Determining Stock Market Return by using Multiple Factor Model during Boom and Burst in Oil Market

by

Muhammad Qasim

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the

Faculty of Management & Social Sciences
Department of Management Sciences

2018

I dedicate my thesis to my parents and my teacher for their unconditional support, without them i am not able to achieve my goal.

CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY

ISLAMABAD

CERTIFICATE OF APPROVAL

Determining Stock Market Return by using Multiple Factor Model during Boom and Burst in Oil Market

by

Muhammad Qasim

(MMS153006)

THESIS EXAMINING COMMITTEE

S. No.	Examiner	Name	Organization
(a)	External Examiner	Dr . Syed Amir Shah	AIOU,Islamabad
(b)	Internal Examiner	Dr . Arshad Hassan	CUST, Islamabad
(c)	Supervisor	Mr . Nasir Rasool	CUST, Islamabad

Mr. Nasir Rasool
Thesis Supervisor
April, 2018

Dr. Sajid Bashir
Head
Dept. of Management Sciences
April, 2018

Dr. Arshad Hassan
Dean
Faculty of Management & Social Sciences
April, 2018

Author's Declaration

I, **Muhammad Qasim** hereby state that my MS thesis titled "**Determining Stock Market Return by using Multiple Factor Model during Boom and Burst in Oil Market**" is my own work and has not been submitted previously by me for taking any degree from Capital University of Science and Technology, Islamabad or anywhere else in the country/abroad.

At any time if my statement is found to be incorrect even after my graduation, the University has the right to withdraw my MS Degree.

(Muhammad Qasim)

Registration No: MMS153006

Plagiarism Undertaking

I solemnly declare that research work presented in this thesis titled "**Determining Stock Market Return by using Multiple Factor Model during Boom and Burst in Oil Market**" is solely my research work with no significant contribution from any other person. Small contribution/help wherever taken has been dully acknowledged and that complete thesis has been written by me.

I understand the zero tolerance policy of the HEC and Capital University of Science and Technology towards plagiarism. Therefore, I as an author of the above titled thesis declare that no portion of my thesis has been plagiarized and any material used as reference is properly referred/cited.

I undertake that if I am found guilty of any formal plagiarism in the above titled thesis even after award of MS Degree, the University reserves the right to withdraw/revoke my MS degree and that HEC and the University have the right to publish my name on the HEC/University website on which names of students are placed who submitted plagiarized work.

(Muhammad Qasim)

Registration No: MMS153006

Acknowledgements

First of all i want to thank the Great Almighty Allah for establishing me to achieve that goal. After that i want to thank my parent and my teachers but special thanks to my supervisor Mr. Nasir Rasool for guidance, expert opinion and courage to complete my thesis.

Abstract

The study examined the effect of size, value, market, momentum and oil prices on the stock returns by using the data sample of 80 companies which are listed on the Pakistan stock exchange (PSX). The data covered a period from 2006-2015. Time series based OLS regression is used to study the relation between the stock returns of portfolios which develop on market capitalization, book to market ratio, and average returns for size, value and market. The results of the study for particular time period show that first market premium has significant effect on the stock returns, means as the risk increase the returns also increase. Second it that the size affect not exist in Pakistan stock exchange, means if investor purchase the stock of small firm and sale stock of bigger firms is beneficial for the investor. Third the value affect does not exist in the Pakistan stock exchange (PSX). Fourth that momentum affect exist in the stock returns. At the end oil prices has significant impact on the stock return. The study also explore the impact of oil prices increase and decrease on stock return the results show that oil prices increase has insignificant while oil decrease has significant affect on stock market returns.

Contents

List of Tables

Abbreviations

CAPM	Capital Asset Pricing Model
FAMA-FRENCH (FF)	Fama and French
KSE	Karachi Stock Exchange
MBR	Market to Book Ratio
MKT	Market
SMB	Small Minus Big
HML	High minus Low Default Risk
EPS	Earning per Share
S	Small
B	Big
BH	Big High Value
BL	Big Low Value
SH	Small High Value
SL	Small Low Value
SHU	Small High Up Value
SHD	Small High Down Value
SLU	Small Low Up Value
SLD	Small Low Down Value
BHU	Big High Up Value
BHL	Big High Low Value
BLU	Big Low Up Value
BLD	Big Low Down Value

Chapter 1

Introduction

1.1 Background

Markowitz argument in (1952) lay down basis for that capital asset pricing model. The Markowitz studied one factor which was systematic risk. He studied the impact of these factors on the stock return. The CAPM was criticized by Ross (1971) and he gave arbitrage pricing theory (APT) and said that there more factors which affect the stock returns. After that theory a lot of studies are conducted on that model and they identify different factor which affect the stock return. Fama-French give three factor model in 1993. Like that Fama-French and Carhart give four factor models. After that lot of work will done on that one and researcher identify a different factors. Oil price is one of the most important variable, which affect the economic growth of the country. Macroeconomic variables also affect stock prices and its returns some of these variables are as follows oil prices, exchange rate, money supply, etc.

If oil prices change than it cause to increase in the indirect cost of the companies because the companies uses different type of machinery which use oil as raw material. If oil prices change than it affect stock prices because their indirect cost increase. So oil is an-other important factor which affects the stock return. Oil price is one of the most important variable, which affect the stock returns.

Saeed (2012) determined the impact of macroeconomic variables on price of the stocks of 9 sector listed companies, which listed on the KSE by using data from the period 2002-2010. These variables are oil prices, money supply, exchange rate, short-term interest rate and industrial production. They used multiple factor model with APT. The results showed that it has significant impact on stock prices, but variation in return is very small. This study determined the impact of oil prices on stock return by using the multiple asset pricing models. The variable of the study are risk premium (Rm-Rf), value premium (HML), momentum, size premium (SMB), stock returns and oil prices. The stock returns are taken as dependent variable and others as independent variables. In that study oil prices is an additional variable which include in Fama-French and Carhart model. Oil prices are also divided into oil price increase and oil price decrease, take them as dummy variable and study either asymmetric affect exist or not.

1.2   Theoretical Background

Markowitz argument in (1952) lay down basis for that capital asset pricing model. CAPM is first time purposed by Sharpe in (1964), Treynor (1962), linter (1965) and Mossin (1966). This can be used to measure the return by using single factor which is a risk. He used a systematic risk to determine the excess return. CAPM criticized because it fail to consider other factors like size, value and momentum effect. The Ross (1971) proposed the APT and said that there are also some other factor that affect the stock return. After the indication of these factors, other models also purposed which incorporate such variables. The Fama and French proposed three-factor model in 1993. The variable include in the Fama-French model are risk premium, value premium and size premium. The Fama- French-Carhart purposed four-factor model with momentum factor in 1997.

The Carhart include momentum as additional factor.Zubairi and Farooq (2012) investigated whether CAPM and APT is valid model for determining the price and return of two sector first oil and gas and second sector is fertilizer. The results indicate that there is weak relationship between realized and excess returns

based on CAPM. And with respect to APT macro-economic variable like inflation, exchange rate and GDP are not valid determinant of return on oil and gas and fertilizer stock. Hanif and Bhatti (2010) studied validity of CAPM by taking data of those stocks, which listed on Karachi stock exchange. They took data from period of 2003-2008. The results of the study indicated that CAPM model was not valid in the Karachi stock exchange. Rizwan et al. (2013) andJavid and Eatzaz (2008) studied validity of CAPM model. The findings suggested that CAPM failed to explain the excess return in Karachi stock exchange. Javid and Ahmad (2009) studied the performance comparison between the CAPM and Fama-French (FF) three- factor model. The findings showed that Fama-French (FF) three-factor model perform better as compare to the CAPM.

Gregory, Tharyan and Christidis are constructing and testing the various forms of asset pricing models for the UK market and studied either these factors explain the stock returns by using the Michou, Mouselli and Stark (2007) and Fletcher (2010). The results indicated that these models fail to explain the cross-sectional returns. The multiple asset-pricing models can be used to determine the impact of commodity prices on stock returns.

1.3   Research Question

Is market risk, momentum, value and size effect the stock return of companies listed on the PSX?
What is the impact of oil price on stock returns during boom and burst in oil market?

1.4   Research Objectives

The objective of study is to

1. Identify the effect of risk premium, momentum, value premium and size premium impact on stock returns of the companies that listed on PSX.

2. Explore the impact of oil prices on stock returns during boom and burst in oil market.

1.5   Significance of the Study

This study aims to identifying the effect of market risk, momentum, size premium and oil prices on the stock returns of companies that listed on Pakistan Stock Market (PSX). The studied also explore the effect of oil prices on stock return. The oil prices is an additional factor is that model. Oil prices are further divided into the oil price increase and oil price decrease. It conducted to explore either the asymmetric effect exist in PSX, means decompose the oil into price decrease and increase and study its impact on the stock returns. There is a lot of work done in this field but we include oil prices as additional factor in that study. But that of study is uses the most recent data of Pakistan stock exchange. The findings of the study will be helpful for recent data and provide latest information about the stock market. The study is also useful for the policy maker to factoring and design their policy, that use by investor to make investment decisions, consultants and brokers use it to guide their clients and guide them to take right decisions at the right time. The study is useful for the institutional managers to develop trading strategies. It can help the researchers for further research in future to deeply investigate the phenomena.

1.6   Study Plan

The study is divided into five chapters, The chapter 1 of this study provide information about the background, research objective, research question and significance of the study. Chapter 2 include the extensive review of literature and having different studies discussed under different scenarios. Chapter 3 explain the data, variables and methodology. Chapter 4 include discussion and results. Chapter 5 include the conclusion, recommendation and future research direction.

Chapter 2

Literature Review

Markowitz argument in (1952) lay down basis for that capital asset pricing model. CAPM is first time purposed by Sharpe in (1964), Treynor (1962), linter (1965) and Mossin (1966). This can be used to measure the return by using single factor which is a risk. He used a systematic risk to determine the excess return. CAPM criticized because it fails to consider other factors like size, value and momentum effect. The Ross (1971) proposed the APT and said that there are also some other factor that affect the stock return. After the indication of these factors, other models also purposed which incorporate such variables. The Fama and French proposed three-factor model in 1993. The variable include in the Fama-French model are risk premium, value premium and size premium. The Fama- French-Carhart purposed four-factor model with momentum factor in 1997. The Carhart include momentum as additional factor.

The multiple asset-pricing models can be used to determine the impact of commodity prices on stock returns. Crude oil price is one of the most important elements, which affect the stock price and its return. Cheik and Apkan (2016) investigate the determinants of stock prices (oil and gas) companies which are listed on the Nigerian stock exchange (NSE) by using the data from 2009-2013. They used the multiple regression analysis an also investigate either dividend signaling hypothesis hold or not. The findings indicate that DSH holds an also showed that stock prices has significantly affected by dividend announcements.

Hanif and Bhatti (2010) studied validity of CAPM by taking data of those stocks, which listed on Karachi stock exchange. They took data for period of 2003-2008. The results of the study indicated that CAPM model was not valid in the Karachi stock exchange. Rizwan et al. (2013) and Javid and Eatzaz (2008) studied validity of capital asset pricing model. The results suggested that CAPM failed to explain the excess return in KSE. Javid and Ahmad (2009) studied the performance comparison between the CAPM and Fama-French (FF) three- factor model. The result showed that Fama-French (FF) three- factor model perform relatively better than the CAPM model.

Fama and French (1996) analyzed that the CAPM failed to explain the abnormal excess return by taking data (1980 to 1990). Fama and MacBeth (1973) studied the relationship the cross sectional returns based on Beta instead of using the cross sectional based on the average stock returns. The findings of the study showed that the CAPM is poor to determine the stock returns. Griffin (2003) studied the CAPM by using both type of data domestic base and international based data. He took data of different countries from UK, US, Canada and Japan. The results indicated that the Fama-French (FF) for the country-specific model perform better than the global basic model. Fama-French (FF) (2001) studied the validity of the Fama-French (FF) model by collecting data from the ASE Australian stock exchange. The results of the study indicated that the Fama-French (FF) variables has significant negative impact on the stock returns and results are contrary to previous studied where these have a significant positive effect on the stock returns.

Kothari et al. (1995) examined whether the beta and BE/ME explained the cross sectional variation in stock return by taking data of US stock market. They took data of S and P market. They founded that the BE/ME is weakly related to average stock return. Agarwal and Poshakwale (2006) studied the relationship between size, high BE/ME and distress risk in UK (London stock exchange) by using the different type of the asset pricing model the CAPM and three factor model. The results showed that the size has weaker relationship with distress risk while the high BE/ME has no relationship with distress risk. The result also indicated that three-factor model is valid than CAPM.

Hassan and Javed (2011) investigated the relationship among size premium, value premium and stock returns by taking data of 250stocks those who listed on the Karachi stock exchange. The results indicated that size premium had positive significant impact on stock return. Fama and French (1998) studied the relationship between size premiums, value premium by taking data of international countries. They took data from 1975-1995. The result showed that the value stock and size premium exist in most of the countries.

Chan et al. (1991) studied the relationship between the average stock return and size, BE/ME and risk premium by taking data from Japanese stock exchange. The results showed that BE/ME has positive relationship between the stock returns and BE/ME. Connor and Sehgal (2001) investigate the stock returns by using the Fama-French (FF) model. The results of the study indicate that the SMB and BE/ME factor generate a consistent results.

