

**The Impact of Working Capital Accruals on Stock Return:  
Evidence from Karachi Stock Exchange (Pakistan)**

By

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**MASTER OF SCIENCE IN MANAGEMENT SCIENCES  
(FINANCE)**



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ISLAMABAD  
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**MMS143076**

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## **Certificate**

This is to certify that Mr. Nazim Ali has incorporated all observations, suggestions and comments made by the external evaluators as well as the internal examiners and thesis supervisor. The title of his Thesis is: The Impact of Working Capital Accruals on Stock Return; Evidence from Karachi Stock Exchange (Pakistan).

Forwarded for necessary action

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Shujahat Haider Hashmi  
(Thesis Supervisor)

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## **Dedication**

*This thesis is proudly dedicated to*

*Almighty Allah*

*And*

*All my beloved family, my parents, my teachers and my friends*

*Thanks for your endless love, sacrifices, prayers,*

*Support, guidance and advices.*

## LIST OF ABBREVIATIONS

Current Assets .....	CA
Current Liabilities .....	CL
Accounts Receivable .....	AR
Total Inventories .....	TI
Other Current Assets .....	OCA
Account Payable .....	AP
Income tax payable .....	ITP
Other Current Liabilities .....	OCL
Earning .....	Earn
Log of Market Value .....	Size
Book-to-market .....	BM
Annual growth in sales .....	SG
Working Capital Accruals .....	ACC
Stock Return .....	$R_{it}$
Discretionary Accruals .....	DACC
Nondiscretionary Accruals .....	NDACC
Total Assets .....	TA
Changes in .....	$\Delta$
Karachi Stock Exchange .....	KSE

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## **Abstract**

*The purpose of this study is to examine the role of working capital accruals on stock returns. The study analyze on a sample of 89 non-financial firms from 12 different sectors listed in Karachi stock exchange for the period of 10 years from 2005 to 2014. Working capital accruals measured through change in accruals components and each components than scaled by average of total assets. Impact of working capital accruals on stock returns measured through checking the relationship between working capital accruals and returns by formulating the portfolios and through regression. The finding of study shows that working capital accruals have significant effects on stock returns. Discretionary accruals have more impact on stock returns as compare to non-discretionary accruals.*

**Keywords:** Working capital accruals, stock returns, Pakistan

# **CHAPTER 1**

## **INTRODUCTION**

Local and international users expect from Public listed companies to provide a more reliable, relevant, and accurate financial information unlike private limited companies and also publish timely financial statements that will serve great in their favor. The users of these financial statements give more reliability if the information contain in statements are more accurate and relevant. In order to make relevant and accurate decision each user requires quality information. Information confined in the company's financial statements like assets, liabilities, capital, earnings, expense and other entitlements contingent or obligations is expressively effected by a number of factors. Earning management is one of these factors because earnings management play a vital role in it. Since the industrial revolution, the need for managing working capital increases because managers have realized that good working capital management can generates a lot of benefits to the firm. So now the need for managing working capital becomes even more critical and important for the firms (Habib, 2008).

According to the Arnold (2008, p.515), "The difference between current assets and current liabilities" defined as working capital. Jones (1991) defined total accruals as change in revenue, plant and equipment and gross property. Sloan (1996) establish the mispricing of total accruals and explained overprices of total accruals and underpricing persistence of earnings. Earlier research focused on total accruals but later research viewed individual mechanisms of accruals and working capital accruals (Chan et al., 2006, Thomas & Zhang, 2002). Working capital accruals are assumed to decrease the timing and matching problems inherent in total accruals (Dechow, 1994). Discretionary

accruals and non-discretionary accruals are two types of working capital accruals (Guay et al., 1996). Discretionary accruals imitates management choice, discretionary portion of accruals depend on managerial choices such as depreciation or inventory valuation method, are to be well-organized way of handling accruals and earnings (Gore et al., 2002). Cost distribution and net revenue are directly effects when managers exercise their decision making on account receivable and inventory level for managing the working capital accruals. Managers also decide about the Research & development expenditures of the organization (Schipper, 1989). While Non-discretionary accruals represent the true impact of business activities. Non-discretionary accruals deliver a firm's internal performance and market activities information.

The research of these researcher shows that earnings is superior method than cash flows to measure performance, and documents the benefits of accrual process (Liu et al., 2002, Dechow et al., 1998, Dechow, 1994). To examine the manipulation in accruals to attain quality earning management, lot of research studies use discretionary accruals model (Healy & Wahlen, 1999). These studies show management intentions for manipulation of accruals and magnitude of accruals estimation errors.

In recent years the "earnings quality" concept has enlarged extensive usage in security price analysis. In different studies quality is often explain with reference to fundamental earnings and reported earnings (Khajavi & Nazemi, 2005). The regulators consider high quality earning when earnings is free from earning management, fraud and present actual view of company financial performance. They consider high quality earning, when it is conferring to the GAAP and IFRS (Dechow & Schrand, 2004). Standard accounting procedures defined earning as an estimator of profit. Share price is calculated through

earnings because earnings is the main determinant that tell success and profitability of the business in long run. Earning also defined as net income after tax. The earning which calculated through conservatively consider higher quality earning as compare to those earning which is calculated through aggressive accounting techniques. The earning which is reported in financial reports of the companies should present rapidly and exactly disclose a firm's fundamental earnings (Scholer, 2004, Burgstahler & Chuk 2013). Unbiased estimates of expected profit characterizes as quality earning (Drake, Myers & Myers, 2007, Cheng, Liu & Thomas, 2012).

Financial analysis is done with the objective of to evaluate current performance of the company, whether this current performance of the company is the indication of good future performance and on the basis of this analysis, one can determine whether the current performance of stock price replicates basic firm value. Accrual analysis is a valuable method for the measurement of firm value to check whether a quality of accruals earnings a good indicator of company future operating performance and truly represent the company's current on-going performance.

## **1.1 Theoretical background**

### **1.1.1 Accrual anomaly**

Sloan (1996) studied an interesting anomaly which explain return and accruals association and find that stocks with large accruals in one year and subsequent year tend to have low return. This phenomenon also confirms with quarterly accruals by (Collins & Hribar, 2000). He recognized that investors fail to differentiate accrual and cash components of earnings due to more emphasis on earnings and cash, because they consider these things more reliable than accrual. Less reliable accrual can be used to

make a profit in the stock market by holding short positions on companies with high accruals and long positions on companies with low accruals. The work of Sloan (1996) was further extended by Richardson et al. (2005), which describe that using balance sheet classification, segregating accruals into its components and companies have higher earnings with more reliable accruals components than other companies who have low reliable accrual components. This study also indicate that investor fail to discriminate the reliability of accrual components and have a less chances to earn high return in the stock market. One explanation of these finding is that investors do not recognize that large positive accruals is a sign of earning and that future profitability will stay high in shorter period (Xie, 2001, Ogneva, 2012).

There are some other studies on accrual anomaly such as Pincus et al. (2007) studied the accrual effect in the international setting. Zhang (2007) found that working capital accruals are a strong predictor of future stock return because individual components give reliability and explanation of stock return. Fama and French (2010) recognize the accrual anomaly as among the most universal and renowned financial anomalies.

### **1.1.2 Size and Book to Market Ratio**

Fama and French (1992) studied that market equity, size explained and confirms market portfolio that enhance significantly to the deviation in stock returns related to book to market ratio and size. The cross-section of average returns on US stocks were explained through asset-pricing model that includes a risk factor and market factor related to book equity divided by market equity and size. The return is higher for those firms who have high ratio of book value to the market value of common equity as compared to the low book to market ratios firms (Reid, Rosenberg, & Lanstein, 1985). Merton's (1973)

multifactor version of model, international asset capital pricing model (ICAPM) or (Ross, 1976) APT explained that higher average returns on book equity to market equity stocks are due to risk compensation. Lakonishok, et al. (1994), Debondt and Thaler (1987), reasoned that firms with high ratios of BE/ME have higher returns due to investor overreaction to firm performance. Chan et al. (2006) examined the level of accruals tendency with respect to book to market ratio. They found that firms with high level of accruals and with low book-to-market ratio had comparatively higher level of growth rate as compare to firms with low level of accruals and high book-to-market ratio. Darjezi et al. (2015) also found the same relationship in UK stock market. So one can predict the future performance of the firms on the basis of this measure.

