

# The importance of the stock market to the economy



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The stock market is an important part of the economy because it organizes the resources and channels them to useful investments, in order to perform this role it must have proper association with the economy. Capital markets are important elements of a modern market based economic system as they give out the channel for flow of long term financial resources from the savers to the borrowers of capital.

Stock prices of oil sector have been considered for the study. It is the most growing and important part of the stock exchange because its prices are deeply affected by the macroeconomic variables. Investor of Pakistan who invests for long term and short run will get benefit from this research.

According to most of the past studies which conducted on this topic shows that macroeconomic variables which include interest rate and exchange rate directly impact on the stock prices if any changes take place in them it will directly going to affect the stock price. Macro economic variables are inversely related to the stock price. In markets, investors provide long term funds in exchange for long term financial assets offered by borrowers.

The stock exchange is an important part of any country in the sense that it organizes domestic resources and channels them to productive investments. However, for this purpose it must have important association with the economy. Capital markets are main elements of a modern market based economic system as they serve as the channel for flow of long term financial resources from the savers of capital to the borrowers of capital. Efficient capital markets are essential for economic growth. With increasing globalization of economies, the worldwide capital markets are also becoming

increasingly incorporated, while such integration is constructive for global economic growth.

Hussainey & Ngoc (2009) examined the effect of macroeconomic variables on Ghana Stock Exchange. They found that macroeconomic indicators such as lending rates and the inflation rate affect on stock market performance. Their results suggested that macroeconomic indicators should be considered for investors in developing economies. This motivates us to examine the degree to which this conclusion is applicable to another emerging stock market in Viet Nam.

Huberman & Zhenyu (2005) investigated that market embrace both the new issues by primary market and secondary market. Such securities might be raised in an organized market such as the Stock Exchange. As a marketplace where securities include stocks, bonds and shares are bought and sold openly with relative ease, the stock exchange is very important to the investors. The existence of a stock exchange in a capital market helps to broaden the share possession of a company and evenly distribute the nation's wealth by making it possible for people in different locations to own shares in a firm in another location by purchasing the shares, bond stock through the simple mechanism of the stock market.

Kandir (2008) investigated the linkage between stock price and macro economic variables for some developing countries in Eastern Asia which examined the impact of macroeconomic risks on the equity market of the Philippines stock exchange. Findings show that financial fluctuations in

exchange rate and political changes on owners of Philippine equities cannot be able to explain Philippine stock returns.

Mohammad et al. (2009) investigated that Karachi stock exchange is largest and most active stock market in Pakistan, accounting for 65% to 70 % of the value of the country total stock transaction as on October 1, 2004, 663 companies were listed with market capitalization \$23. 23 billion having listed capital of us \$ 6. 59 billion. Pakistan's industrial exports and foreign investment today are growing at the country's fastest rate ever. The country's foreign exchange reserves skyrocketed to \$12327. 9 million in 2003-04 from \$2279. 2 million in 1998-99. Similarly, several Pakistani stocks are now traded on international markets. Also, foreign brokerage houses are now being allowed through joint ventures with Pakistani investment bankers to participate in primary as well as secondary markets in Pakistan.

The stock exchange is not only crucial but also central to the entire mobilization process. This is because it offers an opportunity for continuous trading in securities. The purpose is to examine the impact of the macroeconomic variables which includes interest and exchange rates on the stock prices of oil sector by using regression analysis. Seven year data of both dependent variable and independent variables has been used to determine the result.

The macroeconomic variables would provide more information about the stock return economic activity relationship. This would also consider other firm characteristics in order to obtain a better insight about the return generation process.

Chapter two consists of literature review where as chapter three consist of methodology and chapter four consists of results interpretations.

## **Chapter 2: Literature review**

Roll & Ross (1980) suggested that the arbitrage pricing theory is suitable alternative because it agrees perfectly on what appears to be perception behind a capital asset pricing model. The arbitrage pricing theory is based on the linear return and generating process at the first principle which require no utility assumption. It is also not restricted to a single period. This theory is applicable in both multi period and single period cases. Arbitrage pricing theory begins with an assumption based on return generating process. There are two major differences between arbitrage pricing theory and capital asset pricing theory, first arbitrage pricing theory allows more then one generating factors. Secondly arbitrage pricing theory demonstrates that any market equilibrium must be consistent with no arbitrage profit, every equilibrium will be characterized by a linear relationship between each asset expected return and its return response.

After determination of the factors in asset returns other than the market returns, the arbitrage pricing theory was introduced in order to determine the association between variables used in the study, arbitrage pricing theory stated the use of variables without the need of pre specification of variables but it did not take too long before the criticisms to appear. One foremost criticism was that, the arbitrage pricing theory can not be able to specify the factors, but just explain them statistically. This inefficiency of the arbitrage pricing theory was established even in the first empirical arbitrage pricing theory study.

