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FACTORS DETERMINING STOCK MARKET RETURNS: CASE OF NAIROBI STOCK EXCHANGE

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Abstract

Purpose: The study attempts to establish if the changing macroeconomic factors and the industry variables can predict the variation on the Nairobi Security Exchange stocks return

Methodology: It adopted a regression model that related stock returns to various selected macro and micro economic factors and used data of 20 companies that constitute the NSE index. The study used monthly data spanning the year 2006 to 2010.

Results: The regression results indicate that, four of the variables i.e. market return (NSEI), exchange rate for US/KSH, market to book value ratio have a positive and significant relationship with an individual company stock market returns. Risk Free rate (91 Treasury bill rate) also had a positive and significant relationship while industrial growth opportunity and inflation were found to be negative and significant. leverage on the other hand was found to be insignificant and therefore does not influence individual company stock market returns.

Unique contribution to theory, practice and policy: These findings will have significant effects on investors' investment decisions making as well as the Government and the capital markets authority (CMA) in the formulation of polices and guidelines. Once factor betas are estimated, we can describe the expected change in security returns with respect to changes in a given factor and thus giving the investors, CMA and the Government a better understanding on the effect of a change in the fiscal and monetary policies in the stock market. This is crucial to the Government as it seeks to promote the capital market as a source of alternative funding for economic growth.

Investors wishing to construct portfolios should also consider the trends of the inflation rates, exchange rates, market to book value ratio, industrial production and the stock market. The rise of either of this micro and macroeconomic indicators may influence the returns positively or negatively and hence the investor may choose the best time to either buy or sell their securities

Keywords: *Treasury Bill, Capital Asset Pricing Model, Nairobi Stock Exchange*

1.1 INTRODUCTION

Economic agents have many motives for investing (Samal, 2009, Shanmugham, 2000). Samal (2009) identifies various reasons why economic agents invest. These include; securities of original capital, wealth accumulation, comfort factor, tax efficiency, life cover, simplicity, ease of withdrawal, communication. For majority of investors however, their interest is mainly to earn a return on investment. However selecting stocks exclusively on the basis of maximization of return is not enough. The risk element (security of original capital) has to be taken into account (Markowitz, 1952).

Risk and return are the key variables in any investment decision. They allow one to compare actual or expected gains from various investments with the level of risks and return needed. Return can be measured historically or it can be used to formulate future expectations (Groenewold and Fraser, 1997). The level of return achieved or expected from an investment depends on a variety of factors. The key factors are internal characteristics and external forces (Chen, Roll and Ross; 1986; Osei 2006; Eita, 2011, Chau, 2012). The internal factors include type of investment vehicle, quality of management, and type of financing whereas those of external include social, economic and political factors. These factors that determine stock return do contribute towards the level of risk.

Investment risk on a stock return can be observed by measuring the market risk which arises from changes in macro-economic factors and unsystematic risks that depended on the fundamentals of the individual companies.

Stock market plays a major role in the growth and development of any economy. It provides companies with facility to raise capital for expansion and growth through the selling off of shares to the public or offering additional shares to shareholders through the rights issue. This is very crucial for the business as it offers them a cheaper and a completive way of raising additional capital. The market also assists in the mobilization of resources especially savings and redirecting the same to productive activities in the economy thereby facilitating growth and development. For the Government, the market plays a twofold role; it provides the Government with an avenue through which it can raise the much need resources especially for the long term projects such as infrastructure development through the sale of bonds, and also act as the economic barometer in that by looking at the movement in share prices and the stock market index the Government can be able to gauge the performance of the economy at large and thereby initiate either monetary or fiscal measures that can assist in facilitating growth and development.

The stock market plays a pivot role in the economic growth and development of a country. It performs a wide range of economic and political functions while offering trading, investment, speculation, hedging, and arbitrage opportunities to various investors (Angela and Wilson 2012). It also provides an alternative and important platform through which, institutions and the Government can mobilize capital for investment and assess economic growth and stability.

The FISMS, however, provides an independent market for fixed income securities such as treasury bonds, corporate bonds, preference shares and debenture stocks, as well as treasury bills and commercial papers. By doing this NSE plays an active role in facilitating the mobilization of capital for development and provides savers in Kenya with an alternative saving tool. Funds that

would otherwise have been in unproductive activities or consumed are redirected to boost growth in various sectors of the economy.