## **1.2 Problem Statement**

A lot of work has been done on working capital accruals related to stock return and earnings quality. Working capital accruals, stock return and earnings quality relationship has been studied internationally during past three decades. Despite, the interest of researchers on working capital accruals on stock return, the finding of the majority of studies conducted in developed countries have not been tested in regions such as Pakistan. Furthermore, studies conducted in Western and some Asian countries cannot be generalized and may not necessarily have any application in context of Pakistan due to the absence of a strong legal system and inefficient capital market. So the application of the research on working capital accruals and stock return in Pakistani context will be helpful for understanding Pakistan stock market system. When Pakistan investors consider working capital accruals while making their financial decision that research will be helpful. In this study, we pursue to contribute to this area of research by documenting

and enlightening some essential properties of working capital accruals and stock returns and relating their implications for accounting research and practice.

### **1.3 Research Questions**

This research has following questions for study:

- Do working capital accruals have impact on stock returns?
- What is the impact of working capital accruals components on stock returns?

### **1.4 Research Objectives**

This study is focused on following two research objectives:

- To explore the relationship between working capital accruals and stock return in the context of Pakistan stock market.
- To explore the relationship between working capital accruals components and stock return in the context of Pakistan stock market.

### **1.5 Significance of the Study**

This study provide overviews of many concepts related to working capital accruals as well as stock market return. It is argued that study on working capital accruals and stock market return is important, because the effects of stock markets have different implications for management and corporate policy. In the stock exchange, the same asset is traded by the institutional investor and individual investor differs considerably across stock markets around the world. Hence, it is necessary to pay attention on improving working capital accruals system to ensure that managers focus on core competencies of their firms to increase the stock market return. Therefore, the emphasis is likely to be

improving the mechanisms of working capital accruals in stock market to ensure that quality of earnings increases firm profitability.

This study also assist investors, analysts to predict future activities of stocks in Pakistan stock market and help them in decision making regarding their investment by providing the evidence of links between working capital accruals and stock returns. Additionally, this research has add useful contribution to the empirical research on estimating the relationship between working capital accruals and the stock returns.

## **1.6 Plan of the Study**

This study is divided into five chapters. This study first chapter is regarding to the introduction of working capital accruals and the theoretical background of the topic, research questions, problem statement, research objectives and importance of the study. Second chapter of the study comprises into the literature review regarding this research area and their findings. Third chapter contains information about the data description, measurement of variables and methodology. Fourth chapter deals with the empirical results, interpretations. The fifth and final part of this study consists of conclusion and policy recommendations.

## **CHAPTER 2**

### **LITERATURE REVIEW**

The working capital accruals are vital part of financial accounting. Working capital accruals reflect a firm's efficiency. The working capital accruals are allied with the economic benefits and future stock return can also forecasted in the study of (Zhang, 2007, Kahn, 2007, Wu, Zhang & Zhang, 2010). Accounting accruals allow us to offset financial effect of transaction in current period when transactions are realized instead of when future economic benefits received. While assessing working capital accruals estimations errors are persistent and these have substantial impact on stock returns and earnings (Allen, Larson & Sloan, 2011). This chapter presents the studies about the role of working capital accruals and its components on stock returns.

#### **2.1 Working capital accruals and stock returns**

Apergis, Artikis, Eleftheriou and Sorros (2012) have studied the impact of accruals, stock returns and the role of earning quality in Greece. Quarterly data from January 1990 to June 2009 US Firms were used for analysis purpose, Cointegration, and panel unit root test of Maddala and Wu (1999), Hadri (2000), study used. They report that Accruals tends to exert a negative impact on stock returns. In the light of their finding, they suggest that improved accounting information and accruals tends to improve financial decision of firms. They also found positive interrelations between disclosure's and earning quality.

Richardson, Sloan, Soliman and Tuna (2005) have conducted research on accruals, earnings persistence and stock price in USA. For analysis purpose regressions technique used, sample period covering of 41 years. They used (ROA) return on asset as a proxy of earnings, balance sheet approach for accruals, buy-hold size proxy were used for the

measurement of stock returns in this study. Future abnormal stock returns and accrual components have a significant negative relationship, results of the research paper show.

Zhang (2007), conducted a descriptive study on accruals, accruals anomaly related to stock returns and investment in USA. The sample period is run through 40 year from 1964 to 2003. Stock returns data gathered from monthly returns files of NYSE, AMEX while accruals data taken from Compustat files. Changes in non-cash working capital minus depreciation expense measured used for accruals. Ordinary least square technique used for the analysis of data. They found that the firms in which accruals have positive relationship with employee growth, accruals and investment show strong extrapolative power for future stock returns.

Bernard and Skinner (1996) studied the impact of why managers influence accounting accruals in capital markets in USA. Sample period was used 1970 to 1989 and data analyzed through cross sectional regressions. Performance measures are linked with discretionary accruals therefor managers manipulate these. In research accruals are divided into two parts discretionary and nondiscretionary accruals. And nondiscretionary can be explained as change in revenues and the level of property, plant, and equipment the logic is that firm's working capital requirements based on sale whereas it depreciation accruals on the size of these.

Lev, and Nissim (2006) investigated the relationship between stock returns and accruals in USA. They analyzed the data by using Co-integration and regressions used sample period spans of 37 years from 1965 to 2002. Cash flow and balance sheet approach used as a measured of accruals. They argued, in the light of their finding accrual anomaly still

persist despite of revolving of individual investor to institutional investor due to high transaction cost, processing cost and competence required to meet the accruals.

Kang, Liu & Qi (2010) explored the relationship between discretionary accruals and stock market returns in USA. Annual data from 1965 to 2004 were used for analysis purpose and primarily ordinary least squares (OLS) approach were used and then Monte-Carlo analysis used. They document that discretionary accruals have forecasting power for returns with aggregate accruals relatively from normal (non-discretionary) accruals. They found that aggregate discretionary accruals estimate negatively associate with current market returns and positively for future market returns. Results of the study indicate that Aggregate normal accruals have no role in explaining future market returns as well as present market returns.

Thomas and Zhang (2002) investigated the relationship between the inventory changes and future stock returns in USA. Data covering the period of 1970 to 1997 were examined by using regression model. The negative relations that finds by Sloan (1996) in which future returns and working capital accrual is due to inventory changes not whole accruals and these results explained through literature by three explanations. The first reason that is given by Titman, Wei, and Xie (2001), which explained negative relationship between capital expenditures and returns is due to high profitability in preceding year that create more free cash flows as a result that you can't create more profit as compare to prior period that ultimate show negative return. The second explanation is based on Fairfield, Whisenant, and Yohn (2001), which documents working capital accruals (primarily accruals) are associated positively to deviations in net operating assets as a result the change in negatively to future profitability. They give

future directions as how inventory changes are associated with profitability and why stock market does not recognized forthcoming shifts of profitability.

Sloan (1996) examined the whether stock prices fully capture the information about future earnings that is exist in accruals and cash flow in USA. Sample period used in this study of 30 year starting from 1962 to ending 1991. Accrual data is gathered through balance sheet and income statements. They employed time-series regression for analysis. The analysts used financial data to predict future earnings through information contained in accruals and cash flows. The results shows that firms that have high accruals as compare to those who have low accruals, experience negative abnormal stock returns and also indicate that the factor which are related to the accrual has lower persistence as compare to those factor which are related cash flow element of earnings. This research paper also linked previous research of accruals and cash flow by looking concurrent stock prices.

Raheman et.al, (2010) dignified the role of (WCM) working capital management and the performance of manufacturing sector in Pakistan. They used annual data from January 1998 to March 2007. Analysis are done by using panel data technique. They found that working capital management has significant effect on net operating profit. Size variable has positive impact on profit and they concluded that big size firms create more profit.

Sehgal, Subramaniam and Deisting (2012) studied the performance of earnings, accruals and cash flows, for equity pricing whether investor properly assess the information enclosed in earnings, accruals and cash flows in India. The researchers used data of Indian stock exchange from January 1997 to December 2010. Results shows that accruals are less attributable to earning persistence. The results shows contrast from the finding of

developed markets because in Indian markets investor look to understate accruals and overrate cash flows.

Ali, Hwang, and Trombl (2000) conducted a descriptive study on accruals and stock returns through the hypothesis test of the naïve Investor. They used hedge portfolio and regression test to explore out comings from data. Data were taken from 1971 to 1995 as a sample. They argued that the firms which has more analysts, the projecting ability of accruals for annual stock returns and announcement for quarterly earnings is high. They also find contrary results to Sloan naïve hypothesis, capability of accruals to forecast returns does not depend on transaction cost, transaction volume and stock prices. Accrual and stock return have negative relationship was also finding of their study for those firms which has more analysts and rational decision making procedures and weaker negative associations between accruals and stock returns for small firms.

