suggest current cash flow based model has better forecasting ability to estimate the future cash flow as compare to the model which is used for current earning to forecast future cash flows.

The second category of studies on cash flows investigated the analytical capability of the accumulations to figure the future incomes. (Dechow, Kothari, & Watts, 1998) analyzed the relationship of current gaining, disaggregated collections, and current incomes with future working incomes. The example was made of 1337 New York and American stock trade firms. The information was reachable for the years 1963 to 1992 and acquire from Composted Annual Industrial and Annual Research records. Dechow utilized a model of income, incomes and accumulations to find out the association among procuring and income. He utilized firm explicit, time arrangement relapse of working income on current gaining and current incomes to test the prescient capacity of current acquiring and current income to estimate the future working incomes. The outcome from the examination suggests that as contrast with incomes procuring has higher logical capacity to figure future income. The discoveries additionally suggest that separating the acquiring into parts upgrade the investigative ability of income to estimate future incomes.

Gathering bookkeeping incorporates ideas of credible got and organizing pay to costs. Resources or liabilities are referenced underneath the reason of evident caused significant damage. That is, the regard of the advantages of an organization is determined by using their one of a kind verifying brought, from which is deduct a degree of this got inside the state of amortization or downgrading. Furthermore, acknowledgment of pay and expenses depends on a planning thought (Godfrey, Hodgson & Holmes, 2003). Underneath the salary acknowledgment rule, firms see pay when they have played out all, or a significant bundle of, organizations that must be render, and money receipts from the

switch over are reasonably sure, and underneath the planning rule, firms perceive all costs related with wages inside a similar period in which the earnings have been perceived.

In development, accumulation bookkeeping solidifies the ideas of appropriation, amortization, and acknowledgment (Trotman & Gibbins, 1998). Apportioning is the accounting get ready of consigning or appropriating an entirely dependent on orchestrate or condition. A couple of assets and obligations will be circulated to working expense and wages dependent on the time of the hour of use of the assets or to facilitate salary and expenses. Amortization and decay barbarous the productive reduction of a bookkeeping sum identified with the use of extensive assets or non-current assets, in organize to apportion the expenses of these assets to the timeframes in which the asset is utilized (Sorter et al., 1990).

In extension, as to benefit or profit as one of the key proportions of an organization's presentation (Calabrese and Rafferty 2003; Dechow 1994; Henderson and Peirson 2000), a preferred position of estimating with benefit is that execution can't be deformed by questionable varieties in real money streams (Kremer & Rizzuto,2000) since financial trades are recorded by real got. Furthermore, designation, amortization, cheapening and other accumulation procedures license an organization to spread the incurred significant damage of assets over the advantages' important lives or time of their advantages. Something different the compensation verbalization will seem a moo advantage or hardship for the primary time of verifying the assets which may not be reasonable as those assets are used to produce salary in the midst of more than one period.

Besides, collection profit is pointers of future cash streams for numerous reasons. Firstly, since authentic taken a toll book keeping profit is the standard detailed profit degree and is the principal normal variable to be analyzed inside the press and accounting composing, it is used to show the future money streams . Besides, benefit are sponsored by the doubt that benefit give information around long-standing time profit – paying limit of firms (Bierman 1992; Lipe 1990). Moreover, gathering benefit are viewed as a progressively critical reason for looking over money stream return at that point income, since benefit payouts depend on accumulation benefit (Board & Day, 1989).

(Barth, Cram, & Nelson, 2001) separated profit into accruals and examined that whether isolating the current earnings into cash flows and accruals like alter in the *account receivable, change in inventory, change in account payable*etc. increment the analytical capability of earnings to the forecast future cash flow or not. The test incorporates 10164 firms and data was collected fromyearly industrial and research records. Finding from the study propose that cash flows and disaggregated earnings components like alter in a*ccount receivables, change in inventory, change in depreciation, change in account payables* etc. has enhanced analytical ability to estimate future cash flows as compare to aggregated earning. This study will also go after the model to develop by Barth et al. to decide the predictive capability of short term accruals and long term accruals. (Hollister, Shoaf, & Tully, 2002) too take after the demonstrate made by Barth et al., (2001) and inspected firms from UK, Germany, Japan and USA independently. The conclusions from the study were reliable with the conclusions of Barth et al.

In 2001 (Mary E Barth, Donald P Cram, & Karen K Nelson, 2001) came with a different perspective. They conducted a research regarding accruals and the forecasting of the upcoming cash-flows which was construct on the basic model of (Dechow et al., 1998). The sample comprises of data from year 1987 to 1996 which was collected from the research files as well as the annual industrial files. The statistical technique used was regression and descriptive statistics for the analysis. The findings of the study agree to Dechow's model to the extent that accruals can be better predictors of imminent cash-flows as compared to up to date cash-flows. Another key finding which is opted from the study is that earnings in disaggregated form i.e. six components of key accruals and cash-flows provide more insight and enhance the predicting ability as compared to earnings in aggregate form and that cash-flow disaggregated from cumulative accruals further enhance the capability to forecast imminent cash-flows.

(Kim & Kross, 2005) on the other hand conducted a study stating that capability of earnings to estimate or predict the future cash-flows has amplified. The sample is derived from CUMPUSTAT files comprising of time frame of 30 years i.e. from 1972-2001. Pearson, Spearman and cross-sectional regression were used as statistical techniques to

run the analysis. The findings show that even though there is an inverse association amongst earnings and the returns of stock there is also a positive linkage that exists between earnings and imminent CFO's and that forecast of the CFO by up to date earnings increases with the passage of time. A limitation to the study is that there is a possibility that prediction of imminent CF's which increases by use of up-to-date earning in case of on-year sphere might depreciate if two-year or more horizons are used.

In addition, to the prescient capacity of cash flow versus collection of the book keeping information in predict economic occasions has showed up as a theme of intrigued. The prescient capacity of bookkeeping records in foreseeing future money stream is a basic issue since of the suggestion of the bookkeeping standard setters and the hugeness of money streams to a wide stretch out of basic leadership (Neill et al., 1991). There might be a prerequisite for examine into the estimation of money streams as opposed to social event bookkeeping. In spite of the fact that there have been various contemplates inside the setting of the comfort of incomes and gathering accounting data, the outcomes to fruition of those ponders were clashing and uncertain, and the irregularity among money and accumulation based data still exists (Penman, 2001).

Also, inquiries about from an overall perspective it is found demonstrate that the family member and information substance of benefit and money streams are differing over countries. Bartov, Goldberg and Kim (2001) examined the near and information substance of benefit and income for the worth valuation inside the instances of the Joined together States, the Joined together Kingdom, Canada, Germany and Japan. Their consider exhibited that benefit are a higher priority than money streams inside the Joined together States, the Joined together Kingdom and Canada, yet not in Germany and Japan. They inferred that the national specifying organization could be ascertain which affects the information substance of benefit and income. Subsequently, studies utilizing information are totally different nations may give distinctive comes about.

However, (Farshadfar, Ng, & Brimble,2008)took a sample comprising of 323 firms of the Australian stock exchange from 1992 to 2004 in their research showing that cash-flows have a bigger capability to forecast future cash-flows as compared to traditional measures of earnings . They also found that forecasting ability of earning as well as cash-

flows increases with size of company but the predicting influence of operating cash-flows is much stronger as compared to the earnings.

Similarly (Cheng & Hollie, 2008) carried out a research investigating diligence of center as well as non-core cash-flow mechanism. The study also observes the role of elements of cash-flows for the forecast of future cash-flows to be greater than the components of the accruals. The sample size taken was of 16 years that is from time span of 1988 to 2004 upon which Pearson, regression and Spearman tests were conducted. The findings resulted from the research describe that components of the principal cash-flows are persistently higher as compared components of non-core cash-flows. Also the disseminated cash-flows boosts up the cash-flow forecasts for the companies which have higher variability for cash-flows and earnings; and that both the components of accruals as well as cash-flows provide essential enhancement for prediction which are greater than that of aggregated constituents of accruals as well as cash-flows.

In the same way (Arthur, Cheng, & Czernkowski, 2010) conducted a study regarding disaggregation of the cash-flows and forecasting of the imminent earnings. They took a sample size of Australian companies which had data from time span of 1992 to 2005. Models of regression were used a statistical tools to run the analysis. The findings resulted from the study support the hypothesis by concluding that cash-flows in the broken down into the smallest form of sub-components bestows more illustrative power because compared to the aggregate form of cash-flows. Also that the constituents of the cash-flows in a disaggregated form present more appropriate information and are more appropriate in prediction of earnings.

Similarly (Habib,2010) in his research investigates the comparative capabilities of earnings as well as cash-flows in forecasting the imminent cash-flows. The sample size was derived from stock exchange of Australia. This study basically widens the research which has already been conducted by (Percy & Stokes, 1992) and (Farshadfar et al.,2008) by groping the forecast for imminent cash-flows through one year, two years and three years further prediction horizons. The models of regression have been used for the analysis which concludes with findings showing that the models of cash-flows are more precise as compared to earnings for the forecast of future cash-flows.

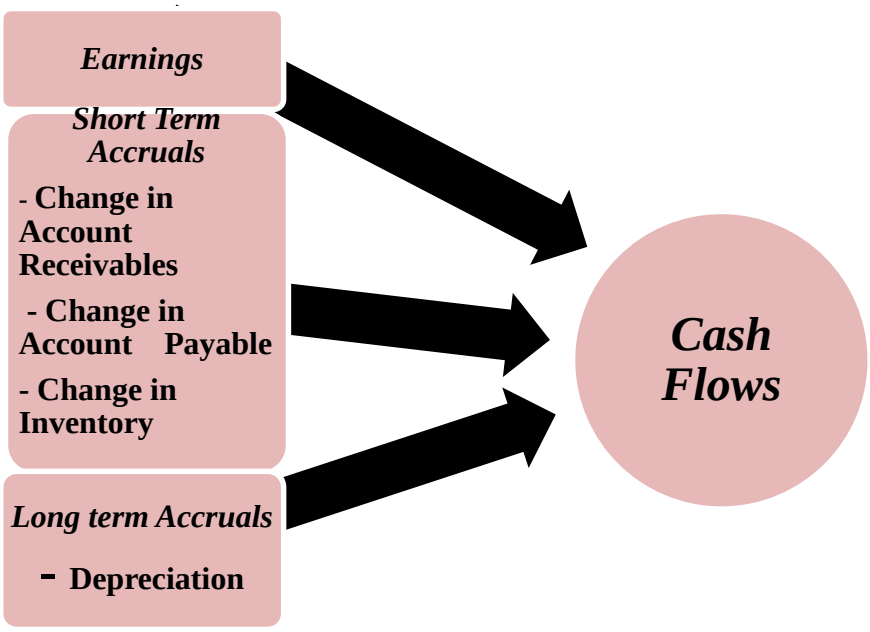
However (Ebaid, 2011) investigated analytical ability of current cash flow and current earning to estimate future or one year over the period of time cash flow. The test incorporates 115 firms from Egypt stock exchange and the data from 1999 to 2007 was used. This study was based on the model created by Barth, Pack, and Nelson. To analysis the analytical ability of current earning and current cash flow to forecast future cash flow and also to test that disaggregating earning into cash flow and other variables like change in account receivable, account payable, depreciation etc. increase analytical capability of current earning to foresee future cash flows. Regression analysis was used. Results from the study propose that current earning has more predictive control to foresee future cash flows as compare to current money flows. The grades also propose that disaggregating the earnings into components furthermore significantly increase the prognostic capability of earnings to forecast future cash flows.