Drew et al. (2005) studied the comparison between the Fama-French (FF) three-factor model and CAPM by collecting data from Indian stock exchange (shanghai stock exchange). The result of the study showed that size premium and BE/ME has consistent results with results of Fama and French (1996). Davidson and Dutia (1989) studied the relationship between abnormal stock returns on year and second year in order to check the momentum effect. The results indicated that the results are consistent between different year and show that the momentum affect exist in the market.

Grundy and Martin (2001) studied the application of the Fama-French (FF) and carhart four-factor model. The result of the study indicate that the strong momentum strategies which give the returns of 1.34 percent monthly. They also studied the cross sectional return variability the results are contrary to previous like research (Grinblatt and Moskowitz, 1999). Hameed and Kusnadi (2002) and Ryan and Curtin (2006) studied the impact of size premium value premium, risk and momentum premium in Asian markets. The results indicated that the momentum is weak in stock returns.

Fama, French (1992) studied the relationship between E/P, size, leverage, book to market equity and stock returns by taking data from the US stock market. Data

covered period from 1963-1990. The results of the study showed that stock earn positive returns during the study period. Arshanapalli, Coggin, Doukas (1998) determined the stock returns by using the Fama-French (FF)model by taking data from the 18 equity market and 10 European stock exchange. The data covered a period from the 1975 to 1995. The results indicated that the size and value premium is significant to determine the stock returns.

Al-Mwalla, and Karasneh (2011) investigated that the relationship among value premium, risk premium, size premium, with the stock returns by taking data from the AMMAN stock exchange. The results indicated that the SMB and book to market has significant impact on the stock returns. Moerman (2005) studied the performance of the Fama-French (FF) model in Europe. They took data from the eleven European countries. The results suggested that the variables in the Fama-French (FF) model have significant positive effect on the stock returns of portfolio.

Miller and Modigliani (1961) studied the stock return by using five-factor model. The results showed that the portfolio with higher book to market has higher expected returns. The high expected earning has higher returns and low earning has lower expected returns. Fama and French (2015) studied the stock return by using the Fama-French (FF)model. The results indicated that the value factor and HML factor increase the returns.

Liew and Vassalou (2000) investigated the relationship between variable that made based on the market capitalization, book to market and future economic growth. The findings of the study showed the size and HML has significant impact on the future economic gowth. Vassalou (2003) founded the relationship between size, HML and future economic growth by adding growth factor as addition variable in the capital asset pricing model. The results showed that the size and HML has significant role to determine the stock returns.

Taha and El Giziry (2016) investigated the Fama and French five-factor model in Egyptian market. They took data from the 55 companies. The data covered a period from the 2005 to June 2013. They include a different factor in their model which are sales-to-price, earnings-to-price, liquidity, dividends-to-price and

momentum. They used the time series OLS regression model. The findings of the study showed the variable in the model has significant effect on the stock return. Charitou and Constantinidis (2004) studied the Fama-French (FF)three-factor model by collecting data from the Japan stock market. The data covered period from the 1991 to 2001. They took of industrial firm. The findings of the study showed that the Fama-French (FF)three-factor model perform better as compared to the CAPM.

Maroney and Protopapadakis (2002) investigated the Fama-French (FF) three-factor model by taking data from the different market like Japan, Australia, France, Canada, Germany the UK and the US. The results of the study showed the SMB and value premium is significant in all markets. The stock returns are cross sectional. Fama and French (1998) checked the validity of the Fama-French (FF) model in the different markets. The data covered a period from 1975 to 1995. The study results indicated that the value stock better than the other stock.

Drew and Veeraraghavan (2002) studied theFama-French (FF) variable in Malaysia. They took data from the Malaysian stock exchange. The data covered a period from December 1992 to December 1999. The results of the study showed that the size premium has not significant impact on the stock return while value premium has significant impact on the stock return. Connor and Sehgal (2001) studied theFama-French (FF) three-factor model by taking data from the Indian stock exchange. The data covered a period from June 1989 to March 1999. The results of the findings indicated that the Fama-French (FF) model is able to explain the stock return, which missed in the capital asset pricing model.

Ajili (2002) investigated the validity of CAPM and the Fama-French (FF) three-factor model in French stock exchange. They took data of 30 month and it include 274stocks. The data covered a period from the 1976-2001. The findings of the study showed that the Fama-French (FF) model explain the stock returns better than the capital asset pricing model. Drew, Naughton and Veeraraghavan (2003) compared the performance of the CAPM and Fama-French (FF) three-factor model. They took data from the Shanghai stock market. The results of the

findings showed that the firms, which have high B/M have higher returns and vice versa.

Gaunt (2004) analyzed the Fama-French (FF) model in the Australian stock exchange. The data covered the period from the 1991 to 2000. The results showed that beta risk is greater for the smaller firms. Billou (2004) studied the Fama-French (FF) model by taking data for the period of 1993 to 2003. The results of the studied indicated that the Fama-French (FF) three factor model outer perform as to the capital asset pricing model.

Djajadikerta and Nartea (2005) examined the Fama-French (FF) three-factor model by taking data from the New-Zeland stock exchange. The finndings of the study indicated the value premium has weaker impact on the stock returns while the size of the firm has significant impact on the stock returns. The results also showed that the Fama-French (FF) model is more reliable as compare to the Capital asset pricing model. Lam (2005) investigated comparison between the Fama-French (FF) three-factor model and CAPM by taking data from the US stock exchange. The finding was same to the results of Djajadikerta and Nartea (2005).

Halliwell, Heaney, and Sawicki (1999) investigated the Fama-French (FF) three-factor model by taking data from the (ASE) Australian stock exchange. The data covered a period of eleven year from (1981 to 1991). The results of the study suggested that the variables have significant effect on the stock return. Fama-French (FF) (2001) investigated the Fama-French (FF) three factor findings clearly show that the size premium has negative significant impact on the stock returns.

Durand, Limkriangkrai, and Smith (2006) examined the Fama-French (FF) model on the stock return by collecting data from the US stock exchange. The results showed that the size premium has significant impact on the stock return while the value premium has insignificant impact on the stock return.Malin and Veeraraghavan (2004) studied the Fama-French (FF) three-factor model by taking data from the European countries like Germany, France and the United Kingdom. They results are not significant for almost variables. The size variable has significant impact in Germany and France and these are not significant in United Kingdom.

Fama and French (2008) examined the impact of anomalies on the stock return. The anomalies are accruals and momentum. The results indicated that the accruals and momentum anomalies has significant impact on the stock return. They also studied the impact of asset growth and profitability on the returns. The results showed that both do not have a greater impact on the stock return.

Lopez (2014) studied the different asset-pricing model first in CAPM model, Fama-French (FF) three-factor model and Fama-French (FF) and Carhart model by taking data from the Dutch stock exchange. The data covered a period from 2004 to January 2014. The results of the findings showed that the value premium and momentum premium has greater impact on stock returns and showed that the Fama-French (FF)three-factor model and Fama-French (FF)and Carhart are more efficient than capital asset pricing model.

Milius (2012) studied the Fama-French (FF) three-factor model and Fama-French (FF) and Carhart model by collecting data from the Dutch stock exchange by taking data of the twenty years. The data covered a period from 1990-2010. He also study a cross sectional return. The results showed that the systematic risk is not present in the market. Cross sectional value premium exist. Size premium is also present in return. The results also showed that the momentum premium also affect the stock return.

CAPM based on the portfolio selection theory of Markowitz (1952). The theory said that the investor in the portfolio not in a single security because it increases the chance of loss and all their famous proverb, do not put all eggs in baskets. He proposed mean, variance theory, an investor selects those portfolios whose risk is less and returns will greater or select those portfolios, which give maximum returns at the given level of risk and this kind of portfolios called efficient portfolio. He studied only one factor one facto risk to explain the returns and explain systematic and unsystematic risk. Risk is potential of gain or losing something value.

Stock return risk is a risk that the stock return may increase or decrease from the expected returns. There are two types of risk that investors face first is a unsystematic risk and systematic. Unsystematic risk is a risk that is diversify after making a portfolio and systematic risk that related to market and it is not

diversifiable. As the risk increase than return will increase and vice versa. The firms which take higher risk has higher return and vice versa. Smaller firms have higher risk the bigger firms so their returns are also greater than the bigger firms.

They compare performance of asset pricing models, the Fama-French three-factor, CAPM model, and also include other model related equity risk and equity durations of the Japanese stock market (JSM). The results clearly showed that the growth stock has a long duration while value stock has a short duration (Fukuta and Yamane2015).

Boubaker, Hamza and Garca(2016) investigate the relation between the financial distress and equity return of twelve portfolios, which are made on a different basis (size, book-to-market, and leverage) by using three factor asset pricing model by taking data of the 18 year period. The results capture additional risk missed by the market portfolio, the leveraged risk premium is positively related to high age firms. The results also suggested that the equity portfolio investment requires systematically both size and value premiums and that SMB and HML. Kothari et al. (1995) examined whether the beta and BE/ME explained the cross sectional variation in stock return by taking data of US stock market. They took data of SandP market. They found that the BE/ME is weakly related to average stock return. Agarwal and Poshakwale (2006) studied the relationship between size, high BE/ME and distress risk in UK (London stock exchange) by using the different type of the asset pricing model the CAPM and three factor model. The results showed that the size has weaker relationship with distress risk while the high BE/ME has no relationship with distress risk. The result also indicated that three-factor model is valid than CAPM.

Hassan and Javed (2011) investigated the relationship among size premium, value premium and stock returns by taking data of 250 stocks those who listed on the Karachi stock exchange. The results indicated that size premium had positive significant impact on stock return. Fama and French (1998) studied the relationship between size premiums, value premium by taking data of international countries. They took data from 1975-1995. The result showed that the value stock and size premium exist in most of the countries.

Chan et al. (1991) studied the relationship between the average stock return and size, BE/ME and risk premium by taking data from Japanese stock exchange. The results showed that BE/ME has positive relationship between the stock returns and BE/ME. Connor and Sehgal (2001) investigate the stock returns by using the Fama-French (FF) model. The results of the study indicate that the SMB and BE/ME factor generate a consistent results.

Drew et al. (2005) studied the comparison between the Fama-French (FF) three-factor model and CAPM by collecting data from Indian stock exchange (Shanghai stock exchange). The result of the study showed that size premium and BE/ME has consistent results with results of Fama and French (1996). Davidson and Dutia (1989) studied the relationship between abnormal stock returns on year and second year in order to check the momentum effect. The results indicated that the results are consistent between different year and show that the momentum affect exist in the market.

Grundy and Martin (2001) studied the application of the Fama-Feench and carhart (FF and C) four-factor model. The result of the study indicate that the strong momentum strategies which give the returns of 1.34 per cent monthly. They also studied the cross sectional return variability the results are contrary to previous like research (Grinblatt and Moskowitz, 1999).Hameed and Kusnadi (2002) and Ryan and Curtin (2006) studied the impact of size premium value premium, risk and momentum premium in Asian markets. The results indicated that the momentum is weak in stock returns.

Fama, French (1992) studied the relationship between E/P, size, leverage, book to market equity and stock returns by taking data from the US stock market. Data covered period from 1963-1990. The results of the study showed that stock earn positive returns during the study period. Arshanapalli, Coggin, Doukas (1998) determined the stock returns by using the Fama-French (FF) model by taking data from the 18 equity market and 10 European stock exchange. The data covered a period from the 1975 to 1995. The results indicated that the size and value premium is significant to determine the stock returns.

Al-Mwalla, and Karasneh (2011) investigated that the relationship among value premium, risk premium, size premium, with the stock returns by taking data from the AMMAN stock exchange. The results indicated that the SMB and book to market has significant impact on the stock returns. Moerman (2005) studied the performance of the Fama-French (FF) model in Europe. They took data from the eleven European countries. The results suggested that the variables in the Fama-French (FF) model have significant positive effect on the stock returns of portfolio.

Miller and Modigliani (1961) studied the stock return by using five-factor model. The results showed that the portfolio with higher book to market has higher expected returns. The high expected earning has higher returns and low earning has lower expected returns. Fama and French (2015) studied the stock return by using the Fama-French (FF) model. The results indicated that the value factor and HML factor increase the returns. Liew and Vassalou (2000) investigated the relationship between variables that made based on the market capitalization, book to market ratio and future economic growth. The findings of the study showed the size and HML has significant impact on the future economic gowth. Vassalou (2003) founded the relationship between size, HML and future economic growth by adding growth factor as addition variable in the capital asset pricing model. The results showed that the size and HML has significant role to determine the stock returns.

Taha and El Giziry (2016) investigated the Fama and French five-factor model in Egyptian market. They took data from the 55 companies. The data covered a period from the 2005 to June 2013. They include a different factor in their model which are sales-to-price, earnings-to-price, liquidity, dividends-to-price and momentum. They used the time series OLS regression model. The findings of the study showed the variable in the model has significant effect on the stock return. Charitou and Constantinidis (2004) studied the Fama-French (FF) three-factor model by collecting data from the Japan stock market. The data covered period from the 1991 to 2001. They took of industrial firm. The findings of the study

showed that the Fama-French (FF) three-factor model perform better as compared to the CAPM.