Afza and Nazir (2007a) conducted the study to explore the association between the aggressive working capital policies in Pakistan. They conducted their study on companies listed at KSE on a sample of 263 public listed companies for a period from 1998 to 2003 across 17 industrial groups. Result of the study is calculated through ANOVA and least significant Difference (LSD). They conclude that a negative association between the profitability and accruals.

Hirshleifer, Hou, & Teoh (2009) this study observes accruals, cash flows impact on aggregate stock returns in USA. They used the data of 40 years from 1965 to 2005 as a sample. They used univariate regressions and multivariate regressions technique for data analysis. Annual returns are calculated through monthly returns. Accruals is computed through indirect balance sheet approach, and cash flow is calculated as a difference

between accruals and earnings. Results indicated that cash flow is positively related to returns and accruals is vice versa and this effect is behavioral.

Ahmed, Nainar and Zhou (2001) conducted a study for testing weather forecasters correctly used accruals information for their analysis or not in Canada. They used the data of 11 years from 1988 to 1999 and analyze data by using regression. The results are consistence with their study analysts do differentiate between cash flows and accruals while normally they do not give too much attention the information contained in both accruals and cash flows. They also find that predictors do not discriminate among discretionary and non-discretionary accruals.

Moodi and Hajha (2013) studied the impact of accruals, stock returns and financing activities in Iran. Annual data from 2002-2011 of 116 listed companies in Tehran stock exchange were analyzed through Panel data analysis methods and respective statistical test. The claimed that accrual did not have significant effect on stock returns after financed activities done outside the organization to earn returns.

Chan, et al. (2001) studied the topic of earnings quality and stock returns. Data analyzed by using cross sectional regression. The data gathered of 400 firms from year 19971 to 1995. The difference between cash flows and accounting earnings (known as accruals) have negative relationship with stock returns. They proposed that low quality earnings are links with poor stock returns that is the result of high accruals. They also studies different hypothesis like earnings manipulation and extrapolative biases to explain projecting power of accruals with high and low individual section of accruals (inventories, account receivable account payable, income tax payable, depreciation etc.).

Non-discretionary does not predict future returns only discretionary accruals component predict future stock returns.

Falope and Ajilore (2009) examined the firm profitability and the role of working capital management in the perspective of Nigeria. Sample period was used during the period of 1996-2005. Time series and cross sectional pooled regression method were used for the interpretation of the results. Their study results show that significant negative relationship among inventory and working capital management.

Zach (2004) this paper directly explained accrual anomaly as relation to accrual fixation hypothesis. The result show that returns are not an effect of accruals reversals for sticky firms as inferred by accrual-fixation hypothesis. The used main sample from 1970-1999 but for accrual analysis, the used sample period of 10 year from 1988-1999. The used five proxies for accrual in his analysis (like balance sheet accruals, cash flows accruals, total accruals, investing accruals and working capital accruals). They also argued that there is no proof of overreaction to accruals information constructed on the relative among the returns nearby earnings announcements in successive quarters. The finding of this paper generally not persistent with the accrual fixation hypothesis simply we can say that accrual-fixation hypothesis is not only main justification for the accrual anomaly that is given by Sloan (1996).

Allen, Larson, and Sloan (2011) conducted a study on relationship of accruals reversals, earnings and stock returns in USA. In this study author used two sample for his analysis from year 1962 to 2007, first physically checked a sample of 19 large firms and second is calculated from COMPUSTAT. Pooled cross-sectional regressions method used for analysis. The results of study recommend that excessive accruals comprise a substantial

quantity of valuation error that has likely concerns for future accruals, stock returns and earnings. The valuation mistakes in extreme accruals are prevalent and have both statistically and economically effect on stock returns and earnings that is great loss for business for future.

Saeedi and Ebrahimi (2010) conducted a study to explore the relationship between the role of accruals, cash flows and enlightening stock returns confirmation through Iranian companies. Annual data from 1998 to 2008 were used for analysis purpose and regressions method were used. Sample of 708 firms listed Iranian stock exchange were taken. They found that earnings and cash flows do not relevant and also security return cannot explained through these two (earnings and cash flows) in Iran context.

Kothari, Lewellen, and Warner (2006) this paper analyzed stock returns, cumulative earnings disclosures related to the behavioral finance in USA. They collected data from NYSE, AMEX and NASDAQ from the period of 1970 to 2000. They employed time series regressions test on data. In this study the argued that previous research demonstration positively to earnings news but research results not explained this phenomenon because the show negative patterns with current earnings.

Cohen, and Lys (2006) conducted a study to explore the association among external corporate financing activities, accruals and stock returns in USA. They used the data from 1971 to 2004 for analysis purpose. Regression, Pearson and Spearman correlation test were employed to analyze the data. They explore that after monitoring for (TA) total accruals, the association among future stock returns and external financing activities are not statistically significant and decreased. They also show that according to the Modigliani and Miller financing activities have no effect on firm value though once the

Modigliani and Miller (M&M) assumptions are gratified than financing activities impact on firm value and cash flows.

Jagannathan and Wang (2007) studied the impact of lazy investor, discretionary accruals on the cross section of stock returns in Hong Kong. The gathered annual data as well as quarterly data for stock returns for the period of 1954-2003. Cross sectional regressions test was used for analysis of data. Time series regression and GRS test also used to check the robust of data. Fama and French three factor model also support their study results. Maximum of the deviation in average returns can be clarified by resultant deviation in exposure to the consumption risk factor.

Darjezi, Khansalar and Andrew (2015) studied the role of earnings quality and effect of working capital accruals on stock returns in UK. Data of financial firms is excluded from sample and only data of non-financial companies is obtained from stock exchange. And data of stock prices gathered from World scope and Thomson One Banker databases. Regressions test was employed to check the impact of accruals on stock returns. In this research paper accruals components and stock return relationship is seen and they give an empirical model for accruals components and through this model accruals components relationship with stock returns studied. Their study outcomes recommend that current accruals components hold significant info about the accrual and earning quality of firms that can support to forecast the market return. Discretionary accruals is foremost sponsor in the forecasting of future returns due to this discretionary accrual is more important as compared to non-discretionary accruals.

Brochet, Nam, and Ronen (2008) tried to examine the role of accruals with cash flows and stock returns in USA. They used annual data from 1987 to 2006. Results of the study

suggested that normal working capital accruals improve cash flows of the business that more likely helps in forecasting stock returns. The contribution of their study shows that there is negative relationship between accruals and size of discretionary accruals.

Baker and Wurgler (2006) did his work on result of investor sentiments on cross sections of stock returns. Sample period was covering from 1963 to 2001 and monthly data of all common stock of non-financial firms were used for stock returns. Results of study indicated that when sentiment is high, returns of smaller stocks comparatively low and returns of bigger stocks relatively on upper side, this case is totally reverse when sentiment is low.

Kim and Qi (2010) investigated the relationship between macroeconomic conditions, stock returns and accrual quality in Korea. Annual data from January 1970 to November 2001 was used. They employed 2SLS regressions test for the analysis of the data. Outcomes of the research paper proposed that accrual quality impact is connected with risk and this pays to the cost of equity.

The idea of quality earning most popular and mostly discussed in research papers but still no mutual censuses on its measurement and definition among researchers (Bayley & Taylor 2007, Crabtree & Maher 2005, Penman & Zhang, 2002, Revsine et al., 2001). In literature researcher used different measures and definition related to earning quality and describe different characteristics of lower earning quality and higher earning quality like Siegel (1991) paper he used five elements of good earning quality and eleven factors of lower earning quality. But in literature earning quality mostly examine with these features, conservatism, variability and timeliness, accrual quality, smoothness,

persistence, value relevance, and predictability (Francis et al., 2004, Kothari 2001, Schipper and Vincent 2003).

Gore, Pope and Singh (2002) explored the relationship among the distribution of earnings and earnings management and data for research is obtained from UK. They exam data on a sample of covering 10 year all U.K non-financial firms from the period of 1989 to 1998. They employed OLS regression test to analyze data. They also observe discontinuity perception in the perspective of earnings management. The report that clear relationship among distribution of earnings, accruals based earning management and the discontinuities detected practical capacity of earnings relation to targets. Results shows that discretionary working capital have the impact of achieving the targets of earnings in firms significantly increasing although by small or large parameters. Earnings do not capture shortfalls relation to targets in reported earnings before the introduction of the concept of working capital accruals. Katsuo (2008) studied the impact of accounting accruals on earnings quality, other variable like subjective goodwill, managerial discretion value relevance also discussed in this study in UK.