In brief the earlier literature on predicting cash flows gives mix results. A few studies think that superior predictor of future cash flow are aggregate current earning, a few studies demonstrate current cash flow as a superior forecaster of future money flow while a few lean toward cash flow and disaggregated accruals as a better forecaster of future cash flows. The reason of this research is to provide information from Pakistani market to examine predictive ability of short term accruals and long term accruals.

2.4. Theoretical Framework

There are basically four different models in this study to test the above hypotheses. To make it more simplify only one model is given below. Left side of the model represents independent variables ***(Earnings, and Disaggregated Accruals short and long both)*** and right side represents dependent variable ***(Cash Flows).***

Figure 1 Theoretical Framework



2.5. Hypotheses

This study is comprised of two key hypotheses.

Hypothesis No 1

H0 There is no association among disaggregated accruals adding to earning model in prediction of future cash flows.

H1 There is association among disaggregated accruals adding to earning model in prediction of future cash flows**.**

Hypothesis No 2

H0 Predictive ability of short term accruals is not equal to predictive ability of long term accruals to forecast future cash flow in current earning base model

H1 Predictive ability of short term accruals is equal to predictive ability of long term accruals to forecast future cash flow in current earning base model.

2.6. Statistical Model

The following statistical model given below is used to test the above two hypotheses so therefore for this reason the following model is used:

$$\boldsymbol{CFi,t = \beta + \beta EARN_{i,t-1} + \beta \Delta AR_{i,t-1} + \beta \Delta INV_{i,t-1} + \beta \Delta AP_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t}}$$

Symbols	Variables
CF	Cash Flows
I	Year
T	Company
$EARN$	Earnings
ΔAR	Change in Account Receivables
ΔINV	Change in Inventory
ΔAP	Change in Account Payable
DEP	Depreciation

2.7. Prediction Models

By using regression models the association or affiliation among the dependent and independent variables is analyzed. Different authors and researchers used the regression models in their studies Stammer johan and Nassiri pour (2001). On the base of the literature review this study build four models.

The four equations which is used in this study is developed by researcher Barth in 2001, he said that cash flow forecast model which was used to examine the capability to explain future cash flow. For that reason on the base of their model 2 equation sets have been used in this study. The model of Barth has been utilized to analyze the aptitude for elucidating future cash-flows.

Initially to analyze the capability of earnings in forecasting of future cash flows and whether there are informational gains in explanation of future cash flows, when the disaggregation of accruals are made, following equations will be used. The equations mentioned below were used for this purpose.

The first model investigate the significance among the earnings and future cash flows whereas the next mock-up analyzing that whether adding the accruals to the earnings is essential in predicting the future cash flows or not.

Model 1: Model of predicting future cash flows using earnings

The first model is used here to test the hypothesis number one to test either there is any association among the disaggregated accruals and future cash flows or not. So for this purpose a conceptual framework is used consisting of two equations to test the hypothesis.

This model wants to portray the association among earnings and future cash flow which is given in the first hypothesis. The analysis supposed to explain that earnings are positively associated to future cash flows or not. Or we can say that in this analysis an association is checked among earnings and future cash flow. The primary model, known as earning model, is developed to look at the analytical capability of past earnings in predicting the future cash flows of PSX(Pakistan Stock Exchange)non-financial listed companies. In different earlier research it is bring into being that past earnings have major influence to forecast the futu1re cash flows for example: (Catherine A. in 1994) ; (Hollister, Shoaf, and Tully, 2002); (Barth, Cram, & Nelson, 2001). In this research the association among past earnings (EARN) and future cash flow is to be predict to check the association or connection linking between the earning and future cash flow. For this following equation will be used:

$$\boldsymbol{CFi,t = \beta + \beta\, Earning_{i,t-1} + u_{i,t}} \text{---------- 1}$$

Where as

CF = Cash Flow, i = year, t = Company, EARN = Earnings

Model 2: Model of predicting future cash flows using earning and disaggregated accrual

Here this model 2 deal through the hypothesis 1 here we will add disaggregated accruals both long and short term accruals along with earning to predict either they are improved predicators of future cash flow.

Here in this model earning and accruals are used to forecast the future cash flow and to check that which variable is best to use for the predication of future cash flow. In different previous research it was found that earnings along with the accruals have major power to forecast the future cash flows said by Barth in 2001.

$$\boldsymbol{CFi,t = \beta + \beta\, EARN_{i,t-1} + \beta \Delta AR_{i,t-1} + \beta \Delta INV_{i,t-1} + \beta \Delta AP_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t}}\text{---------- 2}$$

Where as

CF = Cash Flow,i = year, t = Company

EARN = Earnings

ΔAR = Change in Account Recievable

ΔINV = Change in Inventory

ΔAP = Change in Account Payable

DEP = Depreciation

For forecasting the future cash flow Equation 1 is used because it is consist of earning whereas equation 2 we add together disaggregated accruals both short and long term accrual to forecast the future cash flow and to find out whether any relationship exists between it or not.

Model 3: Model of predicting future cash flows using short term accrual

The third model tests the hypothesis 2 for which two equations are used to test that whether cash flow and short term accrual components added to the earnings include an

optimistic, important ability for the predication of the future cash flows or not. Whereas the final model consists of long term accruals. This procedure aims to investigate whether by adding disaggregated accruals both short and long term accruals added to the earning is a superior or better forecaster of future cash flows.

$$\boldsymbol{CFi,t = \beta + \beta\, EARN_{i,t-1} + \beta \Delta AR_{i,t-1} + \beta \Delta INV_{i,t-1} + \beta \Delta AP_{i,t-1} + u_{i,t}} \text{ ---------- 3}$$

Where as

CF = Cash Flow, i = year, t = Company, EARN = Earnings

ΔAR = Change in Account Recievable

ΔINV = Change in Inventory

ΔAP = Change in Account Payable

Model 4: Model of predicting future cash flows using earning and long term accrual

Hypothesis 2 is going to be used in this model here we will add long term accruals along with earning to check both short term accruals or long term accruals are the good predicators of future cash flow or not.

$$\boldsymbol{CFi,t = \beta + \beta\, EARN_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t}} \text{ ---------- 4}$$

Where as

CF = Cash Flow, i = year, t = Company

EARN = Earnings

DEP = Depreciation

Equation 4 consists of the long-term major accrual i.e. depreciation which is added to the earning to discover the analytical capability of future cash flow , while equation 3 consist of short-term accruals added to the earnings to predict the future cash flow.

2.8. Variables

The variables in this research include one dependent variable ***(CashFlow)*** and three independent variables ***(Earnings, Short Term Accruals and Long Term Accruals).***

2.8.1 Dependent Variable:

Dependent variables refer to those variables which change its value due to the effect of other related factors. Cash flow is the dependent variable in this study.

Cash Flows

The dependent variable of this study is flow Cash flows." CFi,t" represents cash flows in the model where "t" represent the time period and "i" represent the name of firm. Basically cash flow is the net cash flow from the operating activity.

Cash flow = Profit + Depreciation - Taxes

Different authors has measured cash flow in different ways in the earlier researches. Proxies are used for cash flow by few researchers .the proxies are calculated from the data available on the income statement and balance sheet. Daley et al., (1986) in his research defined cash flow by five measures .Whereas Murdoch and Krause (1990) said that the cash flow is measured by two cash flow measures .Going on the additional side some researchers definite cash flow as actual cash flows from operations resulting directly from the statements of cash flow, which is shown by researcher Barth in 2001.

2.8.2 Independent variables

Independent variables pass on to those variables whose variation does not depend on other factors. In this study, independent variable is Earnings, disaggregated accruals both long and short term.

Earnings

The term "EARNi,t-1" represents earning in the equations used to test the hypothesis. In this research from earning we mean earnings after tax. The "t-1" shows that earning of previous year is used in the model.

Earning = EBT - Taxes

This measure is also used in different earlier studies by different researchers like Barth et al.,(2001) and Quirin et al.,(1999) .

Change in Account Receivables

The word "ΔAR" is used to represent change in account receivable in the model. Change in account receivable is simply the difference between the amounts of account receivables of two years.

Change in Account Payable

The term "ΔAP" is used for change in account payable. Change in account payable is simply the difference between the amounts of account payable of two years.

Change in Inventory

The term "ΔINV"is used for change in inventory. Change in inventory is the difference amongthe amounts of inventory of two years.

Depreciation

"DEPR" is used to represent depreciation in the model.

Short term Accruals

Short term accruals include change in inventory, change in account payable and change in account receivables

Long term Accruals

Long term accruals include only depreciation.

Summary:

In literature review we studied different author's study which give us information we study different prior researches regarding cash flow, disaggregated accruals which help in predicting of future cash flow. After the evaluation or review of different researches regarding cash flows, earnings and accrual accounting data which is used for the predication of future cash flow different information is collected. The information collected from reading different researches help us to define the gaps and construct the hypotheses and research questions. Conceptual framework is developed for the models which help to give explanation for the variables. And to analyze the connection or association among the variables. Further tell that how data is collected and different methodologies techniques. In the next chapter methodology is discussed which help us in constructing the models and to forecast the predicting ability of cash flow for the companies.

CHAPTER 3

METHODOLOGY

Here in this section of the study it contains the methods of analysis, data collection and sample period. In this chapter every model that are tested is explained in detail. This chapter also includes the data collection method for the analysis.

3.1. Introduction

In the preceding section, we discussed about the relevant literature review related to the forecasting of future cash flow using earnings, short term and long term disaggregated accruals and dissimilar empirical research related to cash flow be reviewed . In addition, prior research gaps is discuss and according to which hypotheses are made for those hypotheses and theoretical frame work of predicting future cash flow using earning and short term and long term accruals is constructed , in relative to analyze the research problem. For this purpose to test the hypotheses different conceptual or predicting models are developed and formation of independent and dependent variables is discuss. Whereas the following chapter explains the methodology which tell about different methods that how data is collected.