Maroney and Protopapadakis (2002) investigated the Fama-French (FF) three-factor model by taking data from the different market like Japan, Australia, France, Canada, Germany the UK and the US. The results of the study showed the SMB and value premium is significant in all markets. The stock returns are cross sectional. Fama and French (1998) checked the validity of the FF-model in the different markets. The data covered a period from 1975 to 1995. The study results indicated that the value stock better than the other stock.

Drew and Veeraraghavan (2002) studied the Fama-French (FF) variable in Malaysia. They took data from the Malaysian stock exchange. The data covered a period from December 1992 to December 1999. The results of the study showed that the size premium has not significant impact on the stock return while value premium has significant impact on the stock return. Connor and Sehgal (2001) studied the Fama-French (FF) three-factor model by taking data from the Indian stock exchange. The data covered a period from June 1989 to March 1999. The results of the findings indicated that the Fama-French (FF) model is able to explain the stock return, which missed in the capital asset pricing model.

Ajili (2002) investigated the validity of CAPM and the Fama-French (FF) three-factor model in French stock exchange. They took data of 30 month and it include 274 stocks. The data covered a period from the 1976-2001. The findings of the study showed that the Fama-French (FF) model explain the stock returns better than the capital asset pricing model. Drew, Naughton and Veeraraghavan (2003) compared the performance of the CAPM and Fama-French (FF) three-factor model. They took data from the Shanghai stock market. The results of the findings showed that the firms, which have high B/M have higher returns and vice versa.

Gaunt (2004) analyzed the Fama-French (FF) model in the Australian stock exchange. The data covered the period from the 1991 to 2000. The results showed that risk is greater for the smaller firms. Billou (2004) studied the Fama-French (FF) model by taking data for the period of 1993 to 2003. The results of the

studied indicated that the Fama-French (FF) three factor model outer perform as compare to the capital asset pricing model.

Djajadikerta and Nartea (2005) examined the Fama-French (FF) three-factor model by taking data from the New-Zeland stock exchange. The finndings of the study indicated the value premium has weaker impact on the stock returns while the size of the firm has significant impact on the stock returns. The results also showed that the Fama-French (FF) model is more reliable as compare to the Capital asset pricing model. Lam (2005) investigated comparison between the Fama-French (FF) three-factor model and CAPM by taking data from the US stock exchange. The finding was consistent to the results of Djajadikerta and Nartea (2005).

Halliwell, Heaney, and Sawicki (1999) investigated the Fama-French (FF) three-factor model by taking data from the (ASE) Australian stock exchange. The data covered a period of eleven year from (1981 to 1991). The results of the study suggested that the variables have significant effect on the stock return. Fama-French (FF) (2001) investigated the Fama-French (FF) three factor findings clearly show that the size premium has negative significant impact on the stock returns.Durand, Limkriangkrai, and Smith (2006) examined the Fama-French (FF) model on the stock return by collecting data from the US stock exchange. The results showed that the size premium has significant impact on the stock return while the value premium has insignificant impact on the stock return.

Malin and Veeraraghavan (2004) studied the Fama-French (FF) three-factor model by taking data from the European countries like Germany, France and the United Kingdom. They results was not significant for almost all variables. The size variable has significant impact in Germany and France and these are not significant in United Kingdom. Fama and French (2008) examined the impact of anomalies on the stock return. The anomalies are accruals and momentum. The results indicated that the accruals and momentum anomalies has significant impact on the stock return. They also studied the impact of asset growth and profitability on the returns. The results showed that both do not have a greater impact on the stock return.

Lopez (2014) studied the different asset-pricing model first in CAPM model, Fama-French (FF) three-factor model and Fama-French (FF) and Carhart model by taking data from the Dutch stock exchange. The data covered a period from 2004 to January 2014. The results of the findings showed that the value premium and momentum premium has greater impact on stock returns and showed that the Fama-French (FF) three-factor model and Fama-French and Carhart (FF and C) are more efficient than capital asset pricing model.

Milius (2012) studied the Fama-French (FF) three-factor model and Fama-French and Carhart (FF and C) model by collecting data from the Dutch stock exchange by taking data of the twenty years. The data covered a period from 1990-2010. He also study a cross sectional return. The results showed that the systematic risk is not present in the market. Cross sectional value premium exist. Size premium is also present in return. The results also showed that the momentum premium also affect the stock return.

Hypothesis

Risk premium has positive significant affect on the stock return.

Momentum premium also affects the company's stock returns. In that study we use assumption for the momentum factor that is the price will move in the same direction means that if the prices will increase than it continuously increase and if the decrease than it decrease. If that assumption is fulfill than it, means that momentum affects exist in the market for stock returns. The momentum affects the company's stock returns. Fama and French (2011) examined the impact of value premium, size premium and momentum premium on stock return of the different countries returns by taking data from four regions (Europe, Japan, North America and Asia Pacific). They take data of twenty-two years from (1989-2011). They find the impact of all variables exist in all countries except Japan.

Jegadeesh and Titman (1993) studied the momentum for US stock return by taking data from period of 1965 to 1989 the results indicated that the long short run strategies during year produce return of 1.3%. Conrad and Kaul (1998) studied the momentum and contrary strategies in both long and short-term period by

taking data of US stock market. They took data for period 1926-1947. The results indicate that the strategies are not useful in that period because US recover from the effect of the Second World War. They also indicated that these strategies give the 8.5 per cent annually.

Rouwenhorst (1998) studied the strong small cap momentum in US stock market with relation with relation European stock market. The results of the studied indicated that the momentum is persistent and remain for almost one year. It also showed that mutual intercontinental momentum exist. Nijman et al., (2004) investigated whether the momentum strategies explain the returns by taking two type of data industry level as well as the country level. The results showed that momentum strategies not explain the stock return and the returns small cap firms are greater than the large cap firms. Donnell and Baur (2009) and Sullivan and Sullivan (2010) investigated the relationship between the momentum strategies and stock returns by taking data from the Ireland stock market. The results of the study suggested that the momentum strategies provide significant returns during the higher growth of the market.

Asness et al. (2009) studied the momentum and value premium by taking data from the different markets. The results suggested that the momentum provide the abnormal return. Cakici et al. (2013) analyzed the momentum and value premium in different emerging markets. The data covered a period from the January 1990 to December 2011. The results showed that the value effect present in all market while the momentum is present in all market except South Asia.

Carhart is unable to explain the strong momentum effect.Kothari et al. (1995) examined whether the beta and BE/ME explained the cross sectional variation in stock return by taking data of US stock market. They took data of SandP market. They found that the BE/ME is weakly related to average stock return. Agarwal and Poshakwale (2006) studied the relationship between size, high BE/ME and distress risk in UK (London stock exchange) by using the different type of the asset pricing model the CAPM and three factor model. The results showed that the size has weaker relationship with distress risk while the high BE/ME has no

relationship with distress risk. The result also indicated that three-factor model is valid than CAPM.

Hassan and Javed (2011) investigated the relationship among size premium, value premium and stock returns by taking data of 250 stocks those who listed on the Karachi stock exchange. The results indicated that size premium had positive significant impact on stock return. Fama and French (1998) studied the relationship between size premiums, value premium by taking data of international countries. They took data from 1975-1995. The result showed that the value stock and size premium exist in most of the countries.

Chan et al. (1991) studied the relationship between the average stock return and size, BE/ME and risk premium by taking data from Japanese stock exchange. The results showed that BE/ME has positive relationship between the stock returns and BE/ME. Connor and Sehgal (2001) investigate the stock returns by using the Fama-French (FF) model. The results of the study indicate that the SMB and BE/ME factor generate a consistent results.

Drew et al. (2005) studied the comparison between the Fama-French (FF) three-factor model and CAPM by collecting data from Indian stock exchange (shanghai stock exchange). The result of the study showed that size premium and BE/ME has consistent results with results of Fama and French (1996). Davidson and Dutia (1989) studied the relationship between abnormal stock returns on year and second year in order to check the momentum effect. The results indicated that the results are consistent between different year and show that the momentum affect exist in the market.

Grundy and Martin (2001) studied the application of the Fama-Feench and carhart (FF and C) four-factor model. The result of the study indicate that the strong momentum strategies which give the returns of 1.34 per cent monthly. They also studied the cross sectional return variability the results are contrary to previous like research (Grinblatt and Moskowitz, 1999). Hameed and Kusnadi (2002) and Ryan and Curtin (2006) studied the impact of size premium value premium, risk and momentum premium in Asian markets. The results indicated that the momentum is weak in stock returns.

Fama, French (1992) studied the relationship between E/P, size, leverage, book to market equity and stock returns by taking data from the US stock market. Data covered period from 1963-1990. The results of the study showed that stock earn positive returns during the study period. Arshanapalli, Coggin, Doukas (1998) determined the stock returns by using the Fama-French (FF) model by taking data from the 18 equity market and 10 European stock exchange. The data covered a period from the 1975 to 1995. The results indicated that the size and value premium is significant to determine the stock returns.

Al-Mwalla, and Karasneh (2011) investigated that the relationship among value premium, risk premium, size premium, with the stock returns by taking data from the AMMAN stock exchange. The results indicated that the SMB and book to market has significant impact on the stock returns. Moerman (2005) studied the performance of the Fama-French (FF) model in Europe. They took data from the eleven European countries. The results suggested that the variables in the Fama-French (FF) model have significant positive effect on the stock returns of portfolio.

Miller and Modigliani (1961) studied the stock return by using five-factor model. The results showed that the portfolio with higher book to market has higher expected returns. The high expected earning has higher returns and low earning has lower expected returns. Fama and French (2015) studied the stock return by using the Fama-French (FF) model. The results indicated that the value factor and HML factor increase the returns. Liew and Vassalou (2000) investigated the relationship between variables that made based on the market capitalization, book to market ratio and future economic growth. The findings of the study showed the size and HML has significant impact on the future economic gowth. Vassalou (2003) founded the relationship between size, HML and future economic growth by adding growth factor as addition variable in the capital asset pricing model. The results showed that the size and HML has significant role to determine the stock returns.

Taha and El Giziry (2016) investigated the Fama and French five-factor model in Egyptian market. They took data from the 55 companies. The data covered

a period from the 2005 to June 2013. They include a different factor in their model which are sales-to-price, earnings-to-price, liquidity, dividends-to-price and momentum. They used the time series OLS regression model. The findings of the study showed the variable in the model has significant effect on the stock return. Charitou and Constantinidis (2004) studied the Fama-French (FF) three-factor model by collecting data from the Japan stock market. The data covered period from the 1991 to 2001. They took of industrial firm. The findings of the study showed that the Fama-French (FF) three-factor model perform better as compared to the CAPM.

Maroney and Protopapadakis (2002) investigated the Fama-French (FF) three-factor model by taking data from the different market like Japan, Australia, France, Canada, Germany the UK and the US. The results of the study showed the SMB and value premium is significant in all markets. The stock returns are cross sectional. Fama and French (1998) checked the validity of the FF model in the different markets. The data covered a period from 1975 to 1995. The study results indicated that the value stock better than the other stock.

Drew and Veeraraghavan (2002) studied the Fama-French (FF) variable in Malaysia. They took data from the Malaysian stock exchange. The data covered a period from December 1992 to December 1999. The results of the study showed that the size premium has not significant impact on the stock return while value premium has significant impact on the stock return. Connor and Sehgal (2001) studied the Fama-French (FF) three-factor model by taking data from the Indian stock exchange. The data covered a period from June 1989 to March 1999. The results of the findings indicated that the Fama-French (FF) model is able to explain the stock return, which missed in the capital asset pricing model.

Ajili (2002) investigated the validity of CAPM and the Fama-French (FF) three-factor model in French stock exchange. They took data of 30 month and it include 274 stocks. The data covered a period from the 1976-2001. The findings of the study showed that the Fama-French (FF) model explain the stock returns better than the capital asset pricing model. Drew, Naughton and Veeraraghavan

(2003) compared the performance of the CAPM and Fama-French (FF) three-factor model. They took data from the Shanghai stock market. The results of the findings showed that the firms, which have high B/M have higher returns and vice versa.

Gaunt (2004) analyzed the Fama-French (FF) model in the Australian stock exchange. The data covered the period from the 1991 to 2000. The results showed that risk is greater for the smaller firms. Billou (2004) studied the Fama-French (FF) model by taking data for the period of 1993 to 2003. The results of the studied indicated that the Fama-French (FF) three factor model outer perform as compare to the capital asset pricing model.

Djajadikerta and Nartea (2005) examined the Fama-French (FF) three-factor model by taking data from the New-Zeland stock exchange. The finndings of the study indicated the value premium has weaker impact on the stock returns while the size of the firm has significant impact on the stock returns. The results also showed that the Fama-French (FF) model is more reliable as compare to the Capital asset pricing model. Lam (2005) investigated comparison between the Fama-French (FF) three-factor model and CAPM by taking data from the US stock exchange. The finding was consistent to the results of Djajadikerta and Nartea (2005).

Halliwell, Heaney, and Sawicki (1999) investigated the Fama-French (FF) three-factor model by taking data from the (ASE) Australian stock exchange. The data covered a period of eleven year from (1981 to 1991). The results of the study suggested that the variables have significant effect on the stock return. Fama-French (FF) (2001) investigated the Fama-French (FF) three factor findings clearly show that the size premium has negative significant impact on the stock returns.Durand, Limkriangkrai, and Smith (2006) examined the Fama-French (FF) model on the stock return by collecting data from the US stock exchange. The results showed that the size premium has significant impact on the stock return while the value premium has insignificant impact on the stock return.