1.2 Problem Statement

Empirical literature points out that a growing and stable stock market is an indicator of a stable and a growing economy. This is true because the stock market plays an important role in mobilizing funds and allocating resources to the most productive areas of the economy. Over the past years, the Nairobi Securities Market had been experiencing an upward trend till recently when the economic indicators showed negative growth and the market indicator too was on a decline move to its lowest point in 2009.

The decline in the stock market is a signal of a shrinking economy and as such this study attempts to establish if the changing macroeconomic factors and the industry variables can predict the variation on the Nairobi Security Exchange stocks returns. It would also seek to affirm if the multi-factor model is an appropriate predictive model for stock returns.

1.3 Objectives of the Study

This main objective of the study was to determine the factors determining the stock market returns. The specific objectives were;

1. To determine the factors affecting stock market returns within NSE
2. To derive policy implications from the results regarding influence of the factors on the stock market.

2.0 LITERATURE REVIEW

Eita (2011) argues that the theoretical relationship between stock returns and economic variables dates back to Ross (1976). However, Celiker (2004) asserts that the debate on the theoretical relationship started earlier than that. For instance, Markowitz (1952) introduced the Modern Portfolio Theory (MPT) which formed the basis of analysis of systematic and unsystematic risk of assets. Sharpe (1964**)** followed with Capital Asset Pricing Model (CAPM) while Litner (1965) and Mossin (1966) improved on the CAPM model. Since then, a host of other asset pricing models have been developed.

Financial theory provides several asset pricing models that relate expected returns to one or several variables representing various sources of risk. The identity of these variables depends on the assumptions on which the model is built. The most popular asset pricing models are the Capital Asset Pricing Model, CAPM (one source of risk), the Arbitrage Pricing Theory, APT (several sources of risk) and The Inter Temporal Capital Asset Pricing Model (ICAPM) which is an alternative model to the CAPM model.

The capital Asset Pricing Model illustrates the association between risk and expected returns (CAPM). In this model investors expect to be compensated for time value of money, as well as, risks (Bhole and Mahakud, 2009; Chau, 2012). The model posits that systematic risk, beta, is the only explanatory factor that informs pricing of risky assets. The model also assumes that all investors; aim to maximize economic utilities; are rational and risk-averse; are broadly

diversified across a range of investments; are price takers; can lend and borrow unlimited amounts under the risk free rate of interest; can trade without transaction or taxation costs; deal with securities that are all highly divisible into small parcels; and that all information is available at the same time to all investors (Glen, 2005). It is to be noted that most of these assumptions are too restrictive. The assumption of broad diversification ignores the existence of thinly traded markets that exist in developing stock markets. The assumption of unrestricted borrowing and lending ignores the fact that credit rationing exist in developing financial markets (Fama and French, 2004).

2.3 Review of Empirical Literature

Chen and Jin (2004) conducted a multivariate analysis on twenty portfolios of the New York Stock Exchange (NYSE) using a set of economic variables. Chen and Jin (2004) applied conditional mean encompassing test for model specification with the assumption that it is robust to heteroscedasticity. The specific economic variables that were included in the model were term structure of interest rates, the change in expected inflation, contemporaneous unexpected inflation, and monthly growth rate in industrial production, lags of the above six economic variables. The dependent variable was the lag of excess rate of returns. The authors concluded that the conditional excess rates of returns are explained by lagged expected inflation, lagged unexpected premium for default, lagged unexpected change in term structure, a seasonal dummy, and lagged market returns.

The study by Chen and Jin (2004) is similar to our study to the extent that both studies attempt to establish the determinants of stock returns and that both use 20 portfolios. However, the two studies differ because the current study focuses on a developing economy and the economic variables in developing economies may affect stock returns differently. In addition, the current study uses a panel data analysis and in particular a random effect generalized least squares (GLS) while the study by Chen and Jin (2004) used a simple multivariate regression analysis.

Salaber (2007) investigated the factors that determine the returns of sin stocks in European stock market. This study was informed by the CAPM developed by Sharp (1964) and Litner (1965) and used data from 18 European countries for the period 1975-2006. The study also adopted the three factor model developed by Fama and French (1993). In this study, legal, as well as, cultural attributes such as religion were found to be the main determinants of stock market returns.