Bernard and Thomas (1990) conducted study to ascertain that stock price fully replicate information to calculate current earnings and future earnings in USA. The sample is calculated firms listed on CRSP and Compusta from year 1982 to 1987. Autocorrelation technique used for the analysis of data. They concluded that our results show that consistent with previous literature analysts do not fully reflect information contained in stock price to calculate future earnings.

Cupertino, Martinez and costa Jr. (2012) investigated the accrual anomaly, earnings quality and persistence of accruals in Brazil capital market context. The used the data of

over the period of 18 year from 1990 to 2008 of non-financial firms. For analysis purpose the used panel data regressions test. The argued that by discovering quality of earnings and of their mechanisms, as well as relationship among returns and the implements of earnings. Results do not show any mispriced in Brazilian market and also accruals does not deliver constantly positive returns.

Kerstein and Rai (2007) studied the impact of large and small working capital accruals with reference to earnings management and earning quality. Pooled regressions and white method were used to analyze data for the period of 1982 to 2001. This study enhances existing body of knowledge by recognizing specific factor due to market lookout low working capital accruals (LWCAs) as earning management. The discussed that when firms show small increases in earnings through the support of positive or negative accruals market look earnings as being of low quality.

Dechow, and Dichiv (2002) study the impact of quality of accruals, earnings quality, earnings persistence and estimation error in accruals in USA. They used annual data from 1987 to 1999. Regression method used for analysis. For accrual quality volatility of accruals proxy used. They documented that the method which used in this paper is positively associated with earnings quality.

Ranjbar, Mohebbi and Moosavi (2013) in this research investigated the association among the earning quality, investment in capital assets and return on capital assets. They used time series data from 2007 to 2010 an regressions test was used for data analysis. The find that there is a significant association among earnings quality and in capital assets.

Haw, Qi, and Wu (2001) studied the impact of the incremental and relative information content of accruals, earnings and cash flows in china perspective. Their results indicates that in China, earnings information content is more consistent and more use than that of cash flows information content and explained discretionary component of accruals is more than the incremental information content of non-discretionary component of accruals.

Francis, LaFond, Olsson and Schipper (2002) explored the relationship between the cost of debt equity capital and earning quality. They used 8 proxies for earning quality. Sample period is cover 10 year from 1988 to 1999. Analysis of the data is done through regressions technique. The study indicates that there is higher cost of capital for those firms, who have lower earning quality as compared to higher earning quality firms. They found that low earning quality have statistically significant and economically meaningful conflicting concerns.

Rayburn (2003) studied the relationship of operating cash flows, accruals and security returns in USA. For monthly returns the used sample period from 1957 to 1982 and for other variable the used data from 1962 to 1982. He used OLS regressions for the analysis of the data.

Choi (2008) explored the relationship among the firm value, corporate governance and earning quality in Korea. The focus the manufacturing sector for the sample design and used the Korean Stock Exchange listed companies of manufacturing sector for the analysis of the study from year 2003 to 2005. For firms value Tobin's q proxy was used and for earning quality three proxies were used like (predictability of earnings, accrual quality, and persistence of earning). Control variable for study are following which is

selected from prior research return on assets (ROA), operation risk, firm size, firm age and leverage. The analysis of the data was held through Multiple Regressions and (2SLS) two-stage least squares test. The study concluded that high quality of earning firms have high firms value and low risk in Korea context and provide theoretical link between firm value and earning quality.

Scholer (2004) explored the relationship between earning quality market pricing, the quality of earnings and the quality of accruals. Data covering the period of 20 years from 1983 to 2002 were analyzed by using regression model.

Boubakri (2012) conducted a study on accruals anomaly, earning persistence and accruals quality in Canada. Sample period was taken from 2002 to 2008 firms listed on the Toronto Stock Exchange. Hausman test was used for analysis. They check the reliability of accruals by dividing the accruals in three parts current operating accruals, financial accruals and non-current operating accruals.

Anctil, and Chamberlain (2005) conducted a study to explore the relationship between earning quality and earnings determinants with the time series. They use time-series regression and ordinary least squares (OLS) for analysis of the data covering period of 13 years from 1982 to 1994. They found that earning quality negatively associated with earning persistence.

Tapia and Fernández (2013) investigated the relationship between earnings, cash flows and accruals in Europe for private companies. They used the regression analysis and data from 1995 to 2006 was analyzed. They found different patterns of earnings related to accruals in Europe as compare to US companies because when companies show positive earnings, persistence of earnings not significant.

Dey and Lim (2015) conducted a study to explore the relationship between earnings persistence, stock prices and accrual reliability in USA. They employed ordinary least squares (OLS) test for analysis of data. They used the data of 10 years from 2002 to 2012. Results of the study indicated that lower earnings leads to lower accruals reliability. They also found that due to lower reliability of accruals investor in market fail to ready properly that create mispricing of the security.

Ebrahimi, Asadi and Kordlouie (2015) conducted a study for testing the impact of stock return and earnings quality in the context of Tehran Stock Exchange. They used the annual data from 2009 to 2013. They used Stat and Eviews through panel data technique in which the used multiple regressions model and Estimated Generalized Least Square (EGLS) test. Stock return and accruals have significant and negative relationship in the finding of their study.

Dargenidou, McLeay & Raonic (2008) accruals, future earnings pricing and disclosures in Europe. They used the data from 2000 to 2002 of 17 European countries. In this study they separate both current and non-current accruals and showed the ability of accruals in solving timing issue that is depend on disclosures.

Perotti and Wagenhofer (2014) studied the earnings quality measures, excess returns and earning quality. They used the sample from period of 1988 to 2007 non-financial firms of USA. They examined that those firms not mispriced have higher earnings quality as compare to other firms that are mispriced due to low earnings quality. In this research paper the used different measures of earnings quality all measures associated positively with excess returns excluding smoothness that is favorable attribute of earnings negatively related with absolute excess returns.

Zeng, Ou and Li (2013) earnings management, Institutional Investors and accruals mispricing in China. Data from 2001 to 2010 were analyzed by using Co-integration and OLS regression. They said that earnings management misinformed both individual investors and institutional investors due to significant of overpricing of discretionary accruals. Results of the study show that individual investors overprice accruals and institutional investors underprice normal accruals.

Dichev and Tang (2006) conducted a study to explore the relationship between earnings predictability and earnings volatility in UK. Univariate regressions test was employed on data for analysis purpose. Annual data covering span from 1984 to 2004. The found that economics and accounting factors driven towards earnings volatility that offer a relation to earnings predictability and earnings volatility is negatively associated with earnings predictability.

Bao & Bao (2004) studied the relationship between the firm value, earnings quality and income smoothing. Data covering the period of 12 years from 1988 to 2000 were analyzed by using regression model.

Penman and Zhang (2002) studied the topic of accounting conservatisms, the quality of earnings and stock returns in USA. Sample was used in this study start from 1975 to end in 1997. Regressions test was used for analysis of data. They found that in accounting conservatisms quality of earnings is heavily depended on investment if change in investment is permanent than good quality of earnings if change in investment is temporary than lower quality of earnings for firms.

Beneish & Vargus (2002) dignified the association among insider trading, earnings quality and accrual mispricing. The sample covering period of 12 years from 1985 to

1997 of non-financial firms. They found two reasons of accrual mispricing one is due current accruals and other is due to unexpected components of accruals. Results of the study indicated that we should focus on income increasing accruals because when abnormal insider buying income increasing accruals earnings is on higher side while selling earnings is significantly on lower side.

Li, Zhang, Largay and Niu (2011) investigated the relationship between earnings management and accrual anomaly in China. They analyzed the data by using regressions and Mishkin test and used annual data years from 1998 to 2002. Results of the study show that in China due to delisting regulation of companies, create mock distribution of earnings that cover the accrual anomaly that have effect on accruals market pricing. For Chines profit firms overpricing of total accruals main cause is abnormal accruals.

A study on discretionary accruals, audit firms tenure, audit partner and earning quality in Taiwan was conducted by Chen, Lin and Lin (2008). They used annual data from 1990 to 2001. Data were analyzed through OLS and 2SLS regression models. For earnings quality the use discretionary accruals as a proxy. Results of the study indicated that with audit partner tenure values of discretionary accruals decrease significantly and positively.

A study on earning management and earning quality relationship was visualized by Lo, (2007) in USA. The finding of the study shows that earning management and earning quality have significant relationship.

Kaserer & Klingler (2008) conducted a descriptive study on accrual anomaly in different accounting standards in German. Towards accrual-based accounting information investor analytically overact previous research document this phenomenon, how much is this related to accounting standards and in German this research paper examines. The used the

data of 12 years from 1995 to 2007 and analyze by using OLS Regression model. Results of the research indicated that earnings are less persistent in US as well as German firms. German firms which used international accounting standards display a lower earnings persistency.