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Ammer (1993) investigated the empirical relation between macro economic variables and stock prices in ten different countries, with a main objective is to find a links between these vaiables. The stock price decomposition is used to find the ways through which negative stock prices is associated with a positive inflation which is because of decrease in dividends and increase in real equity returns.

Ammer (1993) observed in the results that generally increase in the rate of macro economic variables are directly linked with decrease in dividends and also decrease in required real equity returns. This favors the corporate tax related theories in which any change in the tax related systems affect on an increase in the rate of inflation this helps the firm in raising their cost of their capital relative to the return that has been earned by investors in the firm.

Ammer (1993) investigated that In the United States (US) and the United Kingdom (UK) the suggestion of the arbitrage pricing theory model with a conditionally heteroscedastic economic factor imply that macro economic variables may increased the average amount of capital.

Kaul (1995) suggested the impact of changes in monetary policy regimes, expected macro economic variables and there impacts on stock prices. Post war evidence from four countries reveals a direct link between these relations and the central banks operating targets which include money supply, interest rates and exchange rates. Specifically, the post war opposing relation has been found between stock price and in expected macro economic variables are significantly stronger during interest rate regimes.

Bonomo & Garcia (1997) investigated a version of the conditional capital asset pricing model with respect to a local market portfolio, which provides alternative by the Brazilian stock index during the period of 1976 to 1992. For this purpose they had selected conditional arbitrage pricing theory model by using the difference between the 30 days rate and the overnight rate as a second factor in addition to the market portfolio in order to capture the large inflation risk present during this period.

Bonomo & Garcia (1997) used conditional capital asset pricing model and arbitrage pricing theory models in the formation of the portfolio that consist of twenty five securities exchanged on the Brazilian market, this played an important role for the appropriate pricing of the portfolios. It has been examined that the unconditional moments of the returns series for the stock market index taken from the IFC Emerging markets data base it shows an average return in US dollars of 21. 15% and an average excess return in local currency of 28. 82%. For industrialized countries standards, it has been observed that these returns are exceptionally high.

According to the fundamental asset pricing models such as the capital asset pricing model or the arbitrage pricing theory considered that, high expected returns getting from the security are linked with high measures of risk with respect to a number of risk factors that are going to affect directly on market portfolio.

According to the capital asset pricing model, the expected return getting from the portfolio of assets is because of the covariance of the portfolio return which consists of different securities from exchange with the market

portfolio return. It has been examined that the while selecting any market portfolio Two different views can be undertaken: it has been considered that the Brazilian stock market is divided into different segmented and concentrate on local risk factors which consist of macroeconomic variables that help in explaining local returns of the stocks, another way to adopt the perspective is that, international investors diversifying their portfolios worldwide by investing their funds into different market of the world in order to reduce the risk from their portfolio because if they invest in only one market with out diversifying in this way risk is high because if decline in market takes place then the investor will directly going to suffer loss on investment.

Bonomo & Garcia (1997) examined that they adopt the view according to which the Brazilian stock market is divided and tests a description of the conditional capital asset pricing model with reverence to a limited market portfolio, characterized by the Brazilian stock index in the IFC database. The conditional capital asset pricing model is experienced on a set of size portfolios produced from a total of twenty five securities exchanged on the Brazilian markets. The IFC emerging markets data base of the World Bank provides data on stock prices and other financial variables for both the stock index and individual stocks in a series of rising and newly industrialized countries. The Brazilian stock market is subjected by individual investors. They characterize investors in the market with minute investment knowledge or experience, they speculate in the stock market in the absence of market experience. Stocks are often bought and sold on historical prices and on market news about stock prices, resulting in stock market mania.



Bonomo & Garcia (1997) selected the total list of twenty five common shares which were listed on the Brazilian stock exchange from January 1976 to December 1992. To test this model the return on individual securities has been selected, but for the purpose of getting linear result they have limited the number of variables used in this process.

Bonomo & Garcia (1997) examined the degree of the covariance parameters which is small in absolute value but small in variance of the surplus return. The betas of the second and third portfolios got negative values in the outline followed by their magnitudes, which increases with the capitalization value. This specifies the high of worth portfolios which offers the best hedge against the risk. It should be seen that, by adding a second factor, all the market portfolio betas become lower as compared with other portfolios.

Altay (2003) suggested that a range of macroeconomic variables representing the essential indicators of an economy are employed in the factor analysis processes and factor realizations of principal economic phenomena. Arbitrage pricing theory has a serious disadvantage in defining systematic risk factors. In contrast to the Arbitrage pricing theory, the market portfolio as the only risk factor in the capital asset pricing model is clearly defined.