Malin and Veeraraghavan (2004) studied the Fama-French (FF) three-factor model by taking data from the European countries like Germany, France and the United

Kingdom. They results was not significant for almost all variables. The size variable has significant impact in Germany and France and these are not significant in United Kingdom. Fama and French (2008) examined the impact of anomalies on the stock return. The anomalies are accruals and momentum. The results indicated that the accruals and momentum anomalies has significant impact on the stock return. They also studied the impact of asset growth and profitability on the returns. The results showed that both do not have a greater impact on the stock return.

Lopez (2014) studied the different asset-pricing model first in CAPM model, Fama-French (FF) three-factor model and Fama-French (FF) and Carhart model by taking data from the Dutch stock exchange. The data covered a period from 2004 to January 2014. The results of the findings showed that the value premium and momentum premium has greater impact on stock returns and showed that the Fama-French (FF) three-factor model and Fama-French and Carhart (FF and C) are more efficient than capital asset pricing model.

Milius (2012) studied the Fama-French (FF) three-factor model and Fama-French and Carhart (FF and C) model by collecting data from the Dutch stock exchange by taking data of the twenty years. The data covered a period from 1990-2010. He also study a cross sectional return. The results showed that the systematic risk is not present in the market. Cross sectional value premium exist. Size premium is also present in return. The results also showed that the momentum premium also affect the stock return.

Hypothesis

Momentum has positive significant affect on the stock return.

The size of an organization also affects the returns of an organization. The firms whose size are small have a greater risk so their returns are greater than the bigger firms because there is lower than smaller firms. Fama and French (2011) examined the impact of size, premium, value premium and momentum premium on stock return of the different countries returns by taking data from four regions (Europe, Japan, North America and Asia Pacific). They take data of twenty-two years from (1989-2011). They find the impact of all variables exist in all countries

except Japan. That phenomena explained in size anomaly, the organization whose size is greater has less returns as compared to those firms which has lower size this because the smaller firms has ability to get growth as compared to those firms which are large in size (Banz, 1981).

Banz (1981) studied the relationship between stock returns and the size of the firms by taking data from the NYSE stock exchange. He took data for period of 1926 to 1975. The results of the study indicated that the CAPM is not valid to determine the stock returns. He also indicate that the size has significant impact on the stock returns. Basu (1983) investigated the relationship between size, E/P and stock returns by taking data from the NYSE stock exchange. The results showed that the firms with lower E/P has lower returns and the firms with the higher E/P has higher returns.

Kothari et al. (1995) examined whether the beta and BE/ME explained the cross sectional variation in stock return by taking data of US stock market. They took data of SandP market. They found that the BE/ME is weakly related to average stock return. Agarwal and Poshakwale (2006) studied the relationship between size, high BE/ME and distress risk in UK (London stock exchange) by using the different type of the asset pricing model the CAPM and three factor model. The results showed that the size has weaker relationship with distress risk while the high BE/ME has no relationship with distress risk. The result also indicated that three-factor model is valid than CAPM.

Hassan and Javed (2011) investigated the relationship among size premium, value premium and stock returns by taking data of 250 stocks those who listed on the Karachi stock exchange. The results indicated that size premium had positive significant impact on stock return. Fama and French (1998) studied the relationship between size premiums, value premium by taking data of international countries. They took data from 1975-1995. The result showed that the value stock and size premium exist in most of the countries.

Chan et al. (1991) studied the relationship between the average stock return and size, BE/ME and risk premium by taking data from Japanese stock exchange. The results showed that BE/ME has positive relationship between the stock returns

and BE/ME. Connor and Sehgal (2001) investigate the stock returns by using the Fama-French (FF) model. The results of the study indicate that the SMB and BE/ME factor generate a consistent results.

Drew et al. (2005) studied the comparison between the Fama-French (FF) three-factor model and CAPM by collecting data from Indian stock exchange (shanghai stock exchange). The result of the study showed that size premium and BE/ME has consistent results with results of Fama and French (1996). Davidson and Dutia (1989) studied the relationship between abnormal stock returns on year and second year in order to check the momentum effect. The results indicated that the results are consistent between different year and show that the momentum affect exist in the market.

Grundy and Martin (2001) studied the application of the Fama-Feench and carhart (FF and C) four-factor model. The result of the study indicate that the strong momentum strategies which give the returns of 1.34 per cent monthly. They also studied the cross sectional return variability the results are contrary to previous like research (Grinblatt and Moskowitz, 1999). Hameed and Kusnadi (2002) and Ryan and Curtin (2006) studied the impact of size premium value premium, risk and momentum premium in Asian markets. The results indicated that the momentum is weak in stock returns.

Fama, French (1992) studied the relationship between E/P, size, leverage, book to market equity and stock returns by taking data from the US stock market. Data covered period from 1963-1990. The results of the study showed that stock earn positive returns during the study period. Arshanapalli, Coggin, Doukas (1998) determined the stock returns by using the Fama-French (FF) model by taking data from the 18 equity market and 10 European stock exchange. The data covered a period from the 1975 to 1995. The results indicated that the size and value premium is significant to determine the stock returns.

Al-Mwalla, and Karasneh (2011) investigated that the relationship among value premium, risk premium, size premium, with the stock returns by taking data from the AMMAN stock exchange. The results indicated that the SMB and book to market has significant impact on the stock returns. Moerman (2005) studied the

performance of the Fama-French (FF) model in Europe. They took data from the eleven European countries. The results suggested that the variables in the Fama-French (FF) model have significant positive effect on the stock returns of portfolio.

Miller and Modigliani (1961) studied the stock return by using five-factor model. The results showed that the portfolio with higher book to market has higher expected returns. The high expected earning has higher returns and low earning has lower expected returns. Fama and French (2015) studied the stock return by using the Fama-French (FF) model. The results indicated that the value factor and HML factor increase the returns. Liew and Vassalou (2000) investigated the relationship between variables that made based on the market capitalization, book to market ratio and future economic growth. The findings of the study showed the size and HML has significant impact on the future economic gowth. Vassalou (2003) founded the relationship between size, HML and future economic growth by adding growth factor as addition variable in the capital asset pricing model. The results showed that the size and HML has significant role to determine the stock returns.

Taha and El Giziry (2016) investigated the Fama and French five-factor model in Egyptian market. They took data from the 55 companies. The data covered a period from the 2005 to June 2013. They include a different factor in their model which are sales-to-price, earnings-to-price, liquidity, dividends-to-price and momentum. They used the time series OLS regression model. The findings of the study showed the variable in the model has significant effect on the stock return. Charitou and Constantinidis (2004) studied the Fama-French (FF) three-factor model by collecting data from the Japan stock market. The data covered period from the 1991 to 2001. They took of industrial firm. The findings of the study showed that the Fama-French (FF) three-factor model perform better as compared to the CAPM.

Maroney and Protopapadakis (2002) investigated the Fama-French (FF) three-factor model by taking data from the different market like Japan, Australia, France, Canada, Germany the UK and the US. The results of the study showed

the SMB and value premium is significant in all markets. The stock returns are cross sectional. Fama and French (1998) checked the validity of the FFmodel in the different markets. The data covered a period from 1975 to 1995. The study results indicated that the value stock better than the other stock.

Drew and Veeraraghavan (2002) studied the Fama-French (FF) variable in Malaysia. They took data from the Malaysian stock exchange. The data covered a period from December 1992 to December 1999. The results of the study showed that the size premium has not significant impact on the stock return while value premium has significant impact on the stock return. Connor and Sehgal (2001) studied the Fama-French (FF) three-factor model by taking data from the Indian stock exchange. The data covered a period from June 1989 to March 1999. The results of the findings indicated that the Fama-French (FF) model is able to explain the stock return, which missed in the capital asset pricing model.

Ajili (2002) investigated the validity of CAPM and the Fama-French (FF) three-factor model in French stock exchange. They took data of 30 month and it include 274 stocks. The data covered a period from the 1976-2001. The findings of the study showed that the Fama-French (FF) model explain the stock returns better than the capital asset pricing model. Drew, Naughton and Veeraraghavan (2003) compared the performance of the CAPM and Fama-French (FF) three-factor model. They took data from the Shanghai stock market. The results of the findings showed that the firms, which have high B/M have higher returns and vice versa.

Gaunt (2004) analyzed the Fama-French (FF) model in the Australian stock exchange. The data covered the period from the 1991 to 2000. The results showed that risk is greater for the smaller firms. Billou (2004) studied the Fama-French (FF) model by taking data for the period of 1993 to 2003. The results of the studied indicated that the Fama-French (FF) three factor model outer perform as compare to the capital asset pricing model.

Djajadikerta and Nartea (2005) examined the Fama-French (FF) three-factor model by taking data from the New-Zeland stock exchange. The finndings of the study indicated the value premium has weaker impact on the stock returns

while the size of the firm has significant impact on the stock returns. The results also showed that the Fama-French (FF) model is more reliable as compare to the Capital asset pricing model. Lam (2005) investigated comparison between the Fama-French (FF) three-factor model and CAPM by taking data from the US stock exchange. The finding was consistent to the results of Djajadikerta and Nartea (2005).

Halliwell, Heaney, and Sawicki (1999) investigated the Fama-French (FF) three-factor model by taking data from the (ASE) Australian stock exchange. The data covered a period of eleven year from (1981 to 1991). The results of the study suggested that the variables have significant effect on the stock return. Fama-French (FF) (2001) investigated the Fama-French (FF) three factor findings clearly show that the size premium has negative significant impact on the stock returns.Durand, Limkriangkrai, and Smith (2006) examined the Fama-French (FF) model on the stock return by collecting data from the US stock exchange. The results showed that the size premium has significant impact on the stock return while the value premium has insignificant impact on the stock return.

Malin and Veeraraghavan (2004) studied the Fama-French (FF) three-factor model by taking data from the European countries like Germany, France and the United Kingdom. They results was not significant for almost all variables. The size variable has significant impact in Germany and France and these are not significant in United Kingdom. Fama and French (2008) examined the impact of anomalies on the stock return. The anomalies are accruals and momentum. The results indicated that the accruals and momentum anomalies has significant impact on the stock return. They also studied the impact of asset growth and profitability on the returns. The results showed that both do not have a greater impact on the stock return.

Lopez (2014) studied the different asset-pricing model first in CAPM model, Fama-French (FF) three-factor model and Fama-French (FF) and Carhart model by taking data from the Dutch stock exchange. The data covered a period from 2004 to January 2014. The results of the findings showed that the value premium and momentum premium has greater impact on stock returns and showed that the

Fama-French (FF) three-factor model and Fama-French and Carhart (FFandC) are more efficient than capital asset pricing model.

Milius (2012) studied the Fama-French (FF) three-factor model and Fama-French and Carhart (FFandC) model by collecting data from the Dutch stock exchange by taking data of the twenty years. The data covered a period from 1990-2010. He also study a cross sectional return. The results showed that the systematic risk is not present in the market. Cross sectional value premium exist. Size premium is also present in return. The results also showed that the momentum premium also affect the stock return.

Hypothesis

Size premium has significant positive affect on the stock return.

Value premium is measured by using the formula high minus low means subtract the returns of the higher companies from the lower companies and in that one company arranged by using a proxy of book to market ratio. Value premium can be measured by using the book to market ratio. In that, companies are divided into portfolio based on their book to market ratio. The companies with higher book to market ratio has higher returns as comparable to those firms which has the low book to market ratio that called book to market anomaly. The company, which has a lower value of book to market ratio and the firms which has the higher book to market ratio has a higher return than those firms do (Fama, 1992).

Asness et al. (2009) studied the momentum and value premium by taking data from the different markets. The results suggested that the momentum provide the abnormal return. Cakici et al. (2013) analyzed the momentum and value premium in different emerging markets. The data covered a period from the January 1990 to December 2011. The results showed that the value effect present in all market while the momentum is present in all market except South Asia. Kothari et al. (1995) examined whether the beta and BE/ME explained the cross sectional variation in stock return by taking data of US stock market. They took data of SandP market. They found that the BE/ME is weakly related to average stock return. Agarwal and Poshakwale (2006) studied the relationship between size, high BE/ME and distress risk in UK (London stock exchange) by using the

different type of the asset pricing model the CAPM and three factor model. The results showed that the size has weaker relationship with distress risk while the high BE/ME has no relationship with distress risk. The result also indicated that three-factor model is valid than CAPM.

Hassan and Javed (2011) investigated the relationship among size premium, value premium and stock returns by taking data of 250 stocks those who listed on the Karachi stock exchange. The results indicated that size premium had positive significant impact on stock return. Fama and French (1998) studied the relationship between size premiums, value premium by taking data of international countries. They took data from 1975-1995. The result showed that the value stock and size premium exist in most of the countries.

Chan et al. (1991) studied the relationship between the average stock return and size, BE/ME and risk premium by taking data from Japanese stock exchange. The results showed that BE/ME has positive relationship between the stock returns and BE/ME. Connor and Sehgal (2001) investigate the stock returns by using the Fama-French (FF) model. The results of the study indicate that the SMB and BE/ME factor generate a consistent results.