Ball and Shivakumar (2008) checked the impact of earnings quality at initial public offerings in the framework of USA. The analyzed the data of 720 IPO from the period of 1992 to 1999. This study show opposing results from prior results of the study that firms report more conservatively at initial public offerings. Financial users and monitoring authority demanded higher quality reporting from public firms.

Francis, Olsson & Nanda (2008) investigated the impact of earning quality, voluntary disclosure, and cost of capital in USA. The data sample covering period of 11 years from 1992 to 2001 were

analyzed by using CAPM regression model. The finding of the study shows that there is less expensive disclosure of poor earning quality as compared to good earning quality firms. They also found that relationship between earning quality and voluntary disclosure is significant.

All these studies which carried out in the different regions of the world, found significant relationship between accruals and stock return (Apergis, Artikis, Eleftheriou and Sorros 2012, Zhang 2007 etc.). According to the above literature, accruals and its components have a predicting power for measuring future stock returns because they are reflecting the performance of the firms in the present and for the future. So for our study we are assuming that working capital accruals play a significant role in explaining stock returns

in Pakistani stock market and working capital accruals and its components are major determinants of stock returns.

H1: The impact of working capital accruals on stock return is significant in Pakistan.

H2: The impact of working capital accruals components on stock return is significant in Pakistan.

## **CHAPTER 3**

### **DATA DESCRIPTION AND METHODOLOGY**

#### **3.1 Sample and Data of Study**

Current study purpose is to check and investigate the relationship of working capital accruals on stock return through secondary data, which is taken from the Karachi Stock Exchange (KSE). This secondary data is taken from the Balance sheet, which is published by the State Bank of Pakistan (SBP) for firms registered on the Karachi Stock Exchange. Sample of 100 non-financial firms are selected on the basis of market capitalization from 12 different sector listed on KSE for the period from 2005 to 2014. Data of 89 companies are used for analysis due to complete availability of data out of sample of 100 companies. The sample period is select from 2005 to 2014. Data of only non-financial firms taken, financial firms data are excluded from sample. Because financial firms comparatively have different kind of working capital accrual system than non-financial firms. Data of working capital accruals, working capital accruals components and firm size are gathered from balance sheet analysis and financial statement analysis. Data of book to market ratio gathered from the website open doors. The Karachi Stock Exchange is used for stock return data and business recorder is main website, from which data has been taken.

## 3.2 Description of variables

### 3.2.1 Working capital accruals

Working capital accruals components are taken as main variable in this study. Early research used total accruals as the proxy of working capital accruals. Later researcher split total accruals into two parts (i.e discretionary and non-discretionary) and shows that accruals parts has mispricing (Haribar & Collins, 2002, Jinhan Pae, 2011). With this respect the meanings of working capital accruals, Jones (1991) developed a model to calculate accruals, later in 1998 Teoh modifies this model (Teoh et al., 1998) and then expressed by (Wie & Xie 2008) in his research. Teoh et al. (1998) method is used for calculation of working capital accruals because this explain individual components separately and also see individual components effects on stock return separately (Chen et al., 2001). For the study of individual components of accruals in this research (Teoh et al., 1998) use.

This study uses this model for calculating accruals.

Working capital accruals is calculated as:

$$ACC_t = \frac{\Delta(AR_t + TI_t + OCA_t) - \Delta(AP_t + ITP_t + OCL_t)}{TA_{t-1}} \dots \dots \dots (1)$$

Where as

AR<sub>t</sub>= Total Receivables

TI<sub>t</sub>= Total Inventories

OCA<sub>t</sub>= Other Current Assets

AP<sub>t</sub>= Account Payable

ITP<sub>t</sub>= Income Tax Payable

OCL<sub>t</sub>= Other Current Liabilities

TA<sub>t-1</sub>= Total Assets from last period

Δ= Annual Changes in Variables

### 3.2.2 Stock Returns Measurement

There are two different measures of returns, discrete returns (Net returns) and the log returns (continuously compounded returns) (Ruppert & Matteson, 2015, Richardson et., al 2005, Francis, Lafond, Olsson & Schipper, 2005, Ruppert et al., 2003, Ruppert, 2014, Sloan, 1996). One advantage with using log returns rather than discrete returns (net returns) is the simplicity of multi period returns and they give more statistical freedom (Ruppert & Matteson, 2015, Bratland & Hornbrinck, 2013, Lee & Liu, 2007). In this research paper log return method is used for the calculation of stock returns.

This study use the following methods to calculate stock returns.

1. The log returns are calculated using the following formula:

$$r_{it} = \log \left( \frac{P_t}{P_{t-1}} \right) \dots\dots\dots (2)$$

### 3.2.3 Size

In many studies the relationship between size, accruals and stock returns is specified. The size of companies not same in sample. Due to the size there is more information asymmetry in smaller firms, where only one manager have much more portion of information have known as compared to big/larger firms. Bigger firms are developed firms and have more stable stock returns therefore one can easily forecast stock returns by using past experience (Jeng, Metrick & Zeckhaver, 2003). In literature there are

number of proxies used for the measurement of firm size. Like (Fidrmuc, Goerges & Renneboog, 2006) used market capitalization as a proxy of size, while (Rajan & Zingales, 1995, Fareed, Aziz & Naz, 2014) used sale as a proxy of size. But in literature of WCA mostly researcher use for size market capitalization as a proxy (Darjezi et al., 2015, Desai, et al., 2004, Barth et al., 1999, Sloan 1996, Fama & French, 1992). Therefore in this study also market capitalization used as proxy of firm size. Measured through taking the natural logarithm of market capitalization, which represent the size of the firm.

$$\text{Firm Size} = \log(\text{Market capitalization})$$

### **3.2.4 Book to Market**

It is used with relation to sales growth which displays that a low book to market ratio firms will have higher sales growth and this use as a proxy for growth of firm (Chen et al., 2006). Working capital accruals are more informative about growth options than cash flows (Brochet, Nam & Ronen, 2008). The book value of equity divided by market value of equity is the measure of book to market ratio. This proxy is also used by (Darjezi et al., 2015, Desai et al., 2004, Sloan, 1996).

$$BM = \frac{\text{Book value of Equity}}{\text{Market value of Equity}}$$

### **3.2.5 Earning**

Earning defined as operating income after depreciation and which is calculated from financial statements of the companies. Earning proxy is earning before interest and tax which is used in past working capital accrual literature (Andres, Fuente & Velasco, 2012 & 2014).

$$\text{Earning} = \text{EBIT}$$

### **3.2.6 Leverage**

Leverage is taken as a control variable for regression run for working capital accruals. And for leverage debt to equity ratio is proxy use, data of debt to equity ratio is taken from balance sheet analysis.

### **Leverage= Debt to Equity ratio**

### **3.3 Portfolio Sorting**

In table 2.1 Portfolios are sorted on the basis of level of accruals. Firms are sorted from low to high (negative to positive) level of accruals and then stock returns were classified on the basis of these portfolios. Each portfolio included 15 companies and 6 portfolios were made. The last column LMH is taken as difference between the return of lowest portfolio and highest portfolio. That shows the difference in returns as we move from lowest to highest portfolio. Normal and abnormal return both than arranged according to these portfolios.

In table 3 accruals components, cash flows and earnings are sorted on the basis of accruals divided by total assets average. Total 9 portfolios were made and each portfolio included 10 companies. First portfolio is lowest deciles of accruals and the 9<sup>th</sup> portfolio is the highest deciles of accruals. All the components of the accruals than arranged according to these portfolios.

In table 4 portfolio sorted on the basis of accruals components to study the impact of each components separately on the stock returns. Total 9 portfolios is been made and each portfolio included 10 companies.

