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Risk and return profile using icapm

Evidence by ff3 portfolios on kse 100-index

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by

Muhammad Asad Rauf – 13005096012

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ResearchCompletionCertificate

Itiscertifiedthattheresearchworkcontainedinthethesis“RISK AND RETURN PROFILE USING ICAPM EVIDENCE BY FF3 PORTFOLIOS ON KSE 100-INDEX”hasbeen conductedundermysupervisionbyMr. Muhammad AsadRauf,ID,13005096-012,ofMSFinance program.

Signature: _____

Date:September 21, 2017

Supervisor’sName:Prof. Dr. Naveed Tahir

Signature: _____

Date:September 21, 2017

Co-Supervisor’s Name: Mobeen Ajmal

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Researcher Signature: _____

Date:September 21, 2017

ResearcherName:Muhammad Asad Rauf

CONFIRMED BY

Signature: _____

Date:September 21, 2017

Supervisor'sName:Prof. Dr. Naveed Tahir

Signature: _____

Date:September 21, 2017

Co-Supervisor's Name: Mobeen Ajmal

DEDICATED

TO

MYPARENTSAN

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ABSTRACT

This paper analyzes the ICAPM multifactor models, tested over 6 portfolios sorted on size and book-to-market of KSE 100 Index. Companies are included in the study for the calendar year 2010 to 2014 that are listed in KSE 100 index. The Company should have regular price record at the end of every year and should provide accounting data publicly available for June of every year to be selected in sample.For state variables, used macroeconomic variables (Dividend yield, and term spread), Data used from the 3-monthTreasury bill, and 1-yearTreasury bill for term spread. The term spread and dividend yield are usedascontrolvariables. Thetermspreadiscalculatedasthedifferencebetweenthe yields on the1-yearTreasury bill andthe3-monthTreasurybill. The empirical result of ICAPM in individual portfolio is according to size and book to market. Market risk premium has insignificant effect on BL, BM and BH portfolios. But the market risk premium has significant effect in SM, SL and SH portfolios. The intercept of all of the six portfolios has significant value. The invention and state variable of investment opportunity of dividend yield has insignificant effect in two of the portfolios from all of the six portfolios. The term spread capture the variations in the level of slope yield curve, the term spread is insignificant in one portfolio SH out of six portfolio hence remaining five SL, SM, BL, BH, BM is significant. We can say that the dividend yield has effect on the business risk of the firm. The small firms have more tendency to be elastic in such business risk because of its fast financial flexibility. Term spread is considered as one of the essential parts of the investment opportunity set as the invention and improvement in term spread and risk free

rate are closely related to business cycle. Due to cash flow constraints and high financial leverage in small firms, there is less chance of their survival during bad economic condition (Viale, 2009). Afterward, the small firms represent more sensitivity to the news about the business cycle stage. As a result, investor demanded a premium when they investin small firms. The large firms have high capability to handle the financial and business risk. So, if we consider only the size factor, it represents that the large firms are comparatively less affected by the invention and changes in term and risk free rate.

KeyWords:FF3 portfolio, KSE-100 Index, Portfolio Return, Risk Premium, Dividend Yield, Term Spread

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LIST OF NOTATIONS

LPCL	Lafarge Pakistan Cement
KEL	K-Electric Ltd
JSCL	Jahangir Siddiqui and Co
MLCF	Maple Leaf Cement
BOP	Bank Of Punjab Limited.
FCCL	Fauji Cement Company Ltd
TRG	TRG Pakistan
FABL	Faysal Bank Limited
DGKC	D. G. Khan Cement Co. Ltd
EFERT	Engro Fertilizers Ltd
PTC	Pakistan Telecommunication
ENGRO	Engro Corporation (Pak)
BAFL	Bank Alfalah Limited
NBP	National Bank Of Pakistan
AICL	Adamjee Insurance Co. Ltd
NIB	NIB Bank Limited
AKBL	Askari Bank Limited
LOTCHEM	Lotte Chemical Pakistan
NML	Nishat Mills Ltd.
SSGC	Sui Southern Gas Co. Ltd.
PSO	Pakistan State Oil Co. Ltd
EFOODS	Engro Foods Ltd
PIOC	Pioneer Cement Limited
NCL	Nishat (Chunian) Limited
PACE	Pace (Pak) Ltd.
PPL	Pak Petroleum Ltd.
HUBC	Hub Power Company Limited
FATIMA	Fatima Fertilizer Company