Drew et al. (2005) studied the comparison between the Fama-French (FF) three-factor model and CAPM by collecting data from Indian stock exchange (shanghai stock exchange). The result of the study showed that size premium and BE/ME has consistent results with results of Fama and French (1996). Davidson and Dutia (1989) studied the relationship between abnormal stock returns on year and second year in order to check the momentum effect. The results indicated that the results are consistent between different year and show that the momentum affect exist in the market.

Grundy and Martin (2001) studied the application of the Fama-Feench and carhart (FF and C) four-factor model. The result of the study indicate that the strong momentum strategies which give the returns of 1.34 per cent monthly. They also studied the cross sectional return variability the results are contrary to previous like research (Grinblatt and Moskowitz, 1999).Hameed and Kusnadi (2002) and Ryan and Curtin (2006) studied the impact of size premium value premium, risk

and momentum premium in Asian markets. The results indicated that the momentum is weak in stock returns.

Fama, French (1992) studied the relationship between E/P, size, leverage, book to market equity and stock returns by taking data from the US stock market. Data covered period from 1963-1990. The results of the study showed that stock earn positive returns during the study period. Arshanapalli, Coggin, Doukas (1998) determined the stock returns by using the Fama-French (FF) model by taking data from the 18 equity market and 10 European stock exchange. The data covered a period from the 1975 to 1995. The results indicated that the size and value premium is significant to determine the stock returns.

Al-Mwalla, and Karasneh (2011) investigated that the relationship among value premium, risk premium, size premium, with the stock returns by taking data from the AMMAN stock exchange. The results indicated that the SMB and book to market has significant impact on the stock returns. Moerman (2005) studied the performance of the Fama-French (FF) model in Europe. They took data from the eleven European countries. The results suggested that the variables in the Fama-French (FF) model have significant positive effect on the stock returns of portfolio.

Miller and Modigliani (1961) studied the stock return by using five-factor model. The results showed that the portfolio with higher book to market has higher expected returns. The high expected earning has higher returns and low earning has lower expected returns. Fama and French (2015) studied the stock return by using the Fama-French (FF) model. The results indicated that the value factor and HML factor increase the returns. Liew and Vassalou (2000) investigated the relationship between variables that made based on the market capitalization, book to market ratio and future economic growth. The findings of the study showed the size and HML has significant impact on the future economic gowth. Vassalou (2003) founded the relationship between size, HML and future economic growth by adding growth factor as addition variable in the capital asset pricing model. The results showed that the size and HML has significant role to determine the stock returns.

Taha and El Giziry (2016) investigated the Fama and French five-factor model in Egyptian market. They took data from the 55 companies. The data covered a period from the 2005 to June 2013. They include a different factor in their model which are sales-to-price, earnings-to-price, liquidity, dividends-to-price and momentum. They used the time series OLS regression model. The findings of the study showed the variable in the model has significant effect on the stock return. Charitou and Constantinidis (2004) studied the Fama-French (FF) three-factor model by collecting data from the Japan stock market. The data covered period from the 1991 to 2001. They took of industrial firm. The findings of the study showed that the Fama-French (FF) three-factor model perform better as compared to the CAPM.

Maroney and Protopapadakis (2002) investigated the Fama-French (FF) three-factor model by taking data from the different market like Japan, Australia, France, Canada, Germany the UK and the US. The results of the study showed the SMB and value premium is significant in all markets. The stock returns are cross sectional. Fama and French (1998) checked the validity of the FFmodel in the different markets. The data covered a period from 1975 to 1995. The study results indicated that the value stock better than the other stock.

Drew and Veeraraghavan (2002) studied the Fama-French (FF) variable in Malaysia. They took data from the Malaysian stock exchange. The data covered a period from December 1992 to December 1999. The results of the study showed that the size premium has not significant impact on the stock return while value premium has significant impact on the stock return. Connor and Sehgal (2001) studied the Fama-French (FF) three-factor model by taking data from the Indian stock exchange. The data covered a period from June 1989 to March 1999. The results of the findings indicated that the Fama-French (FF) model is able to explain the stock return, which missed in the capital asset pricing model.

Ajili (2002) investigated the validity of CAPM and the Fama-French (FF) three-factor model in French stock exchange. They took data of 30 month and it include 274 stocks. The data covered a period from the 1976-2001. The findings of the

study showed that the Fama-French (FF) model explain the stock returns better than the capital asset pricing model. Drew, Naughton and Veeraraghavan (2003) compared the performance of the CAPM and Fama-French (FF) three-factor model. They took data from the Shanghai stock market. The results of the findings showed that the firms, which have high B/M have higher returns and vice versa.

Gaunt (2004) analyzed the Fama-French (FF) model in the Australian stock exchange. The data covered the period from the 1991 to 2000. The results showed that risk is greater for the smaller firms. Billou (2004) studied the Fama-French (FF) model by taking data for the period of 1993 to 2003. The results of the studied indicated that the Fama-French (FF) three factor model outer perform as compare to the capital asset pricing model.

Djajadikerta and Nartea (2005) examined the Fama-French (FF) three-factor model by taking data from the New-Zeland stock exchange. The finndings of the study indicated the value premium has weaker impact on the stock returns while the size of the firm has significant impact on the stock returns. The results also showed that the Fama-French (FF) model is more reliable as compare to the Capital asset pricing model. Lam (2005) investigated comparison between the Fama-French (FF) three-factor model and CAPM by taking data from the US stock exchange. The finding was consistent to the results of Djajadikerta and Nartea (2005).

Halliwell, Heaney, and Sawicki (1999) investigated the Fama-French (FF) three-factor model by taking data from the (ASE) Australian stock exchange. The data covered a period of eleven year from (1981 to 1991). The results of the study suggested that the variables have significant effect on the stock return. Fama-French (FF) (2001) investigated the Fama-French (FF) three factor findings clearly show that the size premium has negative significant impact on the stock returns.Durand, Limkriangkrai, and Smith (2006) examined the Fama-French (FF) model on the stock return by collecting data from the US stock exchange. The results showed that the size premium has significant impact on the stock return while the value premium has insignificant impact on the stock return.

Malin and Veeraraghavan (2004) studied the Fama-French (FF) three-factor model by taking data from the European countries like Germany, France and the United Kingdom. They results was not significant for almost all variables. The size variable has significant impact in Germany and France and these are not significant in United Kingdom. Fama and French (2008) examined the impact of anomalies on the stock return. The anomalies are accruals and momentum. The results indicated that the accruals and momentum anomalies has significant impact on the stock return. They also studied the impact of asset growth and profitability on the returns. The results showed that both do not have a greater impact on the stock return.

Lopez (2014) studied the different asset-pricing model first in CAPM model, Fama-French (FF) three-factor model and Fama-French (FF) and Carhart model by taking data from the Dutch stock exchange. The data covered a period from 2004 to January 2014. The results of the findings showed that the value premium and momentum premium has greater impact on stock returns and showed that the Fama-French (FF) three-factor model and Fama-French and Carhart (FFandC) are more efficient than capital asset pricing model.

Milius (2012) studied the Fama-French (FF) three-factor model and Fama-French and Carhart (FFandC) model by collecting data from the Dutch stock exchange by taking data of the twenty years. The data covered a period from 1990-2010. He also study a cross sectional return. The results showed that the systematic risk is not present in the market. Cross sectional value premium exist. Size premium is also present in return. The results also showed that the momentum premium also affect the stock return.

Hypothesis

Value premium do not have significant impact on stock return.

Oil is the one of the important resource, which affects the performance of every industry of the world. Oil is used in every industry and used as important raw material in almost in every industry. Oil price changes do not affect only one industry or firm it affects different firm and industries differently. Some industries

are directly affected by oil prices like oil and gas sector when oil prices change, then it directly affect the stock prices of the industries.

Mohanty et.al (2011) studied the relationship between equity return and crude oil prices in Gulf corporation council (GCC) countries using country level as well as industrial level data. The findings indicate that the stock market return is positive exposure to oil prices and oil prices have asymmetric effects of stock market return for both industrial level as well as country level. Kumar and Maheswaran (2013) analyzed the return, volatility and spillover effects from crude oil prices for different industrial sectors of India. He used BVGARCH model. The results indicate that oil prices have a significant impact on returns and volatility spillover.

Oil prices are one of the most important variable, which affect the economic growth of the country. Macroeconomic variables also affect stock prices and its returns some of these variables are as follows exchange rate, oil prices, money supply, etc. Saeed (2012) determined the impact of macroeconomic variables on stock return of nine sector, which listed on the KSE by using data from the period 2002-2010. These variables are money supply industrial production, exchange rate, short-term interest rate and oil prices. They used multiple factor models with APT. The results showed that it has significant impact on stock prices, but variation in return is very small.

Malik (2010) analyzed the impact of change in macro-economic condition and the rise in oil prices on output by taking data from 1979-80 Q1 to 2007-08. The findings showed that macro-economic variable and oil prices strongly related to output and the relation between variable is nonlinear. Sadorsky (2001) studied the impact of oil prices, interest rate and exchange rate on stock returns (oil and gas) sector of Canadian oil and gas industry using two-factor model. The results indicate that all these variables have a significant impact effect on the stock prices. The increase in oil prices cause to increase in stock prices while the increase in exchange rate cause to reduce in oil and gas stock returns. Kilian and Park (2007) studied the impact of crude oil price demand shocks and supply shock on the US stock returns. The results indicated that oil supply shock has no significant impact on stock prices while demand shock has significant impact on the returns.

Oil prices change does not affect only one sector or one industry in the world instead it affects the whole industries and all business sector though out the world but its effect different counties differently. In some countries, its impact is less than other counties and vice versa. Oil prices affect all sectors differently. Oil prices change has a significant impact on the change in stock prices (oil and gas) companies and it's directly related to the change.

Nadha and hammoudeh (2006) studied relationship between stock return and in the risk presence of oil price and exchange rate sensitivities for fifteen countries. They use the international factor models. The result indicates that thirteen countries out of fifteen countries beta showed the significant sensitivity to domestic returns. In terms of oil sensitivity, only two countries showed sensitivity to changes in oil prices. The studies indicate that oil prices affect stock returns. Mcsweeney and Worthinglon (2007) analyzed the role of crude oil prices as factor of excess return in the Australian market by taking data from nine industries for a period of twenty-six year from 1980-2006. The findings indicate that oil price is the important determinants of stock prices and its effect on stock prices is persistent.

Bouri (2015) studied the link between returns and oil prices by taking data on Lebanese stock market by using the GRACH methodology. He takes a weekly data from 30 January 1998 to 30 May 2014. He divides the data into three sub-periods. the pre-crisis period (02 February 1998e28 December 2007), the crisis period (02 January 2008-30 June 2009), and the post-crisis period (01 July 2009e30 May 2014). The results showed a weak unidirectional relationship between the oil prices and Lebanese stock returns.Sim and Zhou (2015) examined the relationship between the oil prices and US stocks returns by using quantile-on-quantile approach. The results indicate that the negative oil price shock can affect stock returns positively and while the positive oil shock has weak effect, which shows that the relationship between oil prices and stock return is asymmetric.

Oil prices affect almost every industry throughout the world and its impact is different for different countries. Some counties have full oil dependent economy and some are partially dependent, so oil prices change has a significant impact on that economy as compare to other countries. Kiani (2011) studied the impact of

high oil prices on Pakistan economy by taking data from period 1990-2008. He used the macroeconomic model. The results indicate that changes in oil prices have a negative impact on the output. The results also indicate that oil price change is significant impact on Pakistan economy. Li, Cheng and Yang (2016) studied the impact of oil price shocks on the China-listed stock. They divide the oil shock into four components (oil supply shocks, global demand shocks, domestic demand shocks and precautionary demand shocks) and its impact the Chinese stock. They take data of five years from 2009-2014. The results showed that precautionary demand shocks and oil supply shocks are the most significant and all industries in the oil chain get benefits from the oil prices increase.

Kristjanpoller and Concha (2016) analyzed the impact of change in fuel prices on the equity return of airline companies listed on the stock market. They take data of fifty-six airline and the results indicate the oil prices change has a significant impact on the stock prices on a daily basis. Gupta (2016) studied that impact of oil price shocks on the stock returns of the oil and gas companies by taking data of seventy countries through the world for a period of 1983-2014. He found that macroeconomic stress affects the firms' returns negatively, oil price shocks positively affect the returns, the firms located in competitive countries are less affect to oil price as compared to those firms which are located in non-competitive countries and firm located in high oil producing countries are more sensitive to oil price change and vice versa.Tsai (2016) studied the how US stock return responds to the oil price shocks prior, during and after the crisis the financial and does asymmetric effect exist or not by taking data of 682 firms. They take data of twenty-two years from 1990-2010. The results indicate that US stock performs positive during and after the crisis and also find that the firms respond differently to oil prices change.

Boubaker, Hamza and Garca(2016) investigate the relation between the financial distress and equity return of twelve portfolios, which are made on a different basis (size, book-to-market, and leverage) by using three factor asset pricing model by taking data of the 18 year period. The results capture additional risk missed by the market portfolio, the leveraged risk premium is positively related to high age

firms. The results also suggested that the equity portfolio investment requires systematically both size and value premiums and that SMB and HML.