3.2. Research Design

A investigate propose or intend is a strategy, approach or sketch evolve to accomplish the reason of the study. The aim of the research design is to make sure that the study can obviously response to the research problem, and include systematizing and inquire about research activities, including the gathering of facts and figures and analyzing the data

Easter et al.,(1991). A study or research design is said to be good when it give us significant and important conclusions, suggestion and references Ryan et al., (1992).

3.2.1 The purpose of the study

The reason ofthe investigation is without a doubt distinguished whether it is exploratory, descriptive or testing of the hypotheses.

In Chapter 2 its clearly mentioned that, two hypotheses is developed for the analysis by this research. So therefore it mean that with the purpose of this study deals generally with the analyzing of the hypotheses to investigate the correlation among the earning and the accruals both long and short and future cash flows of firms.

3.2.2 Research method

To collect the data for the research many research methods is used such as experimental, primary data, survey and secondary data (Ticehurst & Veal 2000). Whereas secondary data in which data is easily available and is collected by the websites which is second hand data and easily collected, is the most appropriate for our this research. As we know that the foremost reason of this study is the analysis of hypotheses. Two hypotheses is been build up to response the researchquestions, in which the connection among accounting data as well as earnings and accruals long and short both, and future cash flow is analyzed. Hence the data facts and figures required for this study is about bookkeeping information or all set to say is quantitative information. Data for this research is collected from the second hand data which is already available records exist for each period for their selective companies or corporations. By using the secondary data there is the benefit of saving time and cost which is involved in collecting the data for the research Ticehurst et al., (2000) and Sigmund(2000). Whereas by different previous authors or researchers the secondary data method is already used for the predication of cash flow in their researches Barth et al.,(2001); Stammerjohan and Nassiripour (2000). Those previous study also collected the statistic, data, facts and figures from financial the statements of sample firms.

3.3. Type of the Study

This study is based on the secondary data which is gathered from different sources. There are different sets of secondary data such as time series and cross-sectional data. Every set of these data has its own characteristics but there is one other kind of data which is recognized as panel data. Panel data is a set which has the characteristics of both cross sectional as well as time series data. This type data is also known as the longitudinal data. Panel data is the mixture of both time series and cross-sectional data. Panel data consist of various phenomena observation over different periods of time for the same individual or firms.

3.4. Population

The population taken for this studyis comprises of all non-financial companies listed in Pakistan stock exchange. The companies from financial sector is excluded because Barth's model does not apply or include companies related to the financial sector.

3.5. Sample Size

The sample size indicates the portion of population being considered for the study. The sample size is chosen from all thenon-financial sector companies listed in Pakistan stock exchange. 50 firms is used as a sample size for this research. These 50 firms that are randomly selected from the total targeted population which is non-financial firms listed on Pakistan stock exchange. The population of this research is all non-financial firms that are registered on the Pakistan stock exchange (PSX). The sample period of this study is from 2008 to 2017 which is approximately ten years.

To analyse the data for the predictive ability of disaggregated accruals both short and long term accruals. For this the facts and figures is collected from certified and authentic website of state bank of Pakistan www.statebank.gov.pk. Data of some variables is directly extracted from the file.

3.6 Source of Data

The data of this research consists of secondary data or second hand data that is taken from the annual reports,and websites of the chosen companies. The nature of the data of this study is as quantitative. The whole sample data of 50 firms is collected from the Pakistan Stock Exchange (PSX) ,www.brecoder.com and other internet sources.Data to analyse the predictive ability of disaggregated accruals both long term and short term accruals ,figures and data is also collected from authorized and certified sites of that particular bank www.statebank.gov.pk

3.7. Test Method

The statistical techniques which is used to run the analysis are OLS (ordinary least square), Pearson correlation (PC) and descriptive statistics. The Adjusted R-square value is use to evaluate the enhancement in forecasting of the future cash-flows.

- Pearson correlation (PC) is used to investigate correlation among the variables. After finding whether any correlation exists.
- OLS is used to discover the level of significance of the components and to find association among future cash-flow and others variables**.**

3.8. Variables

This study consists of one dependent variable, and five indep1endent variables.

3.8.1. Dependent variables

Dependent variables refer to those variables which change its value due to the effect of other related factors. In this study future cash flow is the dependent variable.

3.8.2. Independent variables

Independent variables refer to those variables whose variation does not depend on the other factors. In this study, independent variable is earning, disaggregated accruals both long and short term accruals.

3.8.3. Control variables

Control variables are those variables which is constant and unaffected during the passage of examination. It powerfully effects the investigational result. It seized constant throughout the test. It is used for the purpose, to anlysis the relative connection and association amog dependent and independent variables. This variable itself is not of the key attention to the test.

3.9. Research Models

The main models which is used in this study are

3.9.1. Earning as a predictor

$$CFi,t = \beta + \beta\ Earning_{i,t-1} + u_{i,t} \text{ ---------- 1}$$

Where as

CF = Cash Flow, i = year, t = Company, EARN = Earnings.

u_{it}= Idiosyncratic error term.

3.9.2. Earning and accruals as a predictor

$$CFi,t = \beta + \beta EARN_{i,t-1} + \beta\Delta AR_{i,t-1} + \beta\Delta INV_{i,t-1} + \beta\Delta AP_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t} \text{----- 2}$$

Where as

CF = Cash Flow, i = year, t = Company, EARN = Earnings.

ΔAR = Change in Account Receivable.

ΔINV = Change in Inventory.

ΔAP = Change in Account Payable.

DEP = Depreciation.

u_{it}= Idiosyncratic error term.

3.9.3. Earning and Short term accruals as a predictor

$$CFi,t = \beta + \beta\ EARN_{i,t-1} + \beta\Delta AR_{i,t-1} + \beta\Delta INV_{i,t-1} + \beta\Delta AP_{i,t-1} + u_{i,t}$$ ---------- 3

Where as

CF = Cash Flow, i = year, t = Company, EARN = Earnings.

ΔAR = Change in Account Receivable.

ΔINV = Change in Inventory.

ΔAP = Change in Account Payable.

u_{it}= Idiosyncratic error term.

3.9.4. Earning and Long term accruals as a predictor

$$CFi,t = \beta + \beta\ EARN_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t}$$ ---------- 4

Where as

CF = Cash Flow,

i = year,

t = Company,

EARN = Earnings,

DEP = Depreciation.

u_{it}= Idiosyncratic error term.

3.10. Summary

Here in this thesis chapter it identifies the key variables used for the findings of the outcome in another section of analyzing. The fundamental strategy utilized to gather data is utilized of the data known as second hand data which is already available and gathered easily. Furthermore, the measurement of variables is defined to analysis the four forecasting models ofthis study. The independent variables is going to forecast the dependent variables and check that which one is the superior or best forecaster of forecasting of future cash flow. The independent variables are earnings, disaggregated accruals both long and short term, which includes change in inventory, change in account receivables, change in account payable and depreciation. The information on the subject of these variables is collected from the annual reports of the non financial listed companies of Pakistan stock exchange. A data of 51 companies is used which are selected randomly whose data is easily available. From 2008 to 2017 time period is used in the study which is approximately ten years.

CHAPTER 4

DATA ANALYSIS

4.1. Introduction

In preceding section we discussed about the study methodology which is used for this study. The principle of this section is to do the data analysis of the collected data that is observed and testing of the hypotheses .The data analysis has been carried out through tool or software's i.e. Stata and Gretl.

4.2 Descriptive Analysis

In this study all the variables are derived from the firm's financial statements which are listed on PSX 100 index in numerical form. For the first step of data analysis theiformation which is collected for the analysis is summarized and categorized so to construct it easier to understand .descriptive statistics bring the data in the meaningful form as it is summarized so that in understanding it is helpful. Through SPSS program descriptive analysis is done from which the distinctiveness of the variables. The descriptive statistics of the research over the period of 2008 to 2017 are given away in the following table given below. Initially a descriptive analysis was carried out to check The variations present in data or not.

Table 4.1. Descriptive statistics for variables

	Cash flow from operations	*Earning*	*Change in Inventory*	*Change in Account Receivable*	*Change in Account Payable*	*Depreciation*
N Valid	357	357	356	357	356	357
Missing	51	51	52	51	52	51
Mean	0.027	0.006	0.001	0.004	0.002	0.031
Median	0.030	0.023	0.0033	0.002	0.002	0.028
Std.Deviation	0.111	0.921	0.241	0.072	0.052	0.243
Minimum	-0.343	-0.326	-0.348	-0.304	-0.241	0.001
Maximum	0.317	0.268	0.313	0.257	0.203	0.110

A Multiple modes exist. The smallest value is shown. This table shows descriptive statistics of the variables. Such as Cash flow, earning, change in inventory, change in account receivable, change in account payable,and depreciation.

Above table 4.1 shows the outcomes of descriptive statistics of all the variables for the whole sample period taken for this study. The above table showthe mean, median, mode and standard deviation, minimum and maximumof every variable that is included in this study for all the sample companies. Mean is the single values which represent the whole data set whereas standard deviation shows the variation in a data set.

The average standards or values for each variable are given in the form of mean. When the standard deviation was interpreted it showed that the value was far away from the mean value. This high standard deviation shows an increased deviation in the data. The high variation resulted because of different size of companies which have been selected for analysis. Another reason for variation in the data set is that the companies belong and represent to different sectors which comprise different characteristics and values. There might be a possibility that cash-flows of one industry is different and large in number from that of the other sector that's why it shows variation in the data.

Interpretation:

Table 4.1. shows the outcomes of descriptive statistics of all the variables for the time period which is used for this study .The table shows that the cash flow from operations variable lies between -0.343 to 0.317 (minimum value to maximum value) with the mean value of 0.027 . Whereas For the earning variable the table display the maximum value is 0.268 and the minimum value is -0.326 with the mean value 0.006. In addition, change in inventory variable value lies between -0.348 to 0.313(minimum to maximum value) with the mean value 0.001. Moreover, change in account receivable variable shows the highest value 0.257 and the smallest value -0.304 and the mean value is 0.004. However, change in account payable variable is having the highest value 0.203 and the smallest value -0.241 with the mean value of 0.002 as shown by the table. And the depreciation variable shows the highest value 0.110 and the smallest value 0.001with the mean value of 0.031.

In the above table the mean is showing the information regarding the average of observations for a given variable. As we know that mean is the average of numbers in which we add up all the numbers and then we divide it by the total no of observations. As clearly shown, *cash flow from operation and depreciation is* showing the maximum mean between all the variables. Whereas On the other side, cha1nge *in inventory* is showing the smallest mean. If a relationship of all the variables is made, variations in the mean values can be observed which is signifying the chance of having outliers in the information or the data of the following study.