The formula for calculating working capital accruals was first developed by Jones (1991) for calculating total accruals. The change in plant, gross property, equipment and revenue

is defined as total accruals in the study of (Jones, 1991). But there is no efficient mean for long term accruals as managing earning because of due to method and open discussion of depreciation in their study. So current study use the Teoh et al., (1998) method for calculation of current accruals. In this method current accruals are segregated into non-discretionary and discretionary accruals. In table 5 portfolio were sorted on the basis of these accruals. All stocks than arranged according to these portfolio. In the study of Teoh et al., (1998a) accruals divided into two parts i.e (discretionary and non-discretionary accruals) and describe the method of calculation in their study which is as follow:

$$ACC_t = a_1 \frac{1}{TA_{(t-1+1)/2}} + a_2 \frac{\Delta SA_t - \Delta AR_t}{TA_{(t-1+1)/2}} + \varepsilon_t \dots \dots \dots (3)$$

$$DACC = \varepsilon_t \dots \dots \dots (4)$$

$$NDACC_t = ACC_t - DACC_t \dots \dots \dots (5)$$

ACC= Working capital accruals

$\Delta SA_t$ = Change in total sales

$\Delta AR_t$ =Change in account receivable

$TA_{(t-1+1)/2}$ = Average of total assets from the current and previous year

DACC=Discretionary working capital accruals

NDACC=Non-discretionary working capital accruals

### 3.4 Regression Model

For finding the relationship between working capital accruals and stock returns

regression analysis will be implied in this research. Equation for calculating the regression analysis is as under:

$$RT_{i,t} = \beta_0 + \beta_1 ACC_{i,t} + \beta_2 LEV_{i,t} + \beta_3 SIZE_{i,t} + \varepsilon_{i,t}$$

$rt_{it}$  = Stock Returns

$B_0$  = intercept

$ACC$  = working capital accrual

$LEV$  = Leverage

$\varepsilon_{it}$  = Error term

## **CHAPTER 4**

### **RESULTS OF STUDY**

#### **4.1 Descriptive statistics**

Table 1 provide information about the accounting variable used within this study for the descriptive statistics analysis. In Panel 1.1 mean, median and standard deviation of working capital components given, while 1.2 table provide statistical information about components of accruals, earnings and cash flows. Current assets are the key item within the sample, demonstrating 52.9% mean value and 10.2% median value of the total assets. Median value of total inventory and account receivables are 2.8% and 2.9% respectively. Inventory and Accounts receivable are considered as a structured portion of current assets. Accounts receivables has the biggest changes among all accrued items. Changes in other current liabilities and changes in inventories are subsequently contribute most in distinguishing accruals after the account receivables. In the table each of above item minimum standard deviation is 12.7%. As it is shown by table changes in accruals level actually notable, due to changes in level of accruals corporate earnings shows substantial change.

Table 1.1 provide summary statistic for working capital components of all the companies which are selected for this study.

**Table 1. Descriptive statistics****1.1 Working Capital components (scaled by average of total assets)**

		Mean	Standard Deviation	25th Percentile	50th Percentile	75th Percentile
<b>Current Assets</b>	CA	0.529	1.517	0.043	0.102	0.350
<b>Current Liabilities</b>	CL	0.403	1.228	0.034	0.091	0.277
<b>Accounts Receivable</b>	AR	0.286	0.940	0.009	0.029	0.098
<b>Total Inventories</b>	TI	0.104	0.399	0.011	0.028	0.073
<b>Other Current Assets</b>	OCA	0.139	0.424	0.011	0.026	0.079
<b>Accounts Payable</b>	AP	0.390	1.213	0.032	0.083	0.260
<b>Income Tax Payable</b>	ITP	0.045	0.191	0.001	0.003	0.016
<b>Other Current liabilities</b>	OCL	0.274	1.005	0.014	0.041	0.146

**1.2 Accruals components, cash flow and earnings**

<b>Cash flow</b>	CF	-0.037	2.972	-0.001	0.000	0.006
<b>Earning</b>	EARN	0.183	0.675	0.007	0.024	0.106
<b>Changes in accounts receivables</b>	$\Delta$ AR	0.017	0.478	-0.004	0.002	0.014
<b>Changes in inventories</b>	$\Delta$ TI	0.012	0.127	-0.002	0.002	0.013
<b>Changes in accounts payable</b>	$\Delta$ AP	0.047	0.338	-0.004	0.006	0.031
<b>Changes in income tax payable</b>	$\Delta$ ITP	0.006	0.053	0.000	0.000	0.002
<b>Changes in other current liabilities</b>	$\Delta$ OCL	0.044	0.324	-0.003	0.002	0.023

Table 1, panel 1.2 provides cash flows, earnings and accruals components. Panel 1.2 also demonstrate changes in Account payable ( $\Delta AP$ ), changes in income tax payable ( $\Delta ITP$ ), changes in inventories ( $\Delta TI$ ), changes in account receivables ( $\Delta AR$ ) other current liabilities changes ( $\Delta OCL$ ).

**Table 2.1 Normal and abnormal returns sorted by accruals**

<b>Normal Returns</b>								
<b>Years</b>	<b>Low</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>LMH</b>
<b>2005</b>	0.112	0.252	-0.080	0.079	0.131	0.229	-0.117	
<b>2006</b>	-0.045	-0.039	0.066	-0.097	-0.193	-0.083	0.038	
<b>2007</b>	0.206	0.333	0.302	0.182	0.357	0.271	-0.065	
<b>2008</b>	-0.275	-0.404	-0.193	-0.201	-0.272	-0.504	0.228	
<b>2009</b>	0.060	0.133	1.245	0.426	0.196	1.458	-1.398	
<b>2010</b>	0.028	0.048	0.676	0.266	0.317	0.530	-0.502	
<b>2011</b>	-0.042	-0.046	-0.202	-0.040	0.028	0.104	-0.147	
<b>2012</b>	0.258	0.335	0.904	0.437	0.366	0.743	-0.485	
<b>2013</b>	0.322	0.276	0.376	0.272	0.339	0.496	-0.175	
<b>2014</b>	0.115	0.099	0.191	0.070	0.568	0.163	-0.048	
<b>Abnormal Returns</b>								

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<b><u>Years</u></b>	<b><u>Low</u></b>	<b><u>1</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>4</u></b>	<b><u>5</u></b>	<b><u>6</u></b>	<b><u>LMH</u></b>
<b>2005</b>	0.038	0.153	-0.409	-0.061	-0.052	-0.112	0.150	
<b>2006</b>	-0.083	-0.193	0.475	-0.037	-0.141	0.029	-0.112	
<b>2007</b>	0.289	0.526	-0.172	0.218	0.498	0.242	0.047	
<b>2008</b>	-0.564	-0.929	-0.021	-0.419	-0.770	-0.746	0.181	
<b>2009</b>	0.624	1.062	1.265	0.845	0.966	2.203	-1.580	
<b>2010</b>	-0.595	-1.014	-0.589	-0.579	-0.649	-1.673	1.078	
<b>2011</b>	0.553	0.968	0.388	0.540	0.677	1.778	-1.225	
<b>2012</b>	-0.295	-0.632	0.516	-0.103	-0.311	-1.035	0.740	
<b>2013</b>	0.617	0.908	-0.140	0.375	0.649	1.532	-0.915	
<b>2014</b>	-0.502	-0.809	0.330	-0.305	-0.454	-1.368	0.866	

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The portfolio included 89 non-financial companies' stock data for the period of 2005 to 2014, which are listed on Karachi stock Exchange. Stocks were arranged into six portfolios by level of accruals (from low to high accruals). Panel 2.1 present normal returns and each portfolio abnormal return are stated in panel 2.2. Return generated by control portfolio minus normal return is the calculation of abnormal return.

In the light of 2.1 panel in normal returns between the high and low quintiles the spread by accruals averages 26 percent. In this study if accruals are high on the negative side then abnormal as well as normal return are negative. The above statement shows that earning is negative across of all classifications of normal and abnormal return, when accruals are high. The evidence in Table 2.1 and 2.2 recommends that the analyst overlooks essential earnings quality information within the accruals components

### Table 3. Portfolio sorted by accruals

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therefore market is not present true image of earnings because analysts and other participants of markets give too much concentration of bottom line earnings. Because the bottom line earnings can be high by using borrowed money but the actual impact on the investors return will not be as higher. The organizations have to pay a big part of its earning to its borrowers. The earnings remain left after this disbursement then divided to its shareholders. As it shown in Table 2.1 and 2.2 that the companies with high negative accruals have comparatively low rate of return as compare to the companies who have accruals on the positive side. Results of the current study are consistent with study of (Chan et al., 2006, Collins & Hribar 2000). They found similar relationship with stock returns and accruals in their study.