Kang, Gracia and Ratti(2016) studied the effect of economic policy uncertainty and oil prices on stock returns (oil and gas) companies. They find that oil demand side shock has a positive impact on the return of the oil and gas companies and policy uncertainty has a negative effect on the returns and suggest that will diversify portfolio is achievable.

Hypothesis

Oil prices has significant affect on the stock return

Chapter 3

Data and Methodology

3.1   Population

The population include the all firms which are listed on the Pakistan stock exchange (PSX). It include all financial and non financial firms. The financial firms accounting year close in December while the non-financial firm accounting year close in July.

3.2   Sample

Sample include the eighty firms which are listed on the Pakistan stock exchange from all sectors. The all non-financial firms are selected on the basis of the market capitalization and trading activity.

3.3   Data collection

This study uses the daily closing value of stock prices of the eighty non-financial firms listed on the Pakistan stock exchange for the period of the 2006-2015.

1. The data for stock prices is collected from Pakistan stock exchange.

2. KSE 100 index data is also collected from the PSX.

3. The monthly T-bill data collected from the state bank of Pakistan and then convert into daily T-bill rate.

4. The data of brent crude oil prices take from official website of OGRA.

3.4 Measurements of Variables

The variables of study are size premium, market premium, value premium, momentum premium calculated as under

3.4.1 Dependent Variable

Dependent variable is stock returns, which measure of by using that formula

$$\text{Stock return} = \left(\frac{P_n}{P_0} - 1 \right) \tag{3.1}$$

P_n is current stock price

P_0 is previous stock prices

3.4.2 Independent Variable

In literature the size is measured through market capitalization. Size is measured by using formula Market capitalization = No. of share $\times$ Mps

Book to market ratio is needed for sorting the value premium. The book to market ratios are calculated as under BMR

$$= \frac{Total Equity}{Market Capitalization} \tag{3.2}$$

Risk premium is calculated by the formula Risk premium = R_m - R_f

Momentum measured High momentum - low momentum portfolio

Brent crude oil price the log change in oil prices is decomposed into positive and negative change

3.5 Methodology

In that study we use the four factor model of Fama-French (FF) and carhart and also take oil prices as additional variable. The oil prices are decompose in to oil prices increase and decrease We used as OLS model.

$$R_{it} - R_{ft} = \alpha_0 + \beta_{im}(R_{mt} - R_{ft}) + \beta_1 SMB_t + \beta_2 HML_t + \beta_3 Mom_t + \sum_{j=0}^{5} \beta_{ioilj}$$

$$+ R_t OILPRICE_{t-j} + \sum_{j=0}^{5} \beta_{ioilj} - R_t OILPRICE_{t-j} + \varepsilon_{it}$$

$$(3.3)$$

where $R_{it} - R - ft$ is the difference between individual stock return and T-bill rate.

1. R_{it} is daily stock return of the firm. R_f is risk free rate (PK Treasury bill rate adjusted to a daily rate).

2. α_0 is the constant in the equation.

3. $R_{mt} - R_{ft}$ is difference between market returns of (KSE 100 index) and risk free rate (T-bill rate) also called risk premium).

4. β_{im} is market expected daily returns.

5. SMB is the difference between Small minus Big companies portfolios which are made on the basis of the market capitalization.

Mom_t is the momentum factor High momentum - low momentum portfolio

1. HML is the difference between high companies portfolio return and low companies stock return which are made on the basis of the book to market ratios.

2. Oil prices are divided into two lags oil prices increase and oil prices decrease. ε_{it} and is the error term in an equation.

3.6 Portfolio Construction

3.6.1 Size Sorted Portfolio

For size sorted portfolios we have market capitalization of the eighty firms

Arrange the market capitalization from small to big

Upper 40 is kept in portfolio and name as S and 40 low kept is separate portfolios named as B.

Get average of all small firms and also get average of the all B firms

B = $\sum R_i/n$ Where R_i = return of big companies

S = $\sum R_i/n$ Where R_i = return of small companies

3.6.2 Value Sorted Portfolio

The samples of the small 40 companies are further sorted on the basis of the book to market ratio. The companies are arranged on the basis of the book to market ratio from low to big. The companies which have low book to market ratio are treated as SL and those have high book to market are named as SH. The average return of the S/L and S/H are calculated.

Like take the sample of big 40 companies and then further sorted on the basis of the b/m ratio the 20 companies with high book to market ratio are named as BH and 20 companies which have low book to market ratio are named as BL. Average returns for both portfolios are calculated.

3.6.3 Momentum Sorted Portfolio

The sample of big 20 big high companies sorted on the book to market ratio are further sort on the basis of the average returns of the firm. The 10 big firmed

named as BHU and 10 are BHD. Likewise the twenty BL are further divided into BLU and BLD. The average of all portfolios are calculated.

The sample of 20 SH and SL which made on basis of book to market ratio are further sorted on the basis of average returns. The SL is further divide into SLU and SLD. Like that the SH is further divided into SHU and SHD. The average returns of the all portfolios are calculated.

The above stated method is repeated for 2006-2015. It is worth mentioning that sorting is done on June 30 each year.

3.7 Variable Construction

The average returns for the all portfolios are such as S, B, SL, SH, BL, BH, SLU, SLD, SHU, SHD, BLU, BLD, BHU, BHD are calculated. The averages are used to construct the portfolios.

Market Premium

MKT = (R_m - R_f)

Size Premium

(SMB) = Small Size Companies - Big Size Companies

$$= \frac{1}{4}\{(SHU-BHU)+(SHD-BHD)+(SLU-BLU)+(SLD-BLD)\} \quad (3.4)$$

Value Premiums (HML)

= High Book to Market - Low Book to Market

$$= \frac{1}{4}\{(SHU-SLU)+(SHD-SLD)+(BHU-BLU)+(BHD-BLD)\} \quad (3.5)$$

Momentum Premium

High momentum - Low Momentum Portfolio

$$= \frac{1}{4}\{(SHU+BHU)-(SHD+BHD)-(SHU+BLU)-(SLD+BLD)\} \quad (3.6)$$

Chapter 4

Results and Discussion

TABLE 4.1: Descriptive statics.

Portfolio Name	Mean	Maximum	Minimum	Std. Dev.
S	-0.02725	0.039949	-0.06956	0.012064
B	-0.02718	0.030753	-0.06983	0.013145
S/L	-0.02702	0.041813	-0.06462	0.01191
S/H	-0.0274	0.019573	-0.06961	0.013497
B/L	-0.02684	0.021847	-0.06898	0.012766
B/H	-0.02706	0.056247	-0.06957	0.014763
SLU	-0.02549	0.027007	-0.06699	0.014527
SLD	-0.02787	0.047426	-0.06955	0.013202
SHU	-0.02641	0.068238	-0.06837	0.014303
SHD	-0.02764	0.039214	-0.06915	0.014877
BLU	-0.02616	0.062038	-0.06961	0.015315
BLD	-0.02723	0.026136	-0.06959	0.013028
BHU	-0.02586	0.068711	-0.06999	0.017597
BHD	-0.02797	0.05361	-0.06967	0.015699

Table 1 show the summary of descriptive statics, no of observations, standard deviation, mean, minimum and maximum value of the daily return of the all companies listed on stock exchange.

TABLE 4.2: The impact of market premium, size premium, value premium, momentum premium and oil prices on stock returns of portfolios.

Coefficient	S	B	SL	SH	BL	BH
Intercept	-0.01545	0.062212	-0.06434	-0.01034	-0.01711	-0.01965
P-value	0.000	0.000	0.2685	0.000	0.000	0.000
Market	0.392834	0.036379	0.09324	0.328542	0.19458	0.227363
P-value	0.000	0.000	0.924	0.000	0. 000	0.000
SMB	1.062212	0.006352	-0.05002	0.004523	-0.00043	-0.00433
P-value	0.000	0.000	0.389	0.0184	0.8697	0.0026
HML	0.006352	0.392834	-0.73507	0.171523	0.071984	0.033537
P-value	0.8874	0.8874	0.5164	0. 000	0.1573	0.599
MOM	0.036379	-0.002564	-0.06435	-0.01917	-0.00109	-0.13813
P-value	0.1359	0.1359	0.9168	0.3462	0.9686	0.0001
OLP	3.02E-06	3.02E-06	0.000616	-8.66E-05	-3.88E-05	-3.30E-06
P-value	0.9024	0.9024	0.3225	0. 000	0.1654	0.9251

Coefficient	SLU	SLD	SHU	SHD	BLU	BLD	BHU	BHD
Intercept	-0.00768	-0.01147	-0.01105	-0.01119	0.01838	-0.01278	-0.01027	-0.01306
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Market	0.334158	0.313623	0.320597	0.303238	0.326562	0.382678	0.382678	0.29856
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SMB	-0.0003	0.001345	0.000275	-0.00078	0.015787	0.009752	0.009752	-0.00192
P-value	0.7863	0.1554	0.8215	0.5084	0.000	0.000	0.0034	0.0874
HML	0.029114	-0.2643	0.025894	0.886442	0.030049	0.791407	0.791407	0.514306
P-value	0.000	0.000	0.2767	0.000	0.5872	0.000	0.000	0.000
MOM	-0.04976	-0.06838	0.062721	-0.08861	-0.61708	2.924788	2.924788	-0.0742
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OLP	-0.0001	-9.17E-05	-8.11E-05	-9.08E-05	2.18E-05	-3.48E-05	-3.48E-05	-7.96E-05
P-value	0.000	0. 000	0.000	0.000	0.474	0.000	0.329	0.000

The results of the multiple regressions indicate that risk effect is significant in most portfolios of, which show the risk premium is significant effect on stock returns of the firms which are listed on the PSX. It clearly shows that the securities or stock which has higher risk give higher returns and vice versa. The size coefficient of the some small portfolios is positive and the sign is negative for some big size portfolios.

The results indicate that the size effect does not exist in the market. In size effect the smaller firms have greater returns than the larger firms. The returns will be greater because the smaller firms have the lager ability to get growth than smaller firms. The firms with higher b/m ratio have higher returns as compare those firms with lower book to market ratio.. Here the results of the regression show that the coefficient for HML is negative for almost all portfolios, which indicate the value premium is insignificant for the portfolios. The value premium does not exist in Pakistani market. Momentum factor is significant in most of the portfolio, which clearly indicate that the momentum exist in Pakistani stock.

TABLE 4.3: The impact of market premium, size premium, value premium, momentum premium and oil prices increase on stock returns of portfolios.

Coefficient	S	B	SL	SH	BL	BH
Intercept	-0.01618	-0.01618	-0.06333	-0.01066	-0.01769	-0.02047
P-value	0.3723	0.6996	0.3527	0.5787	0.2454	0.3749
Market	0.391141	0.391141	0.095345	0.327685	0.193251	0.225419
P-value	0.5125	0.0937	0.3417	0.0233	0.3102	0.3539
SMB	1.062224	0.062224	-0.05004	0.004527	-0.00042	-0.00432
P-value	0.07	0.000	0.3513	0.1975	0.1783	0.02
HML	0.006144	0.006144	-0.73502	0.171316	0.071825	0.03326
P-value	0.4712	0.255	0.6541	0.106	0.0001	0.009
Mom	0.03648	0.03648	-0.06447	-0.01912	-0.00101	-0.13802
p-value	0.9937	0.09	0.9975	0.1659	0.000	0.0001
OLP	8.30E-06	8.30E-06	0.000609	-8.43E-05	-3.47E-05	2.63E-06
P-value	0.2991	0.3358	0.3511	0.469	0.1812	0.3138
DI	0.002165	0.002165	-0.00308	0.000908	0.001708	0.002417
P-value	0.4488	0.485	0.3883	0.6586	0.1681	0.1681

Coefficient	SLU	SLD	SHU	SHD	BLU	BLD	BHU	BHD
Intercept	-0.0079	-0.01218	-0.01195	-0.01154	-0.0194	-0.01311	-0.01168	-0.01375
P-value	0.000	0.08	0.1806	0.3967	0.2036	0.4873	0.81558	0.8191
Market	0.333739	0.311968	0.318421	0.302383	0.324304	0.287358	0.379343	-0.00191
P-value	0.0102	0.08	0.1413	0.8369	0.4918	0.9142	0.1431	0.0574
SMB	-0.0003	0.001356	0.000289	-0.00078	0.015803	-0.00404	0.009774	0.296943
P-value	0.6258	0.6946	0.509	0.0572	0.3211	0.209	0.1679	0.000
HML	0.029146	-0.26452	0.025563	0.886286	0.029889	-0.33512	0.790928	0.514076
P-value	0.0643	0.1493	0.001	0.000	0.4763	0.155	0.000	0.4356
Mom	-0.04974	-0.06828	0.062851	-0.08856	-0.61695	-0.09439	2.924987	-0.07411
p-value	0.002	0.0032	0.049	0.000	0.0599	0.0012	0.000	0.000
OLP	-0.0001	-8.66E-05	-7.45E-05	-8.83E-05	2.93E-05	-7.64E-05	-2.47E-05	-7.47E-05
P-value	0.037	0.1931	0.857	0.7894	0.08	0.7998	0.3178	0.8726
DI	0.00069	0.002078	0.002665	0.000999	0.003108	0.000934	0.00414	0.002012
P-value	0.8331	0.1443	0.01	0.9475	0.002	0.8956	0.1693	0.4

Here oil prices increase used as dummy variable. The multiple regressions results in oil price increase indicate that market premium is significant in most portfolios of, which show the risk premium is significant effect on stock returns of the firms which are listed on the PSX. It clearly shows that the securities or stock which has higher risk give higher returns and vice versa. The size coefficient of the some small portfolios is positive and the sign is negative for some big size portfolios. The results indicate that the size effect does not exist in the market. In size effect the smaller firms have greater returns than the larger firms. The returns will be greater because the smaller firms have the lager ability to get growth than smaller firms. The firms with higher b/m ratio have higher returns as compare those firms with lower book to market ratio. This is because the smaller firm has potential to get growth. Here the results of the regression show that the coefficient for HML is negative for almost all portfolios, which indicate the value premium is insignificant for the portfolios. The value premium does not exist in Pakistani market. Momentum factor is significant in most of the portfolio, which clearly indicate that the momentum exist in Pakistani stock. The results for oil prices increase is insignificant for the all almost portfolio which indicate that oil prices increase has insignificant impact on the stock returns.