Barth et al. (2001) also shows in his study that there is a positive association between the mean and median of earning and cash flow. He also tell that in his study the means of *disaggregated accruals both short term and long term accruals* have a significant relation while other are having insignificant relation.

Median of the data is representing the centre position of the series of observation. We can easily see the maximum median in case of depreciation and cash flow in the above table of descriptive statistics. Whereas the minimum or smallest median is shown

in the table for earning, change in account receivable, change in account payable, andchange in Inventory.

In 2001 Barth in his study told that the median of earning and cash flow is has a significant relationship. Whereas in our study there is a significant relation.

The variation shown in the data series for the variables is because of the standard deviation. Standard deviation essentially shows the differences in your data for a particular variable.The above table 4.1.showsclearly that *earning* has the maximum or highest standard deviation followed by *change in account receivable, cashflow of* the companies. The highest standard deviation of *earning* clearly shows that there is differences or dissimilarities with in the future cash flows of the companies chosen in the sample and are not of the similar cash flows. The value of Standard deviation of *change in account payable* in the above table is showing smallest value which mean that there is less dissimilarity or variation in the in the outcome of the specified variables.

In *2005, Yan* in his research also shows that the variable earnings is given the maximum or highest standard deviation. Whereas cash flow standard deviation is smaller or minimum. So therefore earnings are more superior to cash flows for the forecasting of future cash flow. Hence the more unpredictable than the cash flows is earnings. Barth in 2001 in their research said that it is consistent to current accruals, i.e. change in account receivable, change in inventory and change in account payable, are less significant in magnitude and the standard derivation of the depreciation*(long-term accrual)*is maximum.

Above the results given by the descriptive statistics are constant with the earlier research done in the other countries by different researchers.

In 1996 Sloan in his study that there is also a considerable and positive connection between the means of cash flow from the operations and earnings. Cash flow of mean is larger than the mean of the earning, which indicates that by the use of by the non-cash everyday expenditure such as depreciation and amortizationearnings are decreased(Dechow, Kothari, & L Watts, 1998).

While there is insignificant relationship between the mea1n of the aggregate accrual component of earnings. Outcome that come by the calculation of the accruals component such as earning showed that there is a distiction difference among the cash flows and earnings (Dechow, Kothari, & L Watts, 1998).

Table 4.2. Pairwise correlation for variables

	Cash flow	*Earning*	*Change in account payable*	*Change in account receivable*	*Change in inventory*	*Depreciation*
Cash flow	1					
Earning	0.0718		1			
Change in account payable	0.0054		0.2267	1		
Change in account receivable	-0.0282		-0.1088	-0.7058	1	
Change in inventory	0.0008		0.2152	0.0180	0.0924	1
Depreciation	0.0005		0.1043	0.0021	0.0043	1

This table summarized the pairwise correlation of variables. Such as Cash flow,earning, change in inventory, change in account receivable, change in account payable,and depreciation.

The above table 4.2.expose the weak degree of correlation. But the correlation of change in account payable and change in account receivable is looking a little bit high. High correlation is a sign of multicollinearity in the data set. Therefore, to dig out weather multicollinearity is the problem for the data set or not, so the following test is used known as VIF (Variance inflation factor).

Table 4.3. Variance Inflation Factor for variables

Variable	*VIF*	*1/VIF*
Cash flow	1.11	0.90090
Earnings	2.05	0.48780
Change in account payable	2.10	0.47619
Change in account receivable	1.07	0.93457
Change in inventory	2.02	0.49504
Depreciation	1.02	0.98039
Mean VIF	4.27	

This table summarized the multicollinearity of variables. Such as Cash flow, earning, change in inventory, change in account receivable, change in account payable,and depreciation.

Interpretation:

In the above table 4.3, Variance inflation factor (VIF) expose the weak degree of multicollinearity for all the variables. The rule of thumb for the VIF is, when the individual variable values in the VIF result is larger than the 10 then there is afar above the ground correlation between the variables. In the table 4.3 the outcomes of the VIF table shows the value for Cash flow , earning , change in inventory , change in account receivable , change in account payable , depreciation is 1.11 , 2.05 , 2.10 ,1.07 , 2.02 and 1.02 . One after the other with the mean of 4.27,which shows that there is a less and weak degree of correlation. The consistency of the correlation of variables are with the previous literatures. Low correlation is the sign of no multicollinearity. So, it means that multicollinearity is not a key problem in this data set dataset. So therefore panel data is going to be used.

Empirical Result:

As autocorrelation and heteroskedasticity existence can mislead our interpretations. Therefore, it is very necessary to use error standard robust to keep safe the interpretations from misleading.

Software package providing various models to handle auto correlation and heteroskedasticity. These issues, autocorrelation and heteroskedasticity with the help of

Feasible Generalized Least Squares (FGLS) is eliminated. FGLS model is broadly used by many researchers. This model is mostly available for the panel data.

For the analysis of the data and to the test the hypotheses different software packages is used but for this study GRETL software is used. By the help of software it is easy to achieve the objective of the study. For the analysis of the hypotheses to check whether it is significant or insignificant a simple OLS regression is run on the data.

- H0:There is no Heterosketasticity in the data.
  H1: There is Heterosketasticity in the data.

- H0: There is no Auto correlation in the data.
  H1:There is Auto correlation in the data.

To analyze the data to check that there is heteroskedasticity and auto correlation in the data or not so that accurate outcome could be achieved for this the above hypothesis is tested by simple regression. For this the heteroskedasticity analysis is done with the help of white test where for the auto correlation durbin Watson test is done. In the following table below the outcomes of the test are given

Table 4.4. White Test

White 's test for heteroscedasticity
Null hypothesis : heteroskedastisity not present
Chi – square (204) = 2.53771
P value = 0

This table summarized the heteroskedasticity of variables. Such as Cash flow,earning, change in inventory, change in account receivable, change in account payable,and depreciation.

Interpretation:

In the table 4.4. white test is run for the heteroskedasticity which clearly shown that the null hypothesis is rejected because the value of p is less than 0.05 and it's a rule of thumb which mean that rejection of null hypothesis and acceptance of the alternative hypothesis . As the alternative hypothesis is accepted it mean that in the data there is heteroskedasticity hence data is heteroskedasticity. Furthermore to get more accurate results and outcomes the data is analyzed by the auto correlation test .for the auto correlation Durbin Watson test is used. In the following table given below The Durbin Watson outcomes are shown

Table 4.5. Auto correlation Test

Durbin Watson
Durbin Watson statistics = 0.6578
p – value = 0.000

This table summarized the autocorrelation of variables. Such as Cash flow,earning, change in inventory, change in account receivable, change in account payable,and depreciation.

Interpretation:

In the above table 4.5.the Durbin Watson analysis is run to investigate the data to check the auto correlation in the data, it is clearly shown in the table that the value of Durbin Watson is 0.6578 which is less or smaller than 2 which is rule of thumb and is more close to 0 which mean that there is a positive auto correlation in the data. In the above table 4.5 the value of p is 0.0000 which is less than rule of thumb 0.05 it mean that the null hypothesis is going to be rejected and therefore the alternative hypothesis is accepted which mean that auto correlation is present in the data . To keep safe our data from the misleading and to keep safe our data and to overcome the problems of auto correlation and heteroskedasticity in the data different models is used for this. As autocorrelation and heteroskedasticity existence can mislead our interpretations.

Therefore, it is very necessary to use error standard robust to keep safe the interpretations from misleading.

Before moving forward, fixed and random effect models were tried, because of the possibilities of unobserved heterogeneity including in data. It is very necessary for the given model to analyze the existence of fixed and random effect model. After applying fixed and random effect model, then analyze the results of both models and select the appropriate model for the study.

Table 4.6. Empirical Results, Dependent variable: Future Cash flow

Variables	**Fixed Effect**		**Random Effect**	
	Co-efficient	p-value	Co-efficient	p-value
Earning	-0.03759	0.0511*	0.00504365	0.61878
Change in inventory	0.0213911	0.000002**	0.00651051	0.18943
Change in Account payable	0.577869	0.000001***	0.535563	0.0001***
Change in account receivable	-0.0573991	0.01141***	-0.036689	0.09130*
Depreciation	0.0222686	0.38274	-0.02759	0.03374**
Durbin Watson	1.418327	-	NA	NA
R-squared	0.912162	-	NA	NA
F-statistic (p-value)	0.000000	-	NA	NA
White test of Heteroskedasticity (LM Test Statistic (p-value))	Chi-square (204)=253771 with p-value =0			
Chow test for differing group intercepts (F-test statistics (p-value))	P(F(203,1209)>2.49919)=1.16214e-021			
Breusch-Pagan Test (Chi-square test statistic (p-vaue))	Chi-square (1)=39.7225 with p-value =2.92739e-010			
Hausman test (chi –square test statistic (p-value))	Chi-square (15)=347.318 with p-value= 7.64131e-065			
*****Significant at 1%, **Significant at 5%,*Significant at 10%**				

Both fixed and random effects models showed the rejection of null hypothesis. Now, it is very important to decide which model will suit for our data to interpret in the proper way, for this decision, in this study, Hausman test used to identify the best one between them. Hausman test is executed. The outcomes of Hausman test are (χ^2_4 = 347.318; p-value = 0.000). The results of Hausman test showed the rejection of null hypothesis which is the sign to used fixed effect model.

However in this research for each variables p – value is given in the below tables of prediction models. But in this research the analysis of the variables and to test the hypotheses to check the models is not on the basis of the p – value. Here generally in this research to check that which mock-up is the greatest forecaster for forecasting of future cash flow our main focus will be on the adjusted r-square. Only adjusted R square of models is compared not the p – value. Adjusted r square basically tell that in the model the overall change occur in the dependent variable is just caused because of the independent variables. So it tell that to which level the change occurred in independent variable is because of dependent variable. Adjusted r square is going to help us that which model equation is the enhanced and superior predicator of future cash flow. According to the given details above we have six variables one is dependent variable which is cash flow and five is independent variables such as earnings ,change in account payable, change in account receivable, change in inventory, and depreciation. All the variables give an optimistic and important association with the dependent variable that is future cash flow.

4.3 Pearson Correlation

Before entering the variables into the regression it is necessary to investigate a possible relationship or connection among the dependent variables and independent variables (Collis & Hussery 2003). The regression test should not be conducted that among dependent variable and independent variable if there is no correlation it mean that there is insignificant relation among them. Whereas if there is a high connecion amongst the independent variables it indicate the presence of multi co linearity. A measure of correlation is represented with the help of correlation coefficients. Relationship or

association among the dependent variable and independent variable is just because of the coefficient as it give direction and strength between the variables. Here in this study the association between all the variables set is statistically calculated by Pearson's correlation coefficient. Relation among the variables is shown in the table 4.7 given below.