SNGP	Sui Northern Gas Pipeline
UBL	United Bank Ltd.
AVN	Avanceon Ltd
FFC	Fauji Fertilizer Company
PKGP	Pakgen Power
CHCC	Cherat Cement Company Ltd
FFBL	Fauji Fertilizer Bin Qasim
MARI	Mari Petroleum Company
ATRL	Attock Refinery Ltd.
OGDC	Oil & Gas DevCo.
KTML	Kohinoor Textile Mills Ltd
LUCK	Lucky Cement Limited
GATM	Gul Ahmed Textile Mills
AHCL	ArifHabib Corporation Ltd
BAHL	Bank AL-Habib Limited
NETSOL	Netsol Technology
GLAXO	Glaxosmithkline (Pak) Ltd
SHEL	Shell Pakistan Limited
SNBL	Soneri Bank Limited
KOHC	Kohat Cement Limited
ISL	International Steels
KAPCO	KotAddu Power Company
HUMNL	Hum Network Ltd
SEARL	The Searl Company Ltd.
MCB	MCB Bank Limited
NPL	Nishat Power Ltd.
HMB	Habib Metropolitan Bank
PAKRI	Pak ReInsurance Co
PSMC	Pak Suzuki Motor Co. Ltd
DAWH	Dawood Hercules Corp.
MEBL	Meezan Bank Ltd.

NCPL	NishatChunian Power
POL	Pakistan Oilfields Ltd.
HBL	Habib Bank Limited
CEPB	Century Paper & Board
PGF	PICIC Growth Fund
ABL	Allied Bank Limited
IGIIL	IGI Insurance Limited
NRL	National Refinery Ltd.
KOHE	Kohinoor Energy Limited
PKGS	Packages Limited
EFUG	EFU General Insurance
THALL	Thal Limited.
ACPL	AttockCem.Pak.Ltd
ICI	I.C.I Pakistan Ltd.
ABOT	Abbott Laboratories (Pak
ARPL	Archroma Pakistan Ltd
SCBPL	Standard Chartered Bank
SHFA	Shifa International Hospital
APL	Attock Petroleum Ltd
MTL	Millat Tractors Ltd.
INDU	Indus Motor Company Limited
EFUL	EFU Life Assurance Limited
SRVI	Service Industries Ltd
MUREB	Murree Brewery Company Ltd
NATF	National Foods Limited.
JGICL	Jubilee General Insurance
PAKT	Pakistan Tobacco Co. Ltd
ATLH	Atlas Honda Limited
GRAYS	Grays Of Combridge (Pak)
JDWS	J. D. W. Sugar Mills Ltd
PCAL	Pakistan Cables Ltd.

JLICL	Jubilee Life Insurance
ARM	Allied Rental Mod.
PICT	Pakistan International container Ltd.
SHEZ	Shezan International Ltd
PSEL	Pakistan Services Ltd.
FML	Feroze1888 Mills Ltd.
COLG	Colgate Palmolive (Pakistan)
BATA	Bata Pakistan Ltd.
NESTLE	Nestle Pakistan Ltd.
RMPL	Rafhan Maize Products Ltd
ARIMA	Autoregressive Moving Average
CAPM	Capital Asset Pricing Model
FF3	Fama and French Three Factor Model
BM	Book to Market Ratio

SL	Small capitalization and Low BM
SM	Small capitalization and Medium BM
SH	Small capitalization and high BM
BL	Big capitalization and Low BM
BM	Big capitalization and Medium BM
BH	Big capitalization and high BM

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CHAPTER# 01
INTRODUCTION

Background Study:

Over the past decades, the derivation and application of Capital Asset Pricing Model (CAPM) wasconsidered as one of the most important topic in the literature of financial economics. As far as, the theoretical background is concerned, many academics and practitioners have not found support and acceptance for the model. The theory which is based on neoclassical school of thought said that people are rational and aimed to maximize their utility. It is difficult to assess the actual trend in the asset prices, as stock return exhibits a base or constant systematic return and a random transitory return which is different from what a rational model discusses. In general, asset pricing model gets a lot of attention and importance; as there arealso the size effect and the value effect factors.

Many scholars object to neoclassical school of thoughts, stating that irrational decision making of investor is due to investor sentiments that affect the security price(Black, Noise, 1986)&(Bondt & Thaler, 1985).

In previous researches, trends in the forecasting of asset pricing have been shifted from theoretical analysis to empirical analysis.Financial researchers have confidence in the statistical results, with the help of these; they are able to estimate the trend of asset prices(Chen, Roll, & Ross, 1986). One of the statistically derived asset pricing models is described in(Fama & French, 1995),the developers have found the application of size and value effect in asset pricing model and they analyzed the model as oneof the best model to estimate the pricing of different kind of stocks.From its beginning,this model has attained a lot of importance and is considered as an essential tool in academic and professional practice.

Introduction:

To analyze the average excess return on cross-section data of stock is considered as one of the essential topics in the field of finance and on the literature of asset pricing model. Due to incomplete specification of CAPM model to price portfolio by (Sharpe, 1964)-(Linter, 1965), the book to market and other feature of stock has directed some irregularities and differences in stock size, value and momentum [Fama and French (1992, 1993, 1996), and others].In the reaction of these irregularities, the various multifactor models are designed to explain the fact that now have become a part of literature. Generally, these modelsconsist of additional factor other than market return,in which betasassist to cover the variation in excess portfolio return that is studied and analyzed in cross section data.