TABLE 4.4: The impact of market premium, size premium, value premium, momentum premium and oil prices decrease on stock returns of portfolios.

Coefficients	S	B	SL	SH	BL	BH
Intercept	-2.71E-02	-2.71E-02	-0.084345	-0.021317	-3.05E-02	-3.38E-02
P-value	0.000	0.000	0.217	0.000	0.000	0.000
Market	0.270159	0.270159	-0.118275	0.212517	0.053257	0.078201
P-value	0.000	0.000	0.9102	0.000	0.2519	0.1812
SMB	1.062186	0.062186	-0.050069	0.004498	-0.000458	-0.004363
P-value	0.000	0.000	0.3886	0.0171	0.8586	0.1778
HML	-3.07E-05	-3.07E-05	-0.746075	0.165486	0.064631	0.025776
P-value	0.9994	0.9994	0.5103	0.000	0.198	0.6833
MOM	0.035522	0.035522	-0.065824	-0.019981	-0.002077	-0.139176
P-value	0.14	0.14	0.9149	0.3178	0.939	0.0001
OLP	7.65E-05	7.65E-05	0.000743	-1.72E-05	4.58E-05	8.60E-05
P-value	0.0032	0.0032	0.2625	0.4258	0.1191	0.02
DD	0.018157	0.018157	0.031307	1.72E-02	0.020917	0.022078
P-value	0.000	0.000	0.577	0.000	0.000	0.000

Coefficients	SLU	SLD	SHU	SHD	BLU	BLD	BHU	BHD
Intercept	-0.020009	-0.022521	-0.022608	-0.021315	-3.09E-02	-2.42E-02	-0.024639	-2.54E-02
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Market	0.20385	0.196826	0.198373	0.196221	0.194349	0.167511	0.230794	0.168117
P-value	0.000	0.000	0.000	0.000	0.0001	0.000	0.0001	0.000
SMB	-0.000332	0.00132	0.000249	-0.000804	0.015759	-0.00407	0.00972	-0.001946
P-value	0.7513	0.132	0.8301	0.4785	0.000	0.000	0.0032	0.0634
HML	0.022334	-0.270376	0.019534	0.880874	0.02317	-0.341232	0.783504	0.507518
P-value	0.2742	0.000	0.3886	0.000	0.6725	0.000	0.000	0.000
MOM	-0.050674	-0.069191	0.061867	-0.08936	-0.618008	-0.095283	2.92E+00	-0.075114
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OLP	-2.36E-05	-2.17E-05	-7.88E-06	-2.67E-05	0.000101	-6.47E-06	5.61E-05	-1.49E-06
P-value	0.0482	0.0298	0.5523	0.039	0.0016	0.5325	0.1359	0.9008
DD	0.019287	0.017287	0.01809	1.58E-02	0.019569	0.01786	0.022481	0.019307
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

The multiple regressions results for oil prices decrease shows that market premium is significant in most portfolios of, which show the risk premium is significant effect on stock returns of the firms which are listed on the PSX. It clearly shows that the

securities or stock which has higher risk give higher returns and vice versa. The size coefficient of the some small portfolios is positive and the sign is negative for some big size portfolios. The results indicate that the size effect does not exist in the market. In size effect the smaller firms have greater returns than the larger firms. The returns will be greater because the smaller firms have the lager ability to get growth than smaller firms. The firms with higher b/m ratio have higher returns as compare those firms with lower book to market ratio. This is because the smaller firm has potential to get growth. Here the results of the regression show that the coefficient for HML is negative for almost all portfolios, which indicate the value premium is insignificant for the portfolios. The value premium does not exist in Pakistani market. Momentum factor is significant in most of the portfolio, which clearly indicate that the momentum exist in Pakistani stock. The regression results for oil prices decrease shows that the oil prices decrease has significant impact on the stock returns of all portfolios.

Chapter 5

Conclusion and Recommendations

5.1   Conclusion

The finding shows that the oil price shock has significant impact on stock returns, which listed on PSX.The oil prices increase has significant impact on stock return as compare to the oil prices decrease. Secondly, the market factor is significant; it's mean that systematic risk determine the excess returns of the stock. As the systematic risk increase, the return also increases and vice versa. Thirdly, the strategy made on the basis of the book to market and average returns are not useful for the investor of Pakistan. Fourthly, make portfolio based on book to market ratio where sells the stock of the bigger firms and purchase stock of smaller firms is not best strategy for the investor of Pakistan. At last, the oil price has significant impact on the stock returns while the oil prices increase during the financial crisis has less and insignificant impact on stock returns as compare to the oil prices decrease during the period of 2014 and 2015.

The oil prices have a significant impact on the stock returns and there is lot of studied on that one because oil is very important for all economies. This study analyzed the impact of oil price shock and company specific variables on the stock returns listed on PSX. The oil prices are divided into the oil prices increase and oil

prices decrease. The results indicate that the beta is significant for all portfolios, which indicate that the risk premium has significant impact on all portfolios, which made for PSX companies. This is consistent with Gaunt (2004).

The results also confirm that size effect does not exist in the PSX. The smaller firms have higher returns than the highest market capitalization firm this happened because the smaller firms have capabilities to grow more than the higher firms do.

The results also indicate that the value premium does not exist for the firms listed on PSX listed companies. Fama and French (2011) examined the impact of value premium, size premium and momentum premium on stock return of the different countries returns by taking data from four regions (Europe, Japan, North America, and Asia Pacific). They take data of twenty-two years from (1989-2011). They find the impact of all variables exist in all countries except Japan. The portfolio makes portfolio based on book to market ratio where sells the stock of the bigger firms and purchase stock of smaller firms is the best strategy for the investor of Pakistan. The strategy made on the basis of the book to market and average returns are not useful for the investor of Pakistan. I believe that strategy that investors made based on that study will be useful for him. The results also showed that a strong momentum affect exist in the Pakistani stock exchange.

Asness et al. (2009) studied the momentum and value premium by taking data from the different markets. The results suggested that the momentum provide the abnormal return. Cakici et al. (2013) analyzed the momentum and value premium in different emerging markets. The results showed that the value effect present in all market while the momentum is present in all market except South Asia.

The results also confirm oil price increase and decrease also affect the stock returns. Pakistan stock exchange means that the oil prices increase and decrease don not have same impact on stock return. The results are supported the study of sunasi and Ahmad (2016) the oil price increase and decrease has different effect on returns.

5.2   Recommendations

On the basis of study following recommendation should be made:

1. The investor should devise their investment strategies on the basis of results of the study.

2. The investor earned excess return by holding their those stock which give excess returns in past because the momentum affect exist in the PSX.

3. The evaluation of cost of capital is very important for the firm. Evaluation of the cost of equity through CAPM could not provide good quality results so the companies has to use a different models.

4. The strategy which investor made on the basis of the b/m ratio could not provide a good results because the value affect is not exist in PSX.

5.3   Future Research Direction

Existing studies of Fama-French and Carhart with oil exposure are conducted in the big and develop countries. The model is conduct is emerging country like Pakistan. The study may also tested in different less developed countries to ensure the reliability of the research.

Bibliography

Agarwal, V., and Poshakwale, S. (2006). Does Distress Risk Explain Size and Book-to-Market Effects. Working Paper, Cranfield University School of Management, various pages.

Aharoni, G., Grundy, B., andZeng, Q. (2013). Stock returns and the Miller Modigliani valuation formula. Revisiting the Fama French analysis. Journal of Financial Economics, 110(2), 347-357.

Al-Mwalla, M., andKarasneh, M. (2011). Fama and French three factor model. Evidence from emerging market. European Journal of Economics, Finance and Administrative Sciences, 41, 132-140.

Akomolafe, K. J., and Jonathan, D. D. (2014). Oil Price Dynamics and the Nigerian Stock Market. An Industry Level Analysis. International Journal, 3(6).

Asness, C., Frazzini, A., Israel, R., and Moskowitz, T. (2014).Fact, fiction, and momentum investing. The Journal of Portfolio Management, 40(5), 75-92.

Ansar, I., andAsaghar, M. N. (2013). The impact of oil prices on stock exchange and CPI in Pakistan. IOSR Journal of Business and Management (IOSR-JBM). E-ISSN, 32-36.

Aretz, K., Bartram, S. M., and Pope, P. F. (2010). Macroeconomic risks and characteristic-based factor models. Journal of Banking and Finance, 34(6), 1383-1399.

Arshanapalli, B. G., Coggin, T. D., and Doukas, J. (1998). Multifactor asset pricing analysis of international value investment strategies. The Journal of Portfolio Management, 24(4), 10-23.

Banz, R. W. (1981). The relationship between return and market value of common stocks. Journal of Financial Economics, 9(1), 3-18.

Basu, S. (1983). The relationship between earnings' yield, market value and return for NYSE common stocks. Further evidence. Journal of financial economics, 12(1), 129-156.

Bhandari, L. C. (1988). Debt/equity ratio and expected common stock returns. Empirical evidence. The Journal of Finance, 43(2), 507-528.

Billou, N. (2004). Tests of the CAPM and FAMA and French Three-Factor Model (Doctoral dissertation, Bus Admin-GAWM-Simon Fraser University).

Boubaker, S., Hamza, T., and Vidal-García, J. (2016). Financial distress and equity returns. A leverage-augmented three-factor model. Research in International Business and Finance.

Bouri, E. (2015). A broadened causality in variance approach to assess the risk dynamics between crude oil prices and the Jordanian stock market. Energy Policy, 85, 271-279.

Bouri, E. (2015). Return and volatility linkages between oil prices and the Lebanese stock market in crisis periods. Energy, 89, 365-371.

Cakici, N., Fabozzi, F. J., and Tan, S. (2013). Size, value, and momentum in emerging market stock returns. Emerging Markets Review, 16, 46-65.

Chan, L. K., Hamao, Y., andLakonishok, J. (1991). Fundamentals and stock returns in Japan. The Journal of Finance, 46(5), 1739-1764.

Charitou, A., and Constantinidis, E. (2004, February). Size and Book-to-Market Factors in Earnings and Stock Returns. Empirical Evidence for Japan. In Illinois International Accounting Summer Conferences Working Paper.

Chordia, T., andShivakumar, L. (2002). Momentum, business cycle, and time-varying expected returns. The Journal of Finance, 57(2), 985-1019.

Chui, A. C., Titman, S., and Wei, K. J. (2010). Individualism and momentum around the world. The Journal of Finance, 65(1), 361-392.

Chiek, A. N., and Akpan, M. N. (2016). Determinants of stock prices during dividend announcements. an evaluation of firms' variable effects in Nigeria's oil and gas sector. OPEC Energy Review, 40(1), 69-90.

Conrad, J., and Kaul, G. (1998).An anatomy of trading strategies. Review of Financial Studies, 11(3), 489-519.

Connor, G., and Sehgal, S. (2001). Tests of the Fama and French model in India.

Diaz, E. M., and de Gracía, F. P. (2017). Oil price shocks and stock returns of oil and gas corporations. Finance Research Letters, 20, 75-80.

Davidson, W. N., and Dutia, D. (1989). A note on the behavior of security returns. a test of stock market overreaction and efficiency. Journal of Financial Research, 12(3), 245-252.

Djajadikerta, H., and Nartea, G. (2005). The Size and Book-to-Market Effects and the Fama-French Three-Factor Model in Small Markets. Preliminary Findings from New Zealand (No. 2005-10).

Dellinger, A. M., Sehgal, M., Sleet, D. A., and Barrett-Connor, E. (2001). Driving cessation. What older former drivers tell us. Journal of the American Geriatrics Society, 49(4), 431-435.

Drew, M. E., Naughton, T., and Veeraragavan, M. (2005).Pricing of Equities in China. Evidence from the Shanghai Stock Exchange. Managerial Finance, 31(12), 46-57.

Drew, M. E., and Veeraraghavan, M. (2002). A closer look at the size and value premium in emerging markets. Evidence from the Kuala Lumpur Stock Exchange. Asian Economic Journal, 16(4), 337-351.

Drew, M. E., Naughton, T., and Veeraraghavan, M. (2004). Is idiosyncratic volatility priced?. Evidence from the Shanghai Stock Exchange. International Review of Financial Analysis, 13(3), 349-366.