Asset prices are supposed to respond to series of macro economic procedures. A number of macroeconomic alterations influence asset prices stronger than others and some do not even influence them at all. One of the most well known Arbitrage pricing theory tests on this topic was implemented and measured by a number of important economic variables to

have systematic influence on asset returns. Arbitrage pricing theory is only focused on shaping the number of risk factors that systematically give details about the stock market returns by formulating factor analysis methods.

Altay (2003) have chosen five factors from the New York stock exchange and AMEX which depend on the period length and the size of the stock groups under examination. In this paper they put into practice empirical analysis to both German and Turkish stock markets and economic data. It shows that Germany and Turkey are both European countries with dissimilar levels of economic development.

There are numerous earlier empirical results of the Arbitrage pricing theory for the German and Turkish Stock Markets. Monthly returns of ninety three assets are put into practice, the principle components analysis method are used in order to test the arbitrage pricing theory. The accomplishment of the maximum likelihood factor analysis method used some macroeconomic variables as possible common risk factors in the analysis.

The asset prices are supposed to respond to macroeconomic factors and unexpected changes in macroeconomic factors are estimated to be rewarded in stock markets. The factor structures of the German and Turkish economy are presented by employing the same eight macroeconomic variables and stock market proxies in the principle mechanism and maximum likelihood factor analysis. In each type of analysis of German variables, four factors are extracted while only three variables are derived

from Turkish variables, representing dissimilar factor structures of these two economies.

Javed & Aziz (2005) suggested the development of financial equilibrium asset pricing models which has been the most significant area of research in current financial theory. These models are broadly tested for the development of the market. The strength of the Arbitrage Pricing Theory (APT) model on returns from twenty five aggressively trading stocks in Karachi Stock Exchange using monthly data from January 1997 to December 2003 had been examined. Arbitrage pricing theory suggested that there are a number of sources of risk in the economy that cannot be eliminated.

Javed & Aziz (2005) considered in relation to economy wide factors such as inflation, interest rate, exchange rate and changes in aggregate output. Instead of calculating a single beta, like the capital asset pricing model, arbitrage pricing theory calculates several betas by estimating the importance of an asset's return to changes in each factor.

The arbitrage pricing theory assumes that a security return is a linear function. The arbitrage pricing theory thus specified that the risk premium for an asset is connected to the risk premium for each factor and that as the asset's sensitivity to each factor increases, its risk premium will increase as well.

The arbitrage pricing theory forecast that the prices of all sensitive assets in the economy conformed to the condition of no arbitrage. No arbitrage indicate that an individual investment in a well diversified portfolio could not receive any additional return merely by altering the weights of the assets  
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incorporated in the portfolio, holding equally systematic and unsystematic risk constant. The arbitrage pricing theory stated that there is a set of fundamental sources that influence all stocks returns. The stock return is a linear function of a certain number of economic factors, while these factors are unnoticeable and not significant. In order to test the arbitrage pricing theory empirically, following approach has been used.

It can simultaneously calculate approximately the asset sensitivities and unknown factors by examining factor analysis on stock returns. On the other hand, it identifies previous general factors that give details about the pricing in the stock market.

Such macroeconomic variables can be those affecting either future cash flows on companies or future risk adjusted discount rates. These selected twenty four stocks are the most active stocks with just about 80% weight of aggregate market capitalization of KSE 100 index companies. In order to analyze the stability of the factors in the arbitrage pricing theory, the period is divided into two sub periods; monthly data had been selected for the purpose of examination. The schedule are reported approximately daily by the news media. The outcome specify that in the whole sample period only two priced factors are found to have exploratory factor analysis approach; in the first sub period none of the factors seems to be priced, and in the second sub period they discovered only one priced factor at the 5% level of significance.

The number of priced factors seems to be very low and the consequences of this approach specify considerable instability of the explanatory power of the

arbitrage pricing theory. The results of two different testing methods for the arbitrage pricing theory are nearly in the identical manner because in the whole sample period two priced factors are found. This is an encouraging result, which supports the theory. But the number of priced factors seems to be very low and the results of this approach point towards substantial instability of the explanatory power of the arbitrage pricing theory.

The arbitrage pricing theory is an alternative for the Capital Asset Pricing Model in this way both shows a relation between assets returns and their covariance with other variables, where as capital asset pricing model focuses on the covariance of the market portfolio return.

Huberman and Zhenyu (2005) suggested that the arbitrage pricing theory entails a procedure to identify at least some features of the underlying factor structure. Merely stating that some collection of portfolios (or even a single portfolio) is mean variance efficient relative to the mean variance frontier spanned by the existing assets does not constitute a test of the arbitrage pricing theory, because one can always find a mean variance efficient portfolio. Consequently, as a test of the arbitrage pricing theory it is not sufficient to merely show that a set of factor portfolios satisfies the relation between the return and its covariance with the factors portfolios.