In Anatolyev(2007) ten year retrospective study on the factors that influence the returns of Russian stocks, cash-flow news was found to be the main determinant of the returns of EU bank stocks. This study covered the period between 1954 and 2004. Morgan Stanley Capital International Inc index was used as the dependent variable. The independent variables included MSCI index, oil price, T-bill (3month US Treasury bill), Mibor (1 month Moscow interbank offer rate), gold, money, and JP Morgan Emerging Market Bond Index Plus for Russia. According to this study, the relationship between factors and returns was highly unstable and the instability was not confined to financial crises alone. While the computed statistics showed a

random trend, the explain-ability of stock return has sharply increased. In addition, while the effect of the domestic factors seems to diminish, internal factors have played an increasing role in explaining stock returns. For instance, while the effect of oil prices and foreign exchange rates had diminished, the influence of US stock prices and international and domestic interest rates had increased. Furthermore, monetary aggregates such as gold reserves and credit balances seemed to have no effect at all.

Castren, FitzPatrick and Sydow (2005) investigated the drivers of EU bank stock returns by using the dynamic dividend discount model to yield bank level evidence. The model incorporated financial accounting data to estimate bank stock returns. The banks that were selected for this study are listed EU banks that showed a consistent time series of annual data from 1991 to 2004 for all variables that were used in the estimation. The data set consisted of accounting and market information for a pooled time series of 53 EU banks. The accounting data such as return on equity, book value of equity, book debt variables, as well as the equity price series and the earnings per share series were included. The data was converted into log form. Therefore, the variables considered were log excess stock returns, log excess return on equity (RoE), log leverage and log book-to-market ratio.

Koubi(2008) studied the determinants of financial development and stock returns using a sample of 49 countries for the period 1980 to 1999. The study found that both high transactions (TRANS) and legal uncertainty (LEGAL) have a negative effect on stock market stability. The effect of transaction costs (TRANS) was economically more significant (about twice the size of the effect of the latter). Finally, while exchange rate and general economic volatility also destabilized stock returns. Capital controls and the degree of openness had little influence.

Using large sample evidence, Artmann, Fitner and Kempf (2010) studied the determinants of stock market returns in the German market. The sample considered in the study consisted of 955 German stocks for the period 1963 to 2006. The study adopted the Fama and French 3 factor model, the Alternative 3 factor model and the Cahart four factor model. The results obtained using Fama and French 3 factor model revealed a significant positive relation between average returns and book-to-market equity, earnings-to-price, and momentum

Jiranyakul (2009) conducted a study on the relationship between macroeconomic variables and stock market Index of Thailand. The variables of interest; Real GDP, money supply, and nominal effective exchange rate indicated a positive significant impact on the stock market index while the price level were not significant (a negative impact).

3.0 RESEARCH METHODOLOGY

Theoretical Framework

This research paper is based on the following two models: Arbitrage Pricing Theory (APT) and the Inter Temporal Capital Asset Pricing Model (ICAPM). These two theories form the foundation for creating a multifactor model which observes the sensitivity of an asset return as a function of one or more factors. Investment risk on a stock return can be observed by measuring the market risk which arises from changes in macro economic factors and unsystematic risks that depended on the fundamentals of the individual companies.

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The original CAPM by Sharpe (1964) assumed that the expected return of an asset is purely a function of the market return. Given as;

$ER= b_0+ b_1 (R_M-R_f) +e$……..…….……..…..(1)

Where;

ER= expected return

b_0= risk free rate

b_1=market beta

R_m-R_f= Excess returns dependent on the market

e= error term

Model Specification

The economic model under analysis is given by the equation below;

$RETURN= b_0- b_1$ Tbill + b_2 NSEI + (-) b_3CPI + b_4 IGOElec + b_5ER +(-) b_6 MO+ b_7MBVR+ b_8LEV + ε_{it} …….....…….(5)

Where:

b_0= risk free rate

b_1 - b_8= market betas

T bill =Treasury bill (91 days)

NSEI = Nairobi Stock exchange index (20 stock index)

CPI = Consumer price index

IGO Elec= Industrial consumption of electricity

ER= Exchange rate USD/KES

MO = Money

MBVR= Market to book value ratio

LEV= Leverage

e= error term with an expected value of zero and constant variance.

The model is based on two assumptions. Disturbance terms are uncorrelated across stocks and with the factor's value.

Econometric Analysis

The study adopted a panel estimation technique in registering the contribution of the variables and firms factors to the equity returns of a firm. This was because panel data consists of both time series and cross sectional data and hence it is expected to give unbiased estimators.