Docherty, P., and Hurst, G. (2016). Return dispersion and conditional momentum returns. International evidence. Pacific-Basin Finance Journal.

Durand, R. B., Limkriangkrai, M., and Smith, G. (2006).In America's thrall. the effects of the US market and US security characteristics on Australian stock returns. Accounting and Finance, 46(4), 577-604.

El Abd, R. A. E. M. (2017). Determinants of stock returns. Evidence from Egypt.

Faff, R. (2004). A simple test of the Fama and French model using daily data. Australian evidence. Applied Financial Economics, 14(2), 83-92

Faff, R. (2001). An examination of the Fama and French three-factor model using commercially available factors. Australian Journal of Management, 26(1), 1-17.

Fama, E. F., and MacBeth, J. D. (1973). Risk, return, and equilibrium. Empirical tests. Journal of Political Economy, 81(3), 607-636.

Fama, E. F., and French, K. R. (2008). Dissecting anomalies. The Journal of Finance, 63(4), 1653.

Fama, E. F., and French, K. R. (1992). The cross-section of expected stock returns. The Journal of Finance, 47(2), 427-465.

Fama, E. and French, K., (1996), Multifactor Explanations of Asset Pricing Anomalies. Journal of Finance, Vol. 51, No. 1, 55-84.

Fama, E. F., and French, K. R. (2015). Incremental variables and the investment opportunity set. Journal of Financial Economics, 117(3), 470-488.

Fama, E. F., and French, K. R. (1995). Size and book-to-market factors in earnings and returns. The Journal of Finance, 50(1), 131-155.

Fama, E. F., and French, K. R. (1998). Value versus growth. The international evidence. The Journal of Finance, 53(6), 1975-1999.

Fama, E. F., and French, K. R. (2012). Size, value, and momentum in different countries returns. Journal of Financial Economics, 105(3), 457-472.

Fama, E. F., and French, K. R. (2011). Capital structure choices.

Fukuta, Y., and Yamane, A. (2015). Value premium and implied equity duration in the Japanese stock market. Journal of International Financial Markets, Institutions and Money, 39, 102-121.

Gaunt, C. (2004). Size and book to market effects and the Fama French three-factor asset-pricing model. evidence from the Australian stock market. Accounting and Finance, 44(1), 27-44.

Gharghori, P., Chan, H., and Faff, R. (2007). Are the Fama-French factors proxying default risk? Australian Journal of Management, 32(2), 223-249.

Grinblatt, M., and Moskowitz, T. J. (2004).Predicting stock price movements from past returns. The role of consis10cy and tax-loss selling. Journal of Financial Economics, 71(3), 541-579.

Grundy, B.D. and Martin, J.S. (2001). Understanding the nature of the risks and the source of the rewards to momentum investing. Review of Financial Studies, 14(1), 29-78.

Gupta, K. (2016). Oil price shocks, competition, and oil and gas stock returns-Global evidence. Energy Economics, 57, 140-153.

Gupta, R., and Wohar, M. (2017). Forecasting oil and stock returns with a Qual VAR using over 150years oFama-French (FF)data. Energy Economics.

Halliwell, J., Heaney, R., and Sawicki, J. (1999). Size and book to market effects in Australian.

Hameed, A. and Kusnadi, Y. (2002). Momentum strategies. Evidence from Pacific Basin stock markets. Journal of Financial Research, 25(3), 383-397

Hanif M, Bhatti U (2010). Validity of Capital Assets Pricing Model. Evidence from KSE Pakistan.

Hearn, B. (2010). Time varying size and liquidity effects in South Asian equity markets. A study of blue-chip industry stocks. International Review of Financial Analysis, 19(4), 242-257.

Hassan, S. A., and Zaman, K. (2012). RETRACTED. Effect of oil prices on trade balance. New insights into the co-integration relationship from Pakistan. Economic Modelling, 29(6), 2125-2143.

Hassan, A. and Javed, T.(2011), Size and value premium in Pakistani equity market, African Journal of Business Management, No. 16, 6747-6755.

Humphery-Jenner, M., and Powell, R. (2014). Firm size, sovereign governance, and value creation. Evidence from the acquirer size effect. Journal of Corporate Finance, 26, 57-77.

Hussin, M., Yahya, M., Muhammad, F., Noordin, K., Marwan, N. F., and Abdul Razak, A. (2012). The Impact Of Oil Price Shocks On Islamic Financial Market In Malaysia. Labuan e-Journal of Muamalat and Society, 6, 1-13.

Hussin, M. Y. M., Muhammad, F., Hussin, M. A., and Razak, A. A. (2012).The relationship between oil price, exchange rate and Islamic stock market in Malaysia. Research Journal of Finance and Accounting, 3(5), 83-92.

Jegadeesh, N., and Titman, S. (1993). Returns to buying winners and selling losers. Implications for stock market efficiency. The Journal of Finance, 48(1), 65-91.

Javid, A., and Ahmad, E. (2009). Test of Higher Moment of Capital Asset Pricing Model in Case of Pakistani Equity Market.European Journal of Economics, Finance and Administrative Studies, Issue 15. various pages.

Kang, W., de Gracia, F. P., and Ratti, R. A. (2017). Oil price shocks, policy uncertainty, and stock returns of oil and gas corporations. Journal of International Money and Finance, 70, 344-359.

Karolyi, G. A., and Kho, B. C. (2004). Momentum strategies. Some bootstrap tests. Journal of Empirical Finance, 11(4), 509-536.

Kiani, A. (2011). Impact of high oil prices on Pakistan's economic growth. International Journal of Business and Social Science, 2(17).

Kothari, S. P., Shanken, J., and Sloan, R. G. (1995). Another look at the cross-section of expected stock returns. The Journal of Finance, 50(1), 185-224.

Kilian, L., and Park, C. (2009). The impact of oil price shocks on the US stock market. International Economic Review, 50(4), 1267-1287.

Kristjanpoller, W. D., and Concha, D. (2016).Impact of fuel price fluctuations on airline stock returns. Applied Energy, 178, 496-504.

Kumar, D., and Maheswaran, S. (2013). Evidence of long memory in the Indian stock market. Asia-Pacific Journal of Management Research and Innovation, 9(1), 9-21.

Kumar, D., and Maheswaran, S. (2013). Correlation transmission between crude oil and Indian markets. South Asian Journal of Global Business Research, 2(2), 211-229.

Liew, J., and Vassalou, M. (2000). Can book-to-market, size and momentum be risk factors that predict economic growth?. Journal of Financial Economics, 57(2), 221-245.

Li, T. (2016). Intra-industry momentum and product market competition around the world. Review of Development Finance, 6(1), 16-25.

Li, Q., Cheng, K., and Yang, X. (2017). Response pattern of stock returns to international oil price shocks. From the perspective of China's oil industrial chain. Applied Energy, 185, 1821-1831.

Lin, C., Ko, K. C., Feng, Z. X., and Yang, N. T. (2016). Market dynamics and momentum in the Taiwan stock market. Pacific-Basin Finance Journal, 38, 59-75.

Malik, A. (2010). Oil prices and economic activity in Pakistan. South Asia Economic Journal, 11(2), 223-244.

Maío, P., and Philip, D. (2015).Macro variables and the components of stock returns. Journal of Empirical Finance, 33, 287-308.

Malin, M., and Veeraraghavan, M. (2004). On the robustness of the Fama and French multifactor model. evidence from France, Germany, and the United Kingdom. International Journal of Business and Economics, 3(2), 155.

Maroney, N., and Protopapadakis, A. (2002). The book-to-market and size effects in a general asset pricing model. Evidence from seven national markets. Review of Finance, 6(2), 189-221.

Markowitz, H. (1952). Portfolio selection. The Journal of Finance, 7(1), 77-91.

McSweeney, E. J., and Worthington, A. C. (2008). A comparative analysis of oil as a risk factor in Australian industry stock returns, 1980-2006. Studies in economics and finance, 25(2), 131-145.

Miller, M. H., and Modigliani, F. (1961).Dividend policy, growth, and the valuation of shares. The Journal of Business, 34(4), 411-433.

Milius, E. M., Papademetrious, T. R., and Heitlinger, L. A. (2012).Retrospective review of propofol dosing for procedural sedation in pediatric patients. The Journal of Pediatric Pharmacology and Therapeutics, 17(3), 246-251.

Moerman, G. A. (2005). How domestic is the Fama and French three-factor model? An application to the Euro area.

Mohanty, S. K., Nandha, M., Turkistani, A. Q., and Alaitani, M. Y. (2011). Oil price movements and stock market returns. Evidence from Gulf Cooperation Council (GCC) countries. Global Finance Journal, 22(1), 42-55.

Mohanty, S., Nandha, M., and Bota, G. (2010). Oil shocks and stock returns. The case of the Central and Eastern European (CEE) oil and gas sectors. Emerging Markets Review, 11(4), 358-372.

Narayan, P. K., and Bannigidadmath, D. (2015). Are Indian stock returns predictable?. Journal of Banking and Finance, 58, 506-531.

Nandha, M., and Hammoudeh, S. (2007). Systematic risk, and oil price and exchange rate sensitivities in Asia-Pacific stock markets. Research in International Business and Finance, 21(2), 326-341.

Narayan, P. K., and Phan, D. H. B. (2017). Momentum strategies for Islamic stocks. Pacific-Basin Finance Journal, 42, 96-112.

Narayan, P. K., Narayan, S., and Smyth, R. (2008). Are oil shocks permanent or temporary? Panel data evidence from crude oil and NGL production in 60 countries. Energy Economics, 30(3), 919-936.

Nartea, G. V., Ward, B. D., and Djajadikerta, H. G. (2009). Size, BM, and momentum effects and the robustness of the Fama-French three-factor model. Evidence from New Zealand. International Journal of Managerial Finance, 5(2), 179-200.

Nejad, M. K., Jahantigh, F., and Rahbari, H. (2016).The Long Run Relationship between Oil Price Risk and Tehran Stock Exchange Returns in Presence of Structural Breaks. Procedia Economics and Finance, 36, 201-209.

Nijman, T., Swinkels, L., and Verbeek, M. (2004). Do countries or industries explain momentum in Europe?. Journal of Empirical Finance, 11(4), 461-481.

Ni, Z. X., Wang, D. Z., and Xue, W. J. (2015). Investor sentiment and its nonlinear effect on stock returns-New evidence from the Chinese stock market based on panel quantile regression model. Economic Modelling, 50, 266-274.

O'Donnell, D. J., and Baur, D. G. (2009).Momentum in the Irish stock market. Applied Economics Letters, 16(11), 1133-1138.

O'Keeffe, C. (2013). An investigation into the winner-loser and momentum anomalies in four medium-sized European markets(Doctoral dissertation, Dublin City University).

Rizwan, S., Shaikh, S. J., and Shehzadi, M. (2013). Validity of capital assets pricing model(CAPM). Evidence from cement sector of Pakistan listed under Karachi stock exchange. Kuwait Chapter of the Arabian Journal of Business and Management Review, 2(6), 66.

Rouwenhorst, K. G. (1998). International momentum strategies. The Journal of Finance, 53(1), 267-284.

Saeed, S. A. D. I. A. (2012). Macroeconomic Factors and Sectoral Indices. A Study of Karachi Stock Exchange (Pakistan). European Journal of Business and Management, 4(17), 132-152.

Sadorsky, P. (2001). Risk factors in stock returns of Canadian oil and gas companies. Energy Economics, 23(1), 17-28.

Sawicki, P. T. (1999). A structured teaching and self-management program for patients receiving oral anticoagulation. a randomized controlled trial. Jama, 281(2), 145-150.

Siddiqui, R. (2004). Energy and economic growth in Pakistan. The Pakistan Development Review, 175-200.

Sim, N., and Zhou, H. (2015). Oil prices, US stock return, and the dependence between their quantiles. Journal of Banking and Finance, 55, 1-8.

Singhal, S., and Ghosh, S. (2016). Returns and volatility linkages between international crude oil price, metal and other stock indices in India. Evidence from VAR-DCC-GARCH models. Resources Policy, 50, 276-288.

Sanusi, M. S., & Ahmad, F. (2016). Modelling oil and gas stock returns using multi factor asset pricing model including oil price exposure. Finance Research Letters, 18, 89-99.

Teplova, T., and Mikova, E. (2015). New evidence on determinants of price momentum in the Japanese stock market. Research in International Business and Finance, 34, 84-109.

Tsai, C. L. (2015). How do US stock returns respond differently to oil price shocks pre-crisis, within the financial crisis, and post-crisis? Energy Economics, 50, 47-62.

Vassalou, M. (2003). News related to future GDP growth as a risk factor in equity returns. Journal of financial economics, 68(1), 47-73.

Waszczuk, A. (2013). A risk-based explanation of return patterns-Evidence from the Polish stock market. Emerging Markets Review, 15, 186-210.

Ye, Q., and Turner, J. D. (2014). The cross-section of stock returns in an early stock market. International Review of Financial Analysis, 34, 114-123.

Zubairi, H. J., and Farooq, S. (2011, June). Testing the validity of CAPM and APT in the oil, gas and fertilizer companies listed on the Karachi Stock Exchange. In 2012 Financial Markets and Corporate Governance Conference.