In the second step correlation has been analyzed amongst cash flows with each of the disaggregated variables of the disaggregated accruals both short and long as well as with earnings.

In Pearson Correlation Test it measures that how the variables are interconnected or co related with each other .If there is a positive sign and there is a significant assoiationamong two variables it means that increase in one variable will bring increase in the other variable too.

Table 4.7. Pearson Correlation

		Cash flow from operations	*Earning (t-1)*	*Change in Inventory*	*Chang e in Account Re ceivable*	*Cha nge in Account Payable*	*Depreciatio n (t-1)*
Cash flow from operations	Pearson Correlation	1	.846**	-.194**	.169**	.006	.733**
	Sig. (2-tailed)		.000	.000	.001	.916	.000
	N	357	357	356	357	356	357
Earning(t-1)	Pearson Correlation	.846**	1	-.079	.130*	-.008	.485**
	Sig. (2-tailed)	.000		.135	.014	.874	.000
	N	357	357	356	357	356	357
Change in Inventory	Pearson Correlation	-.194**	-.079	1	-.135*	.428**	-.124*
	Sig. (2-tailed)	.000	.135		.011	.000	.019
	N	356	356	356	356	356	356
Change in Account Receivable	Pearson Correlation	.169**	.130*	-.135*	1	.348**	.145**
	Sig. (2-tailed)	.001	.014	.011		.000	.006
	N	357	357	356	357	356	357
Change in Account Payable	Pearson Correlation	.006	-.008	.428**	.348**	1	.062
	Sig. (2-tailed)	.916	.874	.000	.000		.240
	N	356	356	356	356	356	356
Depreciation (t-1)	Pearson Correlation	.733**	.485**	-.124*	.145**	.062	1
	Sig. (2-tailed)	.000	.000	.019	.006	.240	
	N	357	357	356	357	356	357

**. Correlation is significant at the 0.01 level (2tailed).

*. Correlation is significant at the 0.05 level (2tailed).

When the Pearson correlation test is run to analyze the cash-flows with rest of the variables the following statements can be presented:

Pearson correlation basically shows the relationship between two variables that is any relationship or association exist between two variables or not. It tell us about the direction and strength of association among two variables. If the coefficient of correlation is +1(positive) or -1 (negative) then the two variables are 100% correlated if its +1 it's mean that the two variables are positively correlated whereas if it's -1 it's mean that the two variables are negatively correlated.

Here in the above table of the Pearson correlation its clearly shown that among dependent variable which is cash flows and all the independent variables in this research there is a significant relationship except change in account payables because its show negative sign and there is an insignificant relationship which shows that there is a possibility that the results going to derived from equation will not support the Barth's model.

4.4. Ordinary Least Square Test

With the help of Pooled Ordinary Least Square test we will analyze the four equations which is previously discussed in the two key hypotheses above.

Pooled ordinary least square regression is used to test the predictive aptitude of different variables to predict the future cash flows because the data that is used in this research is panel data. Dependent variable is used in all the equation model to check its relationship with other variables our dependent variable is cash flow.

4.5 Equation 1

Earning as a predictor of Future cash flows

The foremost model, known as earning model, is developed to chck the anlytical cpability of the earnings in forecasting the future cash flows of PSE (Paki1stan Stock Exchange) non-financial listed companies. In different earlier research it shows that the earnings had a positive or significant relationship with other variables to forecast the future cash flows for example:

(Catherine A. Finger in 1994) ; (Hollister, Shoaf, & Tully, 2002); (Barth, Cram, & Nelson, 2001). In this research the association among the earnings (EARN) and the future cash flow will be predict to check the association or link among the earning and future cash flow. For this following equation will be used:

$$\boldsymbol{CFi,t = \beta + \beta\, Earning_{i,t-1} + u_{i,t}} \text{ ---------- 1}$$

Where as

CF = Cash Flow, i = year, t = Company, EARN = Earning

Table 4.8. Model I

Pooled OLS, using 357 observations

Included 51 cross-sectional units

Time-series length = 10

Dependent variable: Cash flows from operations

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	266.468	203.284	1.3108	0.19077	
EarningAfterTax	0.852194	0.028528	29.8722	<0.00001	***

Mean dependent var	0.006000	S.D. dependent var	6390.136
Sum squared resid	4.14e+09	S.E. of regression	3413.825
R-squared	0.715396	Adjusted R-squared	0.714595
F(1, 355)	892.3481	P-value(F)	6.71e-99
Log-likelihood	-3409.963	Akaike criterion	6823.927
Schwarz criterion	6831.682	Hannan-Quinn	6827.011
Rho	0.619507	Durbin-Watson	0.831539

Explanation:

Current earning is used to foreast the future cash flows in the above regression analysis. From the result of analysis it's clearly shown that there is an important connection between the current earning and future cash flows.

After viewing the p-value of the model it can be affirmed that the model as a whole is considerable. Similarly after screening the model and the value of Adjusted R-square, it can be stated that up-to-date earnings do foretell imminent cash-flows. The value of AR-square is 0.714 showing that this model comprises of 71.4% of the characteristics of the described equation and that 71.4% of variations occur in dependent variables is because of independent variables.

4.6 Equation 2

Earning and accruals as a predictor of Future cash flows

Here in this model earning and accruals are used to forecast the future cash flow and to check that which variable is best to use for the predication of future cash flow. In different earlier research it was found that earnings along with the accruals had significant power to predict the future cash flows (Barth, Cram, & Nelson, 2001)

$$\boldsymbol{CFi,t = \beta + \beta EARN_{i,t-1} + \beta \Delta AR_{i,t-1} + \beta \Delta INV_{i,t-1} + \beta \Delta AP_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t}} \text{---------- 2}$$

Where as

CF = Cash Flow, i = year, t = Company

EARN = Earnings

ΔAR = Change in Account Recievable

ΔINV = Change in Inventory

ΔAP = Change in Account Payable

DEP = Depreciation

Table 4.9. Model II

Pooled OLS, using 355 observations

Included 51 cross-sectional units

Time-series length: minimum 5, maximum 10

Dependent variable: Cash flows from operations

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	-45.9406	152.538	-0.3012	0.76346	
Earning After Tax	0.648664	0.023817	27.2354	<0.00001	***
Change_in_Inventory	-0.0886936	0.0931353	-0.9523	0.34160	
Change_in_Account_Receivable	-0.0607483	0.0527308	-1.1520	0.25009	
Change_in_Account_Payables	0.0389825	0.0300293	1.2982	0.19509	
Depreciation for the year	1.11173	0.0619772	17.9376e	<0.00001	***

Mean dependent var	0.006000	S.D. dependent var	6406.580
Sum squared resid	2.13e+09	S.E. of regression	2473.297
R-squared	0.853066	Adjusted R-squared	0.850961
F(5, 349)	405.2432	P-value(F)	6.4e-143
Log-likelihood	-3274.422	Akaike criterion	6560.843
Schwarz criterion	6584.076	Hannan-Quinn	6570.086
Rho	0.090087	Durbin-Watson	1.544080

Explanation:

Here in this model we analyzed the analytical ability of current earnings by combining it with accruals like depreciation, change in account receivables, and change in inventory because previously we only check the predictive ability of cash flow with earning.

Adjusted R square of any model represents that the extent to which independent variables explain the changes is dependent variable for the forecasting of future cash flow. Here generally in this research to check that which model is the most excellent forecaster for the prediction of future cash flow our main focus will be on the adjusted r-square .For this model adjusted R square value is 0.850961 which is greater than the values of adjusted R square of model 1 in which earning alone is used to predict the future cash flows which show that cash flows are forecasted more accurately when current earning is combined with disaggregated accruals. As the value of AR-square is 0.850961 showing that this model comprises of 85.0 % of the characteristics of the described equation and that 85.0 % of variations occur in dependent variables is because of independent variables.

Testing of Hypothesis:

The above two models is used to check the hypothesis number 1 either the two models are supporting the hypothesis or not the hypothesis is given below:

H0 There is insignificant relationship between disaggregated accruals adding to earning model in prediction of future cash flows.

H1 There is significant connection among disaggregated accruals adding to earning model in prediction of future cash flows**.**

There are basically two parts of this hypothesis. In first model we have only checked the association or connection among the variables such as earning and future cash flow. Earning is used as a forecaster of forecasting future cash flow .From the result of analysis it's clearly shown that there is a major relationship among the current earning and future cash flows.

After viewing the p-value of the model it can be affirmed that the model as a whole is considerable. Similarly after screening the model and the value of Adjusted R-square, it is clearly

shown that there is a significant relation. The value of AR-square is 0.714 showing that this model comprises of 71.4% of the characteristics of the described equation and that 71.4% of variations occur in dependent variables is because of independent variables.

In the second part of the hypothesis we have used disaggregated accruals as a forecaster of forecasting future cash flow .From the result of analysis it's clearly shown that there is a considerable relationship or association among the disaggregated accruals and future cash flows.

From the analysis the value of adjusted R square is 0.850961 which is greater than the values of adjusted R square of model in which earning alone is used to forecast the future cash flows which show that cash flows are forecasted more accurately when current earning is combined with disaggregated accruals. As the value of AR-square is 0.850961 showing that this model comprises of 85.0 % of the characteristics of the described equation and that 85.0 % of variations occur in dependent variables is because of independent variables.

In short the findings suggest that current earning alone is not an enhanced and better forecaster of future cash flows. The predictive capability of current earning is increased when it is used in a model along with accruals. Therefore by the above information it clearly support H1 .from the above equation model it is clearly shown that there is an increase in the earnings for the forecast of future cash flow. The analysis tell that by adding the disaggregating earnings and cash flow and aggregated accruals brings increase in the adjusted r square.

4.7 Equation 3

Short term accruals variable as a predictor of future cash flows

$$\boldsymbol{CFi,t = \beta + \beta\, EARN_{i,t-1} + \beta \Delta AR_{i,t-1} + \beta \Delta INV_{i,t-1} + \beta \Delta AP_{i,t-1} + u_{i,t}} \text{ ---------- } \mathbf{3}$$

Where as

CF = Cash Flow,i = year, t = Company

EARN = Earnings,ΔAR = Change in Account Recievable

ΔINV = Change in Inventory , ΔAP = Change in Account Payable.