Panel data regression has certain advantages compared with OLS. Panel data are suitable for studying data which vary over time and cross-sectionally. Secondly, panel data set includes more data information, more degrees of freedom, reduce collinearity among variables, and therefore provide more efficient estimation than pure cross-sectional or time-series estimations. Thirdly, panel data methodology gives researchers greater flexibility in controlling for the effects of

individual-specific variables (i.e. firm heterogeneity) and time-specific variables. Omitting them may lead to biased estimations as in pure cross-sectional or time-series studies.

Unit Root Tests

The study conducted unit root tests to determine whether the variable were stationary or non stationary. Two methods of testing for unit roots were used namely; Levin-Lin-Chu unit-root test and the Augmented Dick fuller test. The null hypothesis for the Levin-Lin-Chu unit-root test was;

Ho: Panels contain unit roots

Ha: Panels are stationary

The Adjusted t statistic and the p values were used to reject or to fail to reject the null hypothesis.

The null hypothesis for the Fisher test (Augmented Dick fuller test) was;

Ho: All panels contain unit roots

Ha: At least one panel is stationary

The Inverse Normal Z statistic and the p values were used to reject or fail to reject the null hypothesis.

Breusch and Pagan Lagrangian Multiplier Test for Random Effects (LM test)

The LM test was used to decide between a random effects regression and a simple OLS regression. The null hypothesis of the LM test was that variances across entities were zero. That is, no significant difference across units (i.e. no panel effect).

A P value of less 0.05 indicates that the study rejects the null hypothesis and concludes that random effects are appropriate. A p value of more than 0.05 indicates that the study may fail to reject the null hypothesis.The implication of rejection of the null hypothesis is that there is evidence of significant differences across stock exchange listed companies; therefore it is appropriate to run random effects regression instead of a simple OLS regression. The implication of failure to reject the null hypothesis indicates that there is no panel effect and hence a simple OLS is more appropriate

Serial Correlation Tests

The study had a long time series of 60 periods. Serial correlation tests apply to macro panels with long time series (over 20-30 years) though it is not a problem in micro panels (with very few years). It was therefore important to conduct serial correlation tests since the current study consisted of a macro panel. Serial correlation causes the standard errors of the coefficients to be smaller than they actually are and higher R-squared. Specifically, Wooldridge test for autocorrelation in panel data was used to test for serial/autocorrelation. The null hypothesis was that there was no first order auto correlation.

Ho; There is no first order auto correlation

Ha; There is first order auto correlation

The null hypothesis was evaluated on the basis of p values. P values of less than 0.05 imply that the null hypothesis is rejected. P values of more than 0.05 indicate that the study fails to reject the null hypothesis and conclude that the data has no first order auto correlation.

Haussmann Test for Fixed and Random Effects

To decide between fixed or random effects, the current study conducted a Hausman test where the null hypothesis was that the preferred model is random effects vs. the alternative the fixed effects. The hausmann test basically tested whether the unique errors (*ui*) are correlated with the regressors, and the null hypothesis was that they are not. The first step was to run a fixed effects model and save the estimates, then run a random model and save the estimates, then perform the hausman test.

Sample Size

The study used monthly data for a five (5) year period to analyse risk and return factors. A sample of 20 companies that are actively traded at the NSE as of January 2006 to December 2010 was studied. Measures of activity included the daily stock prices quoted at the NSE and the listing of respectively

Estimation of Results

Table 4.8 presents the results conducted using the random effect model. The r squared of 0.3968 indicates that the 39.68% of the variances of returns within companies is explained by the independent variables. The r squared of 0.1652 indicated that 16.52% of the variances of stock returns between companies can be explained by the independent variables. Overall, the r squared of 0.2468 indicates that 24.68% of all variances in the stock returns of companies can be explained by variances in the independent variables. The F statistic of 670.1 obtained from the Wald Chi square test indicates that the all the coefficients in the model are different than zero. This is supported by a p value of 0.00 which implies that the independent variables are good joint predictors of the stock returns.

Results indicate that the inflationary shocks (CPI) have a negative and significant relationship with an individual company stock market returns. This is evidenced by a regression coefficient of -0.21128 and a p value of 0.000 which is smaller than the conventional p value of 0.05. The findings are consistent with the results of Chen and Jin (2004) who noted the different relationship inflationary shocks can take depending of the type of economy i.e. developed or emerging, Nairobi stock market is classified as an emerging market and hence the negative relationship. This findings are inconsistent with those of Jiranyakul (2009), Bai and Green (2008), Eita (2011), Chen and Jin (2004) who found a positive relationship between inflation and the stock returns.