### 3.1 Accruals components, Cash flow and Earnings

		<u>Low 1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>High 9</u>
<b>Cash flow</b>	CF	0.175	0.288	0.084	0.164	0.068	0.052	0.084	0.065	0.071
<b>Earn</b>	EBIT	0.197	0.180	0.131	0.088	0.057	0.279	0.648	0.042	0.009
<b>Accruals</b>	ACC	-0.069	-0.081	-0.036	-0.031	-0.064	-0.04	-0.03	-0.04	-0.020
<b>Changes in Accounts receivables</b>	AR	0.017	0.018	0.014	0.020	0.024	0.018	0.023	0.020	0.012
<b>Changes in Inventory</b>	TI	0.010	0.011	0.009	0.009	0.011	0.010	0.011	0.010	0.007
<b>Changes in other current Assets</b>	OCA	0.015	0.013	0.014	-0.002	0.012	0.013	0.041	0.001	0.001
<b>Changes in Accounts Payable</b>	AP	0.043	0.045	0.035	0.036	0.051	0.039	0.046	0.041	0.030
<b>Changes in Income Tax Payables</b>	ITP	0.004	0.005	0.004	0.005	0.007	0.005	0.005	0.005	0.004
<b>Changes in other current Liabilities</b>	OCL	0.035	0.038	0.027	0.031	0.044	0.033	0.039	0.035	0.024

### Table 3.2 SIZE AND BOOK TO MARKET

		<u>Low 1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>High 9</u>
<b>Log of Market Value</b>	Size	8.166	8.458	8.264	7.985	7.999	7.801	8.207	7.696	6.047
<b>Book-to-market</b>	BM	0.799	0.829	1.106	1.416	1.095	2.604	1.683	1.246	3.016
<b>Annual growth in sales</b>	SG	0.216	0.163	0.181	0.164	0.162	0.222	0.152	0.235	0.140

Summary statistics of table 3 shows portfolio arranged by accruals. The sample contains 89 non-financial firms data listed in Karachi stock exchange that is collected using KSE

and Business Recorder websites. All stocks are ranked by level of accruals relative to average of the total assets and divided into 9 portfolios. Panel 3.1 presented average values of cash flow, accruals, and changes in account receivable, earnings before interest and tax, inventory, other current assets, income tax payable, accounts payable and other current liabilities. All the items are divided by firm's average of total assets in panel 3.1. In panel upper portfolio is ranked as ninth and bottom of decile is ranked as first portfolio. In table 3.2 the natural logarithm of market value of equity is measure of size and book to market value ratio is measure of book of equity divided market value of equity. On the basis of previous year sale the average sales growth is measured.

Table 3 and panel 3.1 displays the average levels of (*EBIT*), (*CF*), (*ACC*) and accrual components (like accounts payable, accounts receivables) for the decile portfolios. Those portfolio who are the lower ranked portfolio have comparatively higher Earnings relative to the upper rank portfolio. Average earnings of lower ranked portfolios is around 15 percent while on the other hand upper ranked portfolio have an average earning of 8 percent relative to total assets.

With respect to the table 3 and Panel 3.1, companies with the lower ranked portfolios generated more cash flows on average as compare to firms ranked in upper deciles portfolios. This is due to the effect of negative accruals. When the firms have negative accruals on its balance sheet, they have more cash available for business operations so their cash flows is high. Firms with the positive accruals have more receivables so their cash flows are lower. Table 3 within of Panel 3.1, firms with low book to market ratios with high level of accruals had a tendency to be growth stocks. As a finding even though with high level of accruals the results is mainly determined by poor

performance of portfolio, the accrual has a power to predict future return, where the motivation to managing earning may be strongest.

Each of the accruals components give information about a firm's future prospects and its operating activities, market respond this information accordingly and interpret this information on its parameters. Security market analysts employed changes in accruals components as an indicator of business prospects as argued previous.

There is limited opportunity for the predicative power of accrual to identify an explanation provide by linking of total accruals to future return. Current study does not focus total accruals but focus on individual components of accrual in similar way that are used in the study of (Thomas & Zhang 2002, Chan et al., 2006). Chan et al. (2006) demonstrate that a certain increase in one or more components of current liabilities and accounts payable might guide a timely warning indication of decline in cash flow and for this reason firms in the future could show poor share price performance.

Investors understand and interpret changes in accounts payable as a negative signal to firm's earnings and do not differentiate the effect on future income. Because when there is an increase in account payable of company business whose prospects are fine provide an expected reason that company is not rich in cash before. In table 4 normal and abnormal returns each component consistently shows. The main increase in returns over level of portfolio the accruals components are linked. The mean normal return over the different deciles is significantly different. The panel also shows average abnormal returns for different deciles which is also different with the level of portfolios. Table 4 results are similar to table 2. The sum of normal and abnormal return in bottom quintal is comparatively lower than the upper quintal in table 2. Changes in Inventory also have

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**Table 4. Portfolio sorted by accruals components**

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	4.1 Ranked by changed in Accounts Receivables									
<b>Low (1)</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>High(9 )</b>	<b>LMH</b>	<b>t- statistics</b>

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significant impact on stock returns which has been studied by (Thomas & Zhang, 2002). They institute a strong correlation among expected returns and changes in inventory, with changes in inventories it may be an indication of unanticipated fluctuations in future performance of the firm. For as a circumstance, changes in total inventory in several macroeconomic models convey a negative signal for future economic conditions which ultimately effects stock returns. Changes in account receivable also demonstrates by table 4 with respect to different deciles and its impact on normal and abnormal returns. The accounts receivables is positively effecting stock returns as it is likely that the increase in accounts receivable could result from proposing increased credit terms in an action to arrangement revenue growth.

<b>Normal Return</b>	R_1	0.103	0.050	0.167	0.104	0.243	0.208	0.569	0.189	0.089	0.014	3.709***
<b>Abnormal Return</b>	ABR_1	0.018	-0.011	0.013	0.045	0.100	0.108	0.219	0.069	0.014	0.004	2.618**
4.2 Ranked by changed in Accounts Inventories												
<b>Normal Return</b>	R_1	0.270	0.387	0.195	0.098	0.118	0.086	0.343	0.126	0.099	0.171	5.000***
<b>Abnormal Return</b>	ABR_1	0.100	0.128	0.054	0.018	0.049	0.007	0.157	0.043	0.020	0.080	3.640***
4.3 Ranked by changed in other current assets												
<b>Normal Return</b>	R_1	0.090	0.447	0.553	0.021	0.188	0.205	0.072	0.082	0.062	0.028	3.072**
<b>Abnormal Return</b>	ABR_1	0.003	0.226	0.232	-0.042	0.061	0.086	-0.007	0.013	0.001	0.003	1.891
4.4 Ranked by changed in Accounts payable												
<b>Normal Return</b>	R_1	0.208	0.507	0.298	0.110	0.127	0.219	0.082	0.139	0.025	0.182	3.984***
<b>Abnormal Return</b>	ABR_1	0.129	0.183	0.086	0.045	0.042	0.075	-0.003	0.049	-0.037	0.166	2.881**
4.5 Ranked by changed in Income tax payable												
<b>Normal Return</b>	R_1	0.061	0.342	0.427	0.154	0.285	0.122	0.171	0.117	0.037	0.024	4.332***
<b>Abnormal Return</b>	ABR_1	-0.006	0.158	0.026	0.048	0.212	0.052	0.080	0.040	-0.044	0.037	2.388**
4.6 Ranked by changed in other current liabilities												
<b>Normal Return</b>	R_1	0.134	0.629	0.164	0.246	0.184	0.118	0.093	0.121	0.025	0.109	3.259***
<b>Abnormal Return</b>	ABR_1	0.010	0.217	0.115	0.095	0.079	0.035	0.038	0.017	-0.037	0.047	2.557**

\*\*\*,\*\*,\* show significance level at the 0.01,0.05,0.10 and two tailed test respectively.

**Table 5. Portfolio sorted by discretionary accruals**

		<b>5.1 Discretionary Accruals</b>										
		Low (1)	2	3	4	5	6	7	8	High (9)	LMH	T-statistics
<b>Normal Return</b>	R_1	0.069	0.051	0.304	0.309	0.156	0.136	0.100	0.116	0.524	-0.456	3.819***
<b>Abnormal Return</b>	ABR_1	0.007	-.024	0.123	0.144	0.051	0.098	0.015	0.011	0.163	-0.156	2.879**
		<b>5.2 Nondiscretionary Accruals</b>										
		Low (1)	2	3	4	5	6	7	8	High (9)	LMH	T-statistics
<b>Normal Return</b>	R_1	0.433	0.129	0.210	0.200	0.096	0.256	0.155	0.054	0.201	0.232	5.266***
<b>Abnormal Return</b>	ABR_1	0.176	0.023	0.064	0.073	-0.009	0.091	0.074	-0.012	0.104	0.072	3.308**

\*\*\*, \*\*, \* show significance level at the 0.01, 0.05, 0.10 and two tailed test respectively.

In the above mentioned table the t-statistics value is significant, showing that the difference between the portfolio returns is real and significant.

The basic difference between discretionary and non-discretionary accruals is that discretionary portion of accruals readdresses the choice of management, whereas on other hand the non-discretionary components of accruals reflects the effect of business conditions. Management use discretion for managing earnings for adjusting the effects of business conditions.