Table 4.10. Model III

Pooled OLS, using 355 observations

Included 51 cross-sectional units

Time-series length: minimum 5, maximum 10

Dependent variable: Cash flows from operations

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	239.356	210.016	1.1397	0.25519	
EarningAfterTax	0.851104	0.0290346	29.3134	<0.00001	***
Change_in_Inventory	-0.154346	0.128833	-1.1980	0.23172	
Change_in_Account_Receivable	0.0151529	0.072763	0.2082	0.83516	
Change_in_Account_Payables	0.0519862	0.0415593	1.2509	0.21181	

Mean dependent var	0.006000	S.D. dependent var	6406.580
Sum squared resid	4.10e+09	S.E. of regression	3423.936
R-squared	0.717601	Adjusted R-squared	0.714373
F(4, 350)	222.3450	P-value(F)	1.01e-94
Log-likelihood	-3390.389	Akaike criterion	6790.779
Schwarz criterion	6810.139	Hannan-Quinn	6798.481
Rho	0.608540	Durbin-Watson	0.842616

Explanation:

In the above model we analyzed the ability of short term along with current earning is used to forecast the future cash flows. When short term accruals is used with the earnings the result shows that on the whole the model is statistically significant. Because the value of Adjusted R-square is 0.714373 showing that this model comprises of 71.4 % of the characteristics of the described equation and that 71.4 % of changes in dependent variable occurred is due to changes in independent variable.

4.8 Equation 4

Long term accruals and earning as a predictor of future Cash Flows

$$\boldsymbol{CFi,t = \beta + \beta\, EARN_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t}} \quad \text{---------- 4}$$

Where as

CF = Cash Flow,

i = year,

t = Company

EARN = Earnings,

DEP = Depreciation

Table 4.11. Model IV

Pooled OLS, using 357 observations

Included 51 cross-sectional units

Time-series length = 10

Dependent variable: Cash flows from operations

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	-54.5258	147.797	-0.3689	0.71240	
EarningAfterTax	0.645753	0.0235407	27.4314	<0.00001	***
Depreciationforthe year	1.11016	0.0613533	18.0945	<0.00001	***

Mean dependent var	0.006000	S.D. dependent var	6390.136
Sum squared resid	2.15e+09	S.E. of regression	2464.059
R-squared	0.852145	Adjusted R-squared	0.851310
F(2, 354)	1020.121	P-value(F)	1.2e-147
Log-likelihood	-3293.070	Akaike criterion	6592.139
Schwarz criterion	6603.772	Hannan-Quinn	6596.766
Rho	0.088459	Durbin-Watson	1.548801

Explanation:

In this model we analyzed the ability of long term accruals i.e. depreciation along with short term accruals to predict future cash flows. When long term accruals are add with earning to predict the future cash flow the results shows that the overall model is statistically significant. The value of AR-square is .851310 showing that this model comprises of 85.1 % of the characteristics of the described equation and that 85.1 % of changes in dependent variable occurred is due to changes in independent variable. The adjusted R square of long term accrual base model is .851310 as compare to short term .714 of short term accruals base model which shows that long term accruals has better analytical ability to forecast future cash flows as compare to short term accruals.

Testing of Hypothesis:

The above two models is used to check the hypothesis number 2 either the two models are supporting the hypothesis or not the hypothesis is given below:

H0 Predictive ability of short term accruals is equal to predictive ability of long term accruals to forecast future cash flow in current earning base model

H1 Predictive ability of short term accruals is more than predictive ability of long term accruals to forecast future cash flow in current earning base model

There are basically two parts of this hypothesis. In first model we have only checked the relation between short term accruals and future cash flow .short term accruals is used as a predictor of forecasting future cash flow. From the result of analysis it's clearly shown that there is a significant association between the short term accruals and future cash flows.

After viewing the p-value of the model it can be affirmed that the model as a whole is considerable. Similarly after screening the model and the value of Adjusted R-square, it is clearly shown that there is a significant relation. The result shows that on the whole model is statistically significant. As the value of AR-square is 0.714373 showing that this model comprises of 71.4 % of the characteristics of the described equation and that 71.4 % of changes in dependent variable occurred is due to changes in independent variable.

In the second part of the hypothesis we have used long term accruals as a predictor of forecasting future cash flow. From the result of analysis it's clearly shown that there is a significant relationship or association between the long term accruals and future cash flows.

According to the results the overall model is statistically significant. The value of AR-square is .851310 showing that this model comprises of 85.1 % of the characteristics of the described equation and that 85.1 % of changes in dependent variable occurred is due to changes in independent variable. The adjusted R square of long term accrual base model is .851310 as compare to short term .714 of short term accruals base model which shows that long term accruals has better predictive ability to forecast future cash flows as compare to short term accruals.

In short the findings suggest that current earning alone is not a better forecaster of future cash flows. The findings also suggest that the predictive capability of long term accruals is better than short term accruals.

4.9 Findings

This research highlight the findings of different dimensions some of which follow the model that is described by Barth et al in 2001 however the other follow the facts of the study which is given by Dechow as well as Ebaid in their models.

We used equation 1 and equation 2 which represent the first hypothesis to analyze that weather alone the current earning is a superior forecaster of future cash flows or predictive ability of current earning to forecast future cash flows is improved when it is used to combined with disaggregated accruals like change in inventory, change in account receivables, change in account payable and depreciation. So after analyzing the results we used the value of adjusted R square to determine whether the predictive capability of dependent variables to estimate future cash flow is increased or not. In model 1 we analyze current earning alone is used to forecast the future cash flows and in model two current earning along with disaggregated accruals is used to predict future cash flows. The results show that the value of adjusted R square is increased 19.04% when current earnings along with accruals are used to estimate or predicts the future cash flows. The consequences shows that adding accruals like change in inventory, change in account receivable, change in account payable and deprecation increase the predictive capability of current earning to forecast future cash flows.

We use Equation 2 and Equation 3 to test the hypothesis no 2 which is used to test the predictive ability of short term accruals and long term accruals that which one is a better forecaster of future cash flow when used along with earning. Again the value of adjusted R square will be used to analyze the predictive ability of both short term accruals and long term accruals base models. Model with high values of adjusted R square will be a better forecaster of future cash flows. The adjusted R square of short term accrual base model is .714 and long term accrual base model is .851. The adjusted R square increased by 19.18% for long term accrual base model which shows that long term accruals are better forecaster of future cash flows when used along with earning as compare to long term accruals. So it’s mean that long term accruals are the better predictor for future cash flow when it is used with earning.

In short the findings suggest that current earning alone is not a superior forecaster of future cash flows. The predictive ability of current earning increased when it is used in a model along with accruals. The findings also suggest that the predictive capability of long term accruals is better than short term accruals.

The combine findings of both the parallel researches i.e. this research and the other parallel research which compare the analytical ability of cash flows and earnings to predict future cash flows supports (Ebaid, 2011) that current earnings along with disaggregated accruals are better forecaster of future cash flows as compare to current cash flows and disaggregated accruals.

4.10. Results and Discussion:

50 non-financial firms are used as a sample in the study, listed on Pakistan stock exchange (PSX) for the time period of 2008 to 2017. 50 firms is selected randomly for the thesis from the total population of non- listed firms on Pakistan stock exchange. As there are two parts of this thesis one is forecasting of future cash flow via disaggregated accruals and current cash flow and one is forecasting of future cash flow through earnings. So here on one part of thesis results is discussed which is forecasting of future cash flow via earnings and disaggregated accruals (short term accruals and long term accruals).

The study analyzes the impact of future cash flow, earnings and disaggregated accruals (short term accruals and long term accruals). Four different separate models are used to check the association among the variables and to test the hypotheses. The theoretical frame work of each model is given below and is discussed below. Left side of the model represents dependent variables and right side represents independent variables.

For the purpose of analyzing the above hypotheses given above in Chapter 2 the following model is used:

$$\boldsymbol{CFi,t = \beta + \beta EARN_{i,t-1} + \beta \Delta AR_{i,t-1} + \beta \Delta INV_{i,t-1} + \beta \Delta AP_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t}}$$

Where

CF = Cash Flow,i = year, t = Company,

EARN = Earnings,

ΔAR = Change in Account Recievable,

ΔINV = Change in Inventory,

ΔAP = Change in Account Payable,

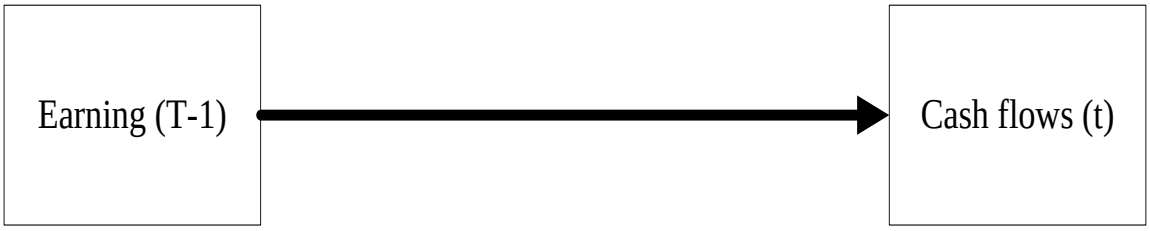
DEP = Depreciation.

To test the hypotheses following four equations is used as four different models which is given below:

Model 1(Earning as a predictor of Future cash flows)

The given model below shows the relationship or connection among earnings and the future cash flow. Regression analysis is used to test the following model .After analysis the test shows that there is a significant relationship between earnings and future cash flow.

Figure 2(Earning as a predictor of Future cash flows)



Equation:

$$CFi,t = \beta + \beta\, Earning_{i,t-1} + u_{i,t} \text{ ---------- 1}$$

Where as

CF = Cash Flow, i = year, t = Company,EARN = Earnings.

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	266.468	203.284	1.3108	0.19077	
EarningAfterTax	0.852194	0.028528	29.8722	<0.00001	***

Mean dependent var	0.006000	S.D. dependent var	6390.136
Sum squared resid	4.14e+09	S.E. of regression	3413.825
R-squared	0.715396	Adjusted R-squared	0.714595
F(1, 355)	892.3481	P-value(F)	6.71e-99
Log-likelihood	-3409.963	Akaike criterion	6823.927
Schwarz criterion	6831.682	Hannan-Quinn	6827.011
Rho	0.619507	Durbin-Watson	0.831539

The above table shows the results of coefficient obtained from regression analysis. Constant is representing the intercept value of a variable .whereas R2 is representing the quantity of change for the dependent variable that is describe by independent variable, showing the value of overall, for each model separately. The table is also showing the results of t-test and the p-value. However F (p-value) representing the significance of overall model.