Results indicate that the Risk Free rate (91 T.Bill rate) had a positive and significant relationship with an individual company stock market returns. This is evidenced by a regression coefficient of 0.803798 and a p value of 0.000 which is smaller than the conventional p value of 0.05. The findings are inconsistent with those of Jiranyakul (2009), Bai and Green (2008), Eita (2011); Chau(2012); Anatolyev(2007); Chen and Jin (2004) who found a positive relationship between short term interest rates and the stock returns.

Results indicate that the market return (NSEI) had a positive and significant relationship with an individual company stock market returns. This is evidenced by a regression coefficient of 0.000419 and a p value of 0.096. The findings are consistent with those of Bennet Chen, Roll, and Ross (1986) and Chen (1991) who found a positive relationship between the market index and the stock returns. The findings also agree with those in Wang, Meric, Liu, and Meric (2010), Siddiqui(2010), Artmann, Fitner and Kempf (2010); Celiker (2004); Anatolyev(2007) who found a positive relationship between market return and the stock returns.

Results indicate that the Industrial Growth Opportunity (IGO elec) had a negative and significant relationship with an individual company stock market returns. This is evidenced by a regression coefficient of -0.01112 and a p value of 0.000 which is smaller than the conventional p value of 0.05. The findings are inconsistent with those of Chen, Roll, and Ross (1986) who argue that industrial production affects the stock returns and Chen (1991) who asserted that the lagged production growth rate influences stock market returns. In addition, the findings disagree with Eita (2011); Chau(2012); Chen and Jin (2004) who found a positive relationship between economic activity and stock returns.

Results indicate that the Exchange Rate (ER) for USD/KSH had a positive and significant relationship with stock market returns. This is evidenced by a regression coefficient of 0.196222 and a p value of 0.000 which is smaller than the conventional p value of 0.05. The findings are consistent with those of Jiranyakul (2009), Koubi(2008), Bai and Green (2008); Eita (2011);Chau(2012); Anatolyev(2007) who found a positive relationship between exchange rates and the stock returns.

Results indicate that the Money Supply (Money) had a positive and significant relationship with stock market returns. This is evidenced by a regression coefficient of 0.000025 and a p value of 0.000 which is smaller than the conventional p value of 0.05. The findings are consistent with those of Eita (2011); Jiranyakul (2009); Anatolyev (2007) who found a positive relationship between Money Supply and the stock returns.

Results indicate that the Market to Book Value Ratio (MBVR) had a positive and significant relationship with stock market returns. This is evidenced by a regression coefficient of 1.655259 and a p value of 0.000 which is smaller than the conventional p value of 0.05. The findings are consistent with those of Artmann, Fitner and Kempf (2010**)** who found a positive relationship between market to book value ratio and the stock returns

Summary

The level of return achieved or expected from an investment depends on a variety of factors. This study is centered on lack of conclusiveness of the debate on what factors should be included in a predictive model for stocks and has examined a number of factors to determine those which affect the stock returns. It adopted a regression model that related stock returns to various factors namely; stock market index, the risk free interest rate, inflation and industrial growth, money supply, exchange rate market to book value ratio and leverage.

The study determined the stationarity of the variables using two methods of testing for unit roots namely; Levin-Lin-Chu unit-root test and the Augmented Dick fuller test. Breusch and Pagan Lagrangian multiplier test for random effects (LM test) were used to decide between a random

effects regression and a simple OLS regression while the Wooldridge test for autocorrelation in panel data was used to test for serial/autocorrelation.

A random effects regression yielded an r squared of 0.3968 indicating that the 39.68% of the variances of returns within companies is explained by the independent variables. The r squared of 0.1652 indicated that 16.52% of the variances of stock returns between companies can be explained by the independent variables. Overall, the r squared of 0.2468 indicates that 24.68% of all variances in the stock returns of companies can be explained by variances in the independent variables

Results indicate that, four of the variables i.e. market return (NSEI), exchange rate for US/KSH, market to book value ratio have a positive and significant relationship with an individual company stock market returns. Risk Free rate (91 Treasury bill rate) also had a positive and significant relationship while industrial growth opportunity and inflation were found to be negative and significant. leverage on the other hand was found to be insignificant and therefore does not influence individual company stock market returns.