Nondiscretionary accruals are functions of assigned factors. The components of accruals not explained by these factors are defined as discretionary accruals. Change in revenue, gross property, equipment and plant known as a total accrual as stated in the study of

(Jones, 1991). For managing earning depreciation is unlikely to be an efficient means as for their reflectiveness (Gore et al., 2002). For discretionary accruals calculation this equation from the study of Teoh et al., (1998a) is used:

$$ACC_t = \beta_1 \frac{1}{TA_{(t-1+t)/2}} + \beta_2 \frac{\Delta SA_t - \Delta AR_t}{TA_{(t-1+t)/2}} + \varepsilon_t$$

$$DACC = \varepsilon_t$$

$$NDACC_t = ACC_t - DACC_t$$

ACC = Working capital accruals

$\Delta SA_t$  = Change in total sales

$\Delta AR_t$  = Change in account receivable

$TA_{(t-1+t)/2}$  = Average of total assets from the current and previous year

DACC = Discretionary working capital accruals

NDACC = Non-discretionary working capital accruals

In Table 5, in panels 5.1 and 5.2 on the basis of discretionary and non-discretionary accruals stocks were sorted and nine portfolios were made respectively. The difference in returns between the bottom and top deciles of ranked portfolios is 45.60% when accruals sorted into discretionary accruals. Showing impact of discretionary accruals on returns. In panel 5.2 the result show that non-discretionary accruals and stock return relationship have significant association. Means changes in nondiscretionary accruals has some effects on stock prices and it can be used to predict the stock prices

## 4.2 Regression

As alternative way to define the impact of the working capital accrual items in this research carry out panel regressions. Table no. 6 shows the panel regression of the

variables together with their significance ratio and 't'-statistics. In each regression the dependent variable is the log return for stocks.

**Table 4.2.1 Common effect model**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.444142	0.132983	3.339847	0.0009
ACC	-0.00535	0.096607	-0.05539	0.0058
LEV	0.001373	0.015692	0.087465	0.9303
SIZE	-0.04235	0.015196	-2.78669	0.0054
R-squared	0.40763			
F-statistic	9.402187			
Prob(F-statistic)	0			

**Table 4.2.2 Fixed effect model**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.02703	0.34969	2.936971	0.0034
ACC	-0.03277	0.09358	-0.35014	0.0063
LEV	0.000417	0.019588	0.02128	0.0043
SIZE	-0.12323	0.044195	-2.7883	0.0054
R-squared	0.318884			
F-statistic	2.427549			
Prob(F-statistic)	0			

**Table 4.2.3 likelihood test**

Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.065252	-88,797	0
Cross-section Chi-square	182.818	88	0

We used the likelihood test for the selection purpose that either common effect model or fixed effect model will be better. The selection criteria are the P-value of this test. If the P-value is significant than we will reject common effect model. Our results show the P-value is significant (0.0000) therefore we reject the common effect model.

**Table 4.2.4 Random effect model**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.458588	0.161748	2.835204	0.0047
ACC	-0.01463	0.092571	-0.15805	0.0045
LEV	0.000326	0.016634	0.019579	0.9844
SIZE	-0.046	0.018793	-2.44799	0.0146
R-squared	0.43726			
F-statistic	10.11685			
Prob(F-statistic)	0			

**Table 4.2.5 Hausman test**

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	15.31863	4	0.0041

The results shows that there is negative significant relationship between working capital accruals and stock returns. Moreover there is positive and significant relationship between leverage, size and stock returns. Regression result shows that significant and negative relationship between working capital accruals and stock returns these results

also confirm with (Chan et al., 2001, 2006), in which the also show negative and significant results.

### **4.3 Discussion**

For understanding firm's future prospects information about accruals and its components can be useful. In the above mentioned table the t-statistics value is significant, showing that the difference between the portfolios is real and significant. It proves that the change in accrual components have a great impact on the wealth of a firm. Substantial increase in company working capital accruals like account payable and other current liabilities that predicts this company may provide some extraordinary returns for some time but the company have payback its liabilities in future and company can't maintain that return it may be growth rate may go further low also company suffer from that more in future. Firms' future growth rate cannot be sustained in the year of high accruals provide signal to market. Consequently, firms may provide threatening signs about a future breakdown in their performance and corporate growth with high level of negative accruals. With the use of earnings manipulation and creative accounting only the bad news exposure can delay, but in the end it must ultimately be revealed. So, both of the research hypothesis of the research has been proven in this study showing that working capital accruals and its components has a significant impact on the firm performance. Both of the questions of the study of has been answered by the proven of these hypothesis that the working capital accruals and its components have a significant effects on the stock returns in the Pakistan stock market. It shows that Working capital accruals and its components can be used as

the predictor of stock returns. The results of this study also suggest that each components of accruals looks to have a dissimilar grade of influence for forecasting returns. The discretionary accruals play more important role and main player in predictability of returns then the non-discretionary, when accruals is divided into the two types of nondiscretionary and discretionary accruals.

## **CHAPTER 5**

### **CONCLUSION AND POLICY RECOMMENDATIONS**

#### **5.1 Summary and Conclusion**

The investors, analysts and other players have ignored the working capital accruals information, disclosures and other important information in financial statement. They focused on reported income in financial statement for future stock return and their investment decision. No doubt that earnings which shown in financial statements of the company has important information but this financial statements earnings information doesn't provide fully information and disclosure about the quality of these reported earnings. Therefore only on the basis of reported earning we can't make wise judgment about the company stock return or about its performance. Earnings quality is heavily influenced by the way which management used discretionary and nondiscretionary accruals. Working capital accruals are a strong predictors of firm's future returns and this can be manipulated by multiple factor therefore now a days there is strong need to judge about the quality of earning in order to make wise investment decision.

In this study both research hypothesis has been proved stating that working capital and its components have significant impact on stock returns in Pakistan. Recent studies on this area has also found that working capital accruals and stock return have significant relationship. These studies proved that Accruals play a key role in explaining

relationship of earnings and returns. An empirical evidence of Chan et al. (2006) support the current study that describe the association with stock return and can also forecasting the stock return.

In this research working capital accrual and its components separately studied with stock return. The study describe that some useful information appear to consist regarding earning quality through working capital accruals i.e inventory and accounts receivables. Firms with the higher level of accounts payable shows lower return. It is due to the fact that increase in accounts payable is considered as a negative sign to firms earning and returns of these firms will decline in future. While increase in accounts receivable has a positive effect on stock returns as shown in the table. Due to this there is possibility that increase in account receivable could effect to maintain/reserve revenue growth. That may become the reason of higher stock returns for these firms. Results of the current study regarding account receivable and account payable relationship is similar to (Thomas & Zhang, 2002) study. So the results are consistent with earlier studies as it is also proved in this study and accruals can be used to predict the future returns of the firm. Furthermore, this study also used panel regression analyses. And the results match with the previous study. It shows the significant relationship between accruals and stock returns, leverage book to market ratio and stock returns, leverage and stock returns, market capitalization and stock returns.

## **5.2 Future Research Directions**

According to the accounting literature firm performance and manager compensations is closely related to bottom line earning figure in balance sheet, therefor mangers have a keen desire to maintain earnings on substantial high level. Therefor due to this reason

mangers use creative accounting technique to manipulate earnings. Manger use earnings management normally due to two reasons first is due to working capital accruals and second is due to flexibility in accounting rules. Due to these flexibilities and earning management therefor analysts giving too much focus on the quality of earnings because these factor effect the quality of earnings. For the true measurement of firm performance earnings should reflect fundamental values.

Earlier literature of (Degeorge, Patel & Zeckhauser, 1999, Chan et al., 1991,) confirmed that managers are involved in aggressive accounting techniques and earning management activities. Unexpected Increase or decrease in earnings is link with stock return and that relationship is affected adversely by earnings management (Bernard & Thomas, 1989, Foster et al., 1984, Drymiotis & Hemmer, 2009). In the environment of concentrated ownership structure major shareholder have more involvement with management to manipulate earnings argue by (Shleifer & Vishny, 1997). In Pakistan mostly business are family owned and manager have more discretion to manipulate earnings. So in the context of Pakistan earning stock return will not be true and earnings will be less credible. So there is a great need that Investor and researcher also look working capital accruals, earnings quality while studying stock return. Further research can also be extended in the area of family owned business, accruals and stock return. This research also can be extended through data of different cross section of Asian countries stock markets. This study is also can be extended to be financial sector of Pakistan because where managerial activities is more involved. Further research can be conducted with larger sample size and with different sector of market. In this study secondary data is used and further studies are suggested to use mixed method for more reliability of data.

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