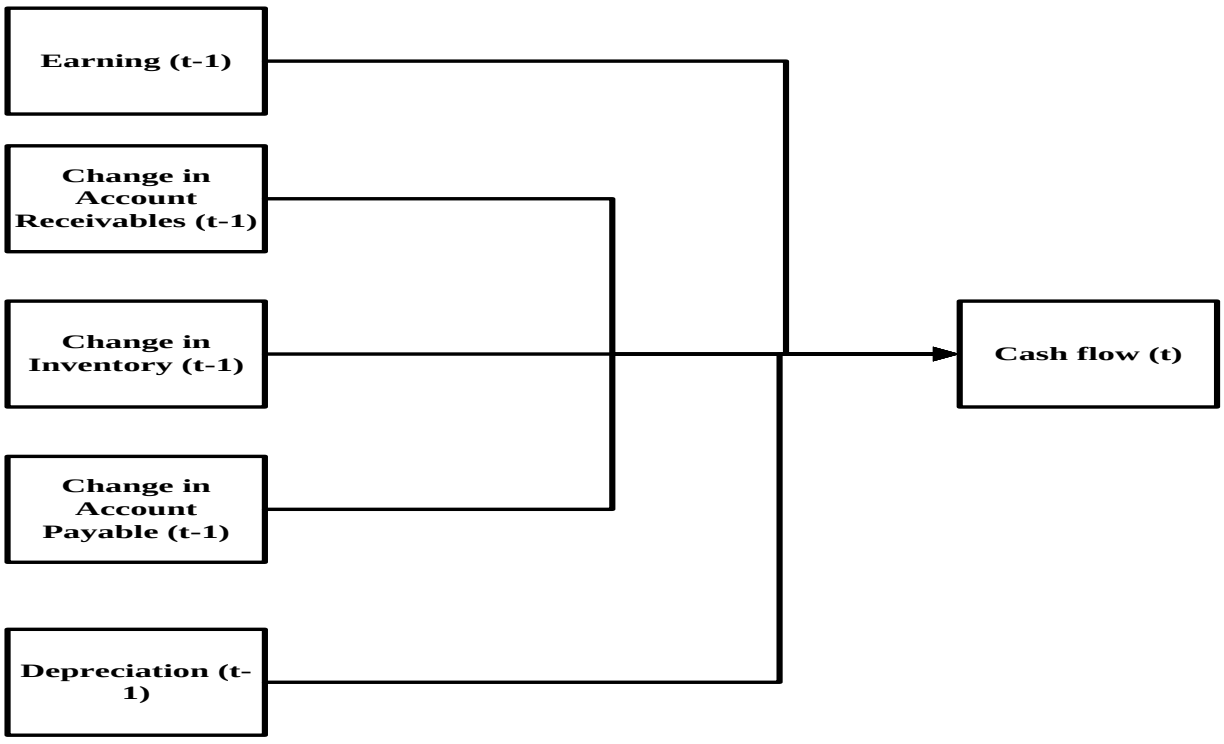
Based on the results above, the overall model results F (P-value) shows significant outputs with p-value less than 0.05. Therefore according to the consequences or outcomes from the analysis there is a significant connection among current earnings and future cash flows. Whereas Adjusted R square value for the model is 0.714 showing that this model comprises of 71.4% of the characteristics of the described equation and that 71.4% of variations occur in dependent variables is because of independent variables. Analysis also shows that the overall model is significant.

Hence this analysis suggest that there is a significant relationship among the future cash flow and earnings. The result of this analysis is in line with (Catherine A. Finger in 1994) ; (Hollister, Shoaf, & Tully, 2002); (Barth, Cram, & Nelson, 2001)by signifying the positive and significant association between the future cash flow and the earnings.

Model 2 (Earning and accruals as a predictor of Future cash flows)

The given model is also used for the testing of first hypothesis. In this model future cash flow is predict using earning along with the accruals. Regression analysis is used to analysis the hypothesis weather hypothesis is accepted or rejected. The answer is expected that cash flow and accruals components have a significant relationship and are the best predictor in forecasting of future cash flows.

Figure 3(Earning and accruals as a predictor of Future cash flows)



Equation:

$$\boldsymbol{CFi,t = \beta + \beta EARN_{i,t-1} + \beta \Delta AR_{i,t-1} + \beta \Delta INV_{i,t-1} + \beta \Delta AP_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t}}$$ ---------- 2

Where

CF = Cash Flow, i = year, t = Company,

EARN = Earnings, ΔAR = Change in Account Recievable,

ΔINV = Change in Inventory, ΔAP = Change in Account Payable, DEP = Depreciation.

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	-45.9406	152.538	-0.3012	0.76346	
Earning After Tax	0.648664	0.023817	27.2354	<0.00001	***
Change_in_Inventory	-0.0886936	0.0931353	-0.9523	0.34160	
Change_in_Account_Receivable	-0.0607483	0.0527308	-1.1520	0.25009	
Change_in_Account_Payables	0.0389825	0.0300293	1.2982	0.19509	
Depreciation for the year	1.11173	0.0619772	17.9376e	<0.00001	***

Mean dependent var	0.006000	S.D. dependent var	6406.580
Sum squared resid	2.13e+09	S.E. of regression	2473.297
R-squared	0.853066	Adjusted R-squared	0.850961
F(5, 349)	405.2432	P-value(F)	6.4e-143
Log-likelihood	-3274.422	Akaike criterion	6560.843
Schwarz criterion	6584.076	Hannan-Quinn	6570.086
Rho	0.090087	Durbin-Watson	1.544080

The above table shows the results of coefficient obtained from regression analysis. Constant is representing the intercept value of a variable .Whereas R2 is representing the quantity of change for the dependent variable that is describe by independent variable, showing the value of overall, for each model separately. The table is also showing the results of t-test and the p-value. However F (p-value) representing the significance of overall model.

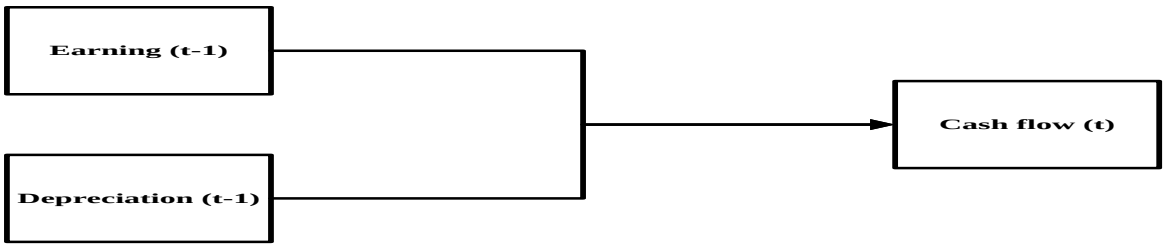
Based on the results above, the overall model results F (P-value) shows significant outputs with p-value less than 0.05. Therefore according to the results from the analysis there is significant relationship which mean that current earnings and accruals is the better predictors to forecast the future cash flows. As the value of AR-square is 0.850961 showing that this model comprises of 85.0 % of the characteristics of the described equation and that 85.0 % of variations occur in dependent variables is because of independent variables.

Here generally in this research to check that which model is the best predictor for forecasting of future cash flow our main focus will be on the adjusted r-square. For this model the value of adjusted R square is 0.850961 which is greater than the values of adjusted R square of model 1 in which earning alone was used to forecast future cash flows which show that cash flows are forecasted more accurately when current earning is combined with disaggregated accruals.

Model 3 (Short term accruals variable as a predictor of future cash flows)

The given model below is used for the testing of second hypothesis. In this model future cash flow is predict using short-term accruals as a forecaster of forecasting future cash flow. Regression analysis is used to test the hypothesis. The answer is expected that short term accruals component along earning have a significant relationship and are the best forecaster in forecasting of the future cash flows.

Figure 4(Short term accruals variable as a predictor of future cash flows)



Equation:

$$\boldsymbol{CFi,t = \beta + \beta\, EARN_{i,t-1} + \beta\Delta AR_{i,t-1} + \beta\Delta INV_{i,t-1} + \beta\Delta AP_{i,t-1} + u_{i,t}} \text{ ---------- 3}$$

Where as

CF = Cash Flow,i = year, t = Company

EARN = Earnings

ΔAR = Change in Account Receivable

ΔINV = Change in Inventory

ΔAP = Change in Account Payable

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	239.356	210.016	1.1397	0.25519	
EarningAfterTax	0.851104	0.0290346	29.3134	<0.00001	***
Change_in_Inventory	-0.154346	0.128833	-1.1980	0.23172	
Change_in_Account_Receivable	0.0151529	0.072763	0.2082	0.83516	
Change_in_Account_Payables	0.0519862	0.0415593	1.2509	0.21181	

Mean dependent var	0.006000	S.D. dependent var	6406.580
Sum squared resid	4.10e+09	S.E. of regression	3423.936
R-squared	0.717601	Adjusted R-squared	0.714373
F(4, 350)	222.3450	P-value(F)	1.01e-94
Log-likelihood	-3390.389	Akaike criterion	6790.779
Schwarz criterion	6810.139	Hannan-Quinn	6798.481
Rho	0.608540	Durbin-Watson	0.842616

The above table shows the results of coefficient obtained from regression analysis. Constant is representing the intercept value of a variable .Whereas R2 is representing the quantity of change for the dependent variable that is describe by independent variable, showing the value of overall, for each model separately. The table is also showing the results of t-test and the p-value. However F (p-value) representing the significance of overall model.

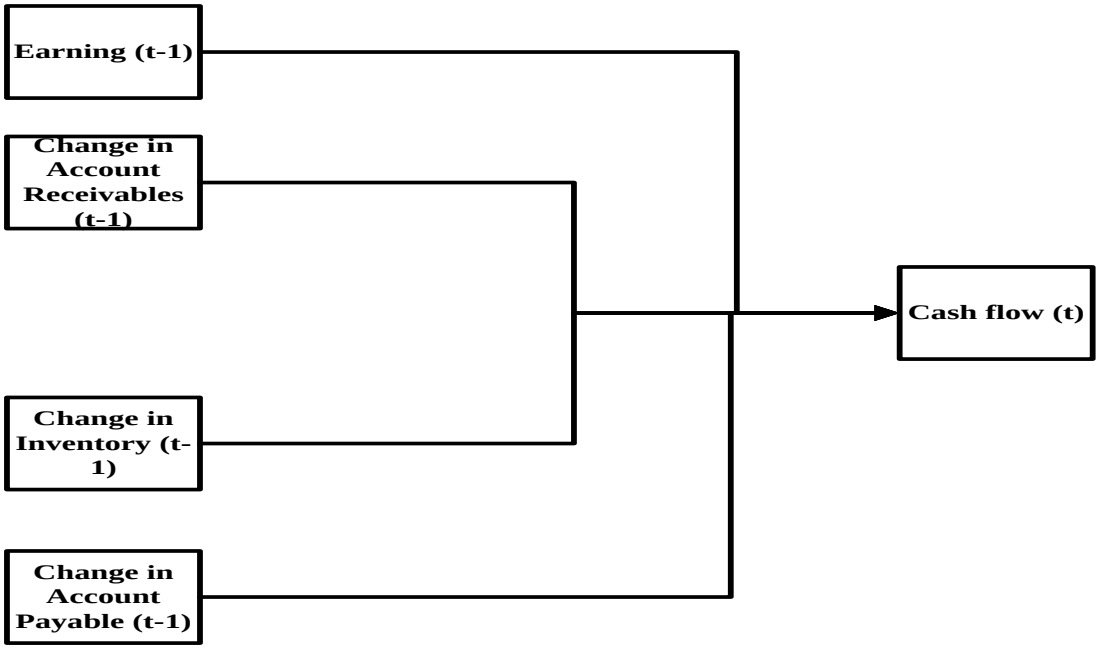
Based on the results above, the overall model results F (P-value) shows significant outputs with p-value less than 0.05. Therefore according to the results from the analysis there is significant relationship which mean that current earnings and short term accruals is also the better predictors to forecast the future cash flows. The result shows that the overall model is statistically significant. As the value of AR-square is 0.714373 showing that this model comprises of 71.4 % of the characteristics of the described equation and that 71.4 % of changes in dependent variable occurred is due to changes in independent variable.