Conclusions

This study examined factors that determine the stock market returns in Kenya for the period 2006-2010 by estimating the relationship between individual stock returns and a number of market factors. The result from the study shows that changes in inflationary shocks (CPI), market return (NSEI), Growth Opportunity (IGO elec) exchange rate for US/KSH and market to book value ratio and Risk Free rate (91 Treasury bill rate) can affect market stocks returns and therefore can determine the level of returns. These findings are consistent with results from other studies undertaken on the determinants of the stock market returns although leverage which was expected to have significant effect on stock returns was found to be insignificant.

Policy Implications

The findings of this study will have significant effects on investors' investment decisions making as well as the Government and the Capital Markets Authority in the formulation of polices and guidelines. Once factor betas are estimated, we can describe the expected change in security returns with respect to changes in a given factor and thus giving the investors, CMA and the Government a better understanding on the effect of a change in the fiscal and monetary policies in the stock market. This is crucial to the Government as it seeks to promote the capital market as a source of alternative funding for economic growth.

Investors wishing to construct portfolios should consider the trends of the inflation rates, exchange rates, market to book value ratio, industrial production and the stock market. The rise of this micro and macroeconomic indicators may influence the returns positively and hence the investor may choose the best time to either buy or sell their securities.

Study Limitations

The data collected was not without limitations. First, some stock prices were missing as for specific periods since some firms were listed after the study period, for example equity, safaricom and cooperative bank. The missing observation may somewhat distort the accuracy of the findings. Furthermore, there were a few missing observations for electricity consumption and extrapolation had to be done. This may also affect the accuracy of the study results. The study

also is limited to the extent that it did not take into consideration shocks such as the 2007 post election violence and the global financial meltdown of 2009.

Areas for Further Research

The current studies suggest that further areas of research should focus on micro economic determinants of stock returns. For instance, what are the effects of cash flow position, innovation and technology, corporate governance and asset position on the stock returns? Can one use such internal fundamentals to predict the stock returns of a company?

From a macroeconomic point of view, further research should investigate the effect of financial inclusion (number of bank accounts opened) on stock return primarily because Kenya has experienced an increase in financial inclusion since the year 2002 (Narc era).

REFERENCES

Anatolyev, S., (2007) A Ten-Year Retrospective on the Determinants of Russian Stock Returns. New Economic School, Moscow. Nakhimovsky Pr., 47, Moscow, 117418 Russia. E-mail: sanatoly@nes.ru.

Al-Khazali, O.M., (2004) The Generalized Fisher Hypothesis in the Asian Markets, *Journal of Economic Studies*, 31(2):144-57.

Artmann, S., Fitner, P., Kempf, A., (2010) Determinants of Expected Stock Returns:Large Sample Evidence from the German Market.CFR Working Paper, No. 10-01. http://hdl.handle.net/10419/41363

Bai, Y.,and Green, C.J., (2008) Determinants of Cross-Sectional Stock Return Variations in Emerging Markets. AES, Business School, Napier University, Edinburgh, EH14 1DJ, United Kingdom

Castrén,O., Fitzpatrick, T., Sydow. M.,(2006) What Drives EU Banks' Stock Returns? Bank-Level Evidence Using the Dynamic Dividend-Discount Mode. No 677 / September 2006. European Central Bank.

Carhart, Mark M., 1997 "On Persistence in Mutual Fund Performance." *Journal of Finance* 52(1):57-82.

Celiker,U., (2004) Cross-Sectional Determinants of Turkish Stock Market Returns. Unpublished MBA Thesis. Middle East Technical University.

Chau, M., (2012) Macroeconomic Determinants of Gold Industry Stock Returns. Honors Projects. Paper 26. http://digitalcommons.iwu.edu/busadmin_honproj/26

Chen, C., Jin,Y., (2004) A Robust Test on the Multifactor Pricing Model Investment Management and Financial Innovations.

Chen, N., Roll, R., and Ross, S.A., (1986) Economic Forces and the Stock Market, *Journal of Business,* 59:383—404.

Choudhry, T., (2001) Inflation and Rates of Return on Stocks: Evidence from High Inflation Countries, *Journal of International Financial Markets, Institutions and Money,* 11:75-76.

Desmoulins-Lebeault, F., (2003) CAPM Empirical Problems and the Distribution of Returns. CEREG, Universit´e de Paris Dauphine E-mail address: fd-l@caramail.com

Eita, J.H., (2011) Determinants of Stock Market Prices in Namibia.Working Paper 209. Monash University.

Fama, E., and French K., (1992) The Cross-Section of Expected Stock Returns, *Journal of Finance* 47: 427–465.

Fama E., and French, K., (1995) Size and Book to Market Factors in Earnings and Returns, *Journal of Finance* 50: 131–155.

Fama E., and French K., (1996) Multifactor Explanations of Asset Pricing Anomalies, *Journal of Finance* 51: 55–84.

Fama, E., and French, K., (2004), The Capital Asset Pricing Model: Theory and Evidence.

Fisher, I., (1930): The Theory of Interest. New York: Macmillan.

Groenewald, N., And Fraser, P., (1997), Share Prices and Macroeconomic Factors, *Journal of Business Finance and Accounting*, 24(9) & (10) :1367—1383.

Hooker, M. A., (2004) Macroeconomic Factors and Emerging Market Equity Returns: A Bayesian Model Selection Approach" *Emerging Market Review*, 5:379 — 387.

Jensen, Michael C., 1968 The Performance of Mutual Funds in the Period 1945-1964,*Journal of Finance*. 23(2): 389-416.

Jiranyakul, K., (2009). Economic Forces and the Thai Stock Market, 1993-2007.

NIDA Economic Review, Vol. 4, No. 2 (December 2009).School of Development Economics. National Institute of Development Administration. Bangkok 10240,Thailand

Lintner, J., (1965). The Valuation of Risk Assets and the Selection of Risky Investments In Stock Portfolios And Capital Budgets, *Review of Economics and Statistics* 47: 13–37.

Markowitz, H., (1952). Portfolio Selection, *Journal of Finance* 7:77–91.

Merton, R.C., (1973). An Analytic Derivation of the Efficient Portfolio Frontier, *Journal of Financial and Quantitative Analysis* 7: 1851–1872.

Nacuer, S.B., Ghazouani, S. and Omran, M. (2007): "The Determinants of Stock Market Development in the Middle-Eastern and North African Region" *Managerial Finance*, 33(7):477-489.

Rahman, A.R., Sidek, N.R.M. and Tafri, F.H. (2009): "Macroeconomic Determinants of Malaysian Stock Market" *African Journal of Business Management*, 3(3):95-106.

Ross,S.,(1976). The Arbitrage Theory of Capital Asset Pricing, *Journal of Economic Theory* 13 : 341–360.

Sharpe, W., (1964).Capital Asset Prices: A Theory of Market Equilibrium Under Conditions Of Risk, *Journal of Finance* 19: 425–442.

Spyrou, S., (2001): "Stock Returns and Inflation: Evidence from an Emerging Market" *Applied Economic Letters*, 8(7):447-450.

Salaber, J.,(2007). Determinants of Sin stock Returns. Evidence on the European Market.Georgia State Univeristy

Siddiqui, M.A., (2009) Modeling Uncertainty and Investment as Determinant Of Returns From Pakistani Insurance Companies. International *Journal of Basic & Applied Sciences* IJBAS 9(9): 461-478

Samal, N.,(2009). Factors Affecting Investors Preference from Mutual Funds in India. Tata McGraw-Hill Publishing Company Limited, New Delhi

Shanmugham, R., (2000), Factors Influencing Investment Decisions, Indian Capital MarketsTrends and Dimensions (ed.), Tata McGraw-Hill Publishing Company Limited, New Delhi.

Osei, K.A., (2006) Macroeconomic Factors and the Ghana Stock Market *African Finance Journal*, 8(1), p. 26—37.

Wang J., Meric, G., Liu , Meric, I.,(2010). A Comparison of the Determinants of Stock Returns in the 1987 and 2008 Stock Market Meltdowns. Banking and Finance Review

Wongbangpo, P., and Sharma, S.C., (2002) Stock Market and Macroeconomic Fundamental Dynamic Interactions: ASEAN-5 Countries, *Journal of Asian Economics*, 13: 27-51.