Here generally in this research to check that which model is the best predictor for forecasting of future cash flow our main focus will be on the adjusted r-square .For this model the value of adjusted R square is 0.714373 which is smaller than the values of adjusted R square of model 2 in which earning along disaggregated accruals is used to forecast future cash flows which show that cash flows are forecasted more accurately when current earning is combined with disaggregated accruals. Short term accrual along earning is not a good forecaster of future cash flow.

Model 4 (Long term accruals and earning as a predictor of future Cash Flows)

The given model below is also used for the testing of second hypothesis. In this model future cash flow is predict using long term accruals as a predictor of forecasting future cash flow. Regression analysis is used to test the hypothesis. The answer is expected that long term accruals component along earning have a significant relationship and are the best predictor in forecasting of future cash flows.

Figure 5(Long term accruals and earning as a predictor of future Cash Flows)



Equation:

$$CFi,t = \beta + \beta\, EARN_{i,t-1} + \beta DEP_{i,t-1} + u_{i,t} \quad \text{---------- 4}$$

Whereas CF = Cash Flow, i = year, t = Company, EARN = Earnings,DEP = Depreciation.

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Const	-54.5258	147.797	-0.3689	0.71240	
EarningAfterTax	0.645753	0.0235407	27.4314	<0.00001	***
Depreciationforthe year	1.11016	0.0613533	18.0945	<0.00001	***

Mean dependent var	0.00600	S.D. dependent var	6390.136
Sum squared resid	2.15e+09	S.E. of regression	2464.059
R-squared	0.852145	Adjusted R-squared	0.851310
F(2, 354)	1020.121	P-value(F)	1.2e-147
Log-likelihood	-3293.070	Akaike criterion	6592.139
Schwarz criterion	6603.772	Hannan-Quinn	6596.766
Rho	0.088459	Durbin-Watson	1.548801

The above table shows the results of coefficient obtained from regression analysis. Constant is representing the intercept value of a variable .Whereas R2 is representing the quantity of change for the dependent variable that is describe by independent variable, showing the value of overall, for each model separately. The table is also showing the results of t-test and the p-value. However F (p-value) representing the significance of overall model.

Based on the results above, the overall model results F (P-value) shows significant outputs with p-value less than 0.05. Therefore according to the results from the analysis there is significant relationship which mean that current earnings and long term accruals is also the better predictors to forecast the future cash flows. The result shows that the overall model is statistically significant. As the value of AR-square is .851310 showing that this model comprises of 85.1 % of the characteristics of the described equation and that 85.1 % of changes in dependent variable occurred is due to changes in independent variable.

Here generally in this research to check that which model is the best predictor for forecasting of future cash flow our main focus will be on the adjusted r-square .The adjusted R square of long term accrual base model is .851310 as compare to short term which is .714 of short term accruals base model which shows that long term accruals has better predictive ability to forecast future cash flows along earnings as compare to short term accruals.

Model 1 and model 2 or we can say that equation 1 and equation 2 is used to signify the first hypothesis. In model 1 and model 2 it is analyzed that either current earning is a better predictor of forecasting future cash flow or when it is combined with the disaggregated accruals (short term and long term accrual) like change in inventory, change in account receivables, change in account payable and depreciation its predictive ability of forecasting is improved.

So after analyzing the results we used the value of adjusted R square to determine whether the predictive capability of dependent variables to estimate future cash flow is increased or not. In model 1 we analyze current earning alone is used to predict future cash flows and in model two current earning along with disaggregated accruals is used to predict future cash flows. The results show that the value of adjusted R square is increased 19.04% when current earnings along with accruals are used to forecast future cash flows. The consequences shows that adding

accruals like change in inventory, change in account receivable, change in account payable and deprecation increase the predictive capability of current earning to forecast future cash flows.

We use model 3 and model 4 (Equation 3 and Equation 4) to test the hypothesis no 2 which is used to test the predictive ability of short term accruals and long term accruals that which one is a better forecaster of future cash flow when used along with earning. Again the value of adjusted R square is used to analyze the predictive ability of both short term accruals and long term accruals base models. Model with high values of adjusted R square is a better forecaster of future cash flows. The adjusted R square of short term accrual base model is .714 and long term accrual base model is .851. The adjusted R square increased by 19.18% for long term accrual base model which shows that long term accruals are better forecaster of future cash flows when used along with earning as compare to long term accruals. So it's mean that long term accruals are the better predictor for future cash flow when it is used with earning.

In short the findings suggest that current earning alone is not a better forecaster of future cash flows. The predictive ability of current earning is increased when it is used in a model along with accruals. The findings also suggest that the predictive capability of long term accruals is better than short term accruals.

4.11. Summary

On the whole the analysis of the outcome indicates that a company should not only used earnings as a predictor of forecasting future cash flow. Because predictive ability of earnings is more when it is used with the accruals. Every variable take part in company for predicting future cash flow and have a major role in forecasting of the future cash flow as its analyzed above but alone no variable is a better predictor of forecasting future cash flow. So therefore earning and accruals when used together is better to forecast future cash flow whereas the analysis also suggest that the predictive ability of long term accrual is more than the predictive ability of short term accruals.

Here the analysis of data is done first introduction is written that what is done the following chapter.How the data analysis of the collected data that is observed and through which techniques testing of the hypotheses is done. After that descriptive of statistics is carried out to check the variations present in data or not. Four regression models is used for the forecasting of future cash flow and for the testing of hypothesis. The first model is the earning model in which earning alone is used to predict future cash flow. The second one is the accrual model in which disaggregated accruals along with earning is used to predict future cash flow .the third one is short term accrual model to predict future cash flow and the last one not the least in long term accrual model used to forecast the future cash flow. Firstly the descriptive statistics of the variable is done through SPSS and the relationship is analyzed among each variable in the model through different statistically techniques. Overall after analyzing all the models the outcomes shows that there is a significant connection and association between all the four models in forecasting of the future cash flow.

CHAPTER 5

CONCLUSION

5.1. Conclusion

In this study the predictive capability to estimate future cash flows of different variable including present earning, current cash flows, change in inventory, change in account receivables etc. was measured by means of the model created by the researcher Barth in (2001). The findings of the research are consistent with the findings of Ebaid (2011) and propose that the analytical capability of current earning is increased when current earnings and accruals are in a same model. Mean that current earning alone is not sufficient to forecast future cash flows. Moreover this research also suggests that long term accruals have superior predictive ability as compare to short term accruals.

However we can say that this study is been developed to examine and study the prediction of the future CF's via certain components i.e. up-to-date earnings, ΔAR , $\Delta INV, \Delta AP$ and depreciation. The use of these components is to determining that which one among these variables comprises of enhanced facts and information which can be utilized for the purpose of forecasting**.** Barth's model has been selected as a base paper to study this association between these variables. A total of four equations had been build up taking help from Barth's model, further enhancements had been made in the equations taking help from Ebaid's model of 2011.

The results derived from the study showed that up-to-date earnings as compared to present cash-flows have enhanced information and are good forecasters of imminent cash-flows unlike the facts given by Barth in 2001. These facts are in line with thefindings given by Ebaid and Decow who gave the same opinion through their studies.So earnings all alone do not have enough capability to forecast the future cash-flows. Though when these cash-flows are taken

along with the accruals, they become more effective enough to forecast imminent cash-flows with enhanced facts and information.

Therefore in brief this research the pred1ictivecapablity to predict the future cash flows of different variable including current earning, current cash flows, change in inventory, change in account receivables etc. was measured by using the model developed by Barth in (2001). The findings of the research are consistent with the findings of Ebaid (2011) and propose that the predictive ability of current earning is increased when current earnings and accruals are in a same model. Mean that current earning alone is not sufficient to forecast future cash flows. Moreover this research also suggests that long term accruals have superior predictive ability as compare to short term accruals when used with the earnings.

5.2. Future Implications

Further research can be done on this prediction of future cash flows because previously different researchers provide different results on the research. In order to narrow the gap between the researches of different researcher new models can be developed to forecast future cash flows.

This topic can be further extended to specific sectors of the economy like cements. Due to limited availability of time this research is only limited to 100 index and all the listed companies of the economy can be included in the model to increase the accuracy of theresults. Move over companies can be grouped in different groups on the basis of their market capitalization and this model can be specifically tested on each group.

There are more than a few more future limits on the following study. Sample size of the study is too small, so therefore to bring a positive impact on the representative power of the result sample size should be increased. And duration of the time period is too small. By increasing duration of time more outcomes and accurate results will be find.Finger in 1994 has exprienced the abilities of earning and cashflow to forecast the future cash flow, the result is diverse from different horizons.

And last but not the least all the industries and sectors are not covered in this research. So therefore by increasing the number of sectorthere will be a huge impact on the result as well. Outcome will not be the same if sample is pooled with dissimilar industries.

5.3. Recommendations for future

Many aspects have been highlighted in the study on the basis of which certain recommendations can be given to the future researchers. There was a great variation in data because of compiling the companies from PSE 100 index under the rule of MC as most the companies were large having huge cash flows while most were small having less amount of cash-flows. For getting a much better view and deeper insight regarding which of the models could be true future researchers can conduct a separate study on large and small companies with enhancing the time span of data.

Similarly the future researchers can carry out a study to find that what role have disaggregated accruals alone on prediction of the future cash-flows.

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