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APPENDIX

Appendix 1: Data Set

Month	CPI	INTR	NSEI	IGO	ER	Money
Jan2006	75.26	8.23	4171.8	362.76	72.21	478034.61
Feb2006	76.51	8.02	4056.63	382.52	71.80	484213.13
Mar2006	77.15	7.60	4101.64	397.30	72.28	492622.29
Apr2006	76.81	7.02	4025.21	410.60	71.30	509322.50
May2006	76.55	7.01	4349.75	410.94	71.76	511212.00
Jun2006	75.78	6.60	4260.49	422.77	73.41	521980.68
Jul2006	75.19	5.89	4258.54	418.97	73.66	532360.09
Aug2006	75.36	5.96	4486.07	421.73	72.87	531198.41
Sep2006	75.72	6.45	4879.86	435.19	72.87	537670.48
Oct2006	76.28	6.83	5314.36	430.52	72.29	545774.84
Nov2006	76.53	6.41	5615.2	437.43	71.13	553429.20
Dec2006	77.89	5.73	5645.65	431.86	69.63	553907.07
Jan2007	78.74	6.00	5774.27	416.76	69.88	556909.93
Feb2007	78.9	6.22	5387.28	436.52	69.62	560626.52
Mar2007	78.94	6.32	5133.67	451.30	69.29	576280.78
Apr2007	78.35	6.65	5148.07	464.60	68.58	581900.97
May2007	78.15	6.77	5001.77	464.94	67.19	586136.91
Jun2007	78.84	6.53	5146.73	486.77	66.57	605549.81
Jul2007	79.25	6.52	5340.08	491.2	67.07	612676.88
Aug2007	79.27	7.30	5371.72	495.63	66.95	629047.79
Sep2007	79.84	7.35	5146.46	481.48	67.02	631141.41
Oct2007	80.34	7.55	4971.04	493.73	66.85	637641.25
Nov2007	81.1	7.52	5234.54	498.08	65.49	643052.07
Dec2007	82.25	6.87	5444.83	475.8	63.30	666874.63
Jan2008	86.07	6.95	4712.71	470.23	68.08	682257.13
Feb2008	87.25	7.28	5072.41	455.13	70.62	692362.45

Month	CPI	INTR	NSEI	IGO	ER	Money
Mar2008	88.22	6.90	4843.17	489.96	64.92	697121.80
Apr2008	90.85	7.35	5336.03	490.76	62.26	744492.13
May2008	92.68	7.76	5175.83	497.49	61.90	709062.80
Jun2008	92.89	7.73	5185.56	462.91	63.78	715968.37
Jul2008	92.75	8.03	4868.27	480.02	66.70	718974.42
Aug2008	93.79	8.02	4648.78	481.75	67.68	723694.60
Sep2008	94.72	7.69	4180.4	457.69	71.41	736325.15
Oct2008	95.29	7.75	3386.65	475.73	76.66	753842.15
Nov2008	96.95	8.39	3341.47	461.18	78.18	751150.86
Dec2008	96.89	8.59	3521.18	471.22	78.04	766393.12
Jan2009	97.55	8.46	3198.9	475.81	78.95	763648.75
Feb2009	100	7.55	2474.75	428.09	79.53	768191.48
Mar2009	100.96	7.31	2805.03	473.01	80.26	780512.72
Apr2009	101.84	7.34	2800.1	443.31	79.63	793306.99
May2009	101.84	7.45	2852.57	455.49	77.86	795601.34
Jun2009	102.05	7.33	3294.56	441.04	77.85	812055.13
Jul2009	102.33	7.24	3273.1	454.6	76.75	828521.03
Aug2009	102.94	7.25	3102.68	428.45	76.37	833081.09
Sep2009	103.42	7.29	3005.41	428.12	75.60	849209.46
Oct2009	103.68	7.26	3083.63	429.32	75.24	871615.76
Nov2009	103.87	7.22	3189.55	447.29	74.74	879608.04
Dec2009	104.66	6.82	3247.44	425.94	75.43	898099.44
Jan2010	104.89	6.56	3565.28	450.51	75.79	916868.25
Feb2010	105.18	6.21	3629.41	412.33	76.73	938135.03
Mar2010	104.97	5.98	4072.93	472.09	76.95	959004.53
Apr2010	105.56	5.17	4233.24	506.87	77.25	968328.71
May2010	105.79	4.21	4241.81	550.17	78.54	999144.85

Month	CPI	INTR	NSEI	IGO	ER	Money
Jun2010	105.61	2.98	4339.28	550.51	81.02	1033703.68
Jul2010	105.98	1.60	4438.58	572.34	81.43	1044019.02
Aug2010	106.25	1.83	4454.59	568.54	80.44	1044177.54
Sep2010	106.74	2.04	4629.8	571.3	80.91	1078277.30
Oct2010	106.97	2.12	4659.56	584.76	80.71	1086465.19
Nov2010	107.86	2.21	4395.17	580.09	80.46	1088666.89
Dec2010	109.38	2.28	4432.6	587	80.57	1099234.13