Gunsel & Cukur (2007) investigated the performance of the Arbitrage Pricing Theory (APT) in London Stock Exchange for the period of 1980-1993 as monthly. The arbitrage pricing theory introduced by CRR (1986) involves identifying the macroeconomic variables which directly impact on stock returns. Thus macroeconomic behavior influence the returns on stocks and

utilizing macro variables in the return generating process provided a basis to approximate stock returns.

The simplest of theories of pricing a financial asset is by discounting future cash flows. Hence, the following exogenous variables that affect the future cash flows or the risk adjusted discount rate of a company must be measured. The reason is to recognize the macroeconomic forces that influence the stock market. For this purpose seven economic variables are examined.

The model is designed in a way to test the two conditions. These conditions are economic conditions such as term structure of interest rate, inflation, money supply, the exchange rate, the risk premium and industry specific conditions, dividend yield and industrial production. Their result suggests that share prices are affected in a different manner than one described in CRR.

This can be explained by the idea that other explanatory variable may be at work in UK or the CRR methodology is inadequate. They suggested that, interest rate, inflation and money supply were among the factors that are found to be significant. However, in this case unexpected inflation seems to be insignificant.

Humpe & Macmillan (2007) investigated the relationship between stock market and a series of different macroeconomic and financial variables through out the stock markets over a range of different time horizons.

Presented financial economic theory proposes a number of models that gives a structure for the examination of this association. Arbitrage pricing theory is <https://assignbuster.com/the-importance-of-the-stock-market-to-the-economy/>

a one way of linking macroeconomic variables to the stock market where different kind of risk factors which affect market in a different ways can give details about asset returns. The early investigations related to arbitrage pricing theory focused on individual security returns, where as it may also be used in a cumulative stock market structure. In this way any changes in a given macroeconomic variable could be seen as reflecting a change in an underlying systematic risk factor influencing future returns. Many of the past empirical studies based on arbitrage pricing theory that links the state of the macro economy to stock market returns, are characterized by modeling a short run relationship between macroeconomic variables and the stock price in terms of first differences, assuming trend stationary. These papers found a significant relationship between stock market prices and changes in macroeconomic variables. An alternative, but not inconsistent, approach is the discounted cash flow or present value model. This model relates the stock price to future expected cash flows and the future discount rate of these cash flows. All macroeconomic factors that influence future expected cash flows or the discount rate by which these cash flows are discounted should have an influence on the stock price. This showed that long term moving average of earnings predicts dividends and the ratio of this earnings variable to current stock price is powerful in predicting stock returns over several years. The only negative coefficients are found on long term interest rates. Additionally, it has been examined that European stock markets are highly integrated with that of Germany and also found that industrial production, stock prices and short term rates in Germany positively influence returns on other European stock markets (namely France, Italy, Netherlands, Switzerland and the UK).

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Humpe & Macmillan (2007) draw upon theory and existing empirical work as a motivation to select a number of macroeconomic variables that might expect to be strongly related to the real stock price. They make use of these variables, in a co integration model, to compare and contrast the stock markets in the US and Japan.

The aim is to examine whether the same model can explain the US and Japanese stock market while yielding consistent factor loadings. This might be highly relevant to private investors, pension funds and governments, as many long term investors base their investment in equities on the assumption that corporate cash flows should grow in line with the economy, given either a constant or slowly moving discount rate. Unanticipated inflation may directly influence real stock prices negatively through unexpected changes in the price level. Inflation uncertainty may also affect the discount rate thus reducing the present value of future corporate cash flows.

Tursoy, Günsel, & Rjoub (2008) suggested that the reason of this study is empirically test the arbitrage pricing theory in Istanbul Stock Exchange for the period of February 2001 up to September 2005 on monthly base. The arbitrage pricing theory is a theoretical substitute to the capital asset pricing model which analyzed the strength of the arbitrage pricing theory in the US securities market. They used US macroeconomic variables as proxies for the underlying risk factors driving stock returns.



Tursoy, Günsel, & Rjoub (2008) found that several of these macroeconomic variables to be important in explaining expected stock return, particularly in industrial production, changes in risk premium, and twist in the yield curve.

Tursoy, Günsel, & Rjoub (2008) analyzed the empirical applicability of the arbitrage pricing theory is to price the Istanbul Stock Market, and to recognize the set of macroeconomic variables which communicate more closely with the stock market factors. There are list macroeconomic variables which were used to price the stock of Istanbul Stock Exchange which formed in eleven portfolios from the industrial sector because it represents the important segment of the traded stocks which consists of 174 out of 259 totally traded stocks.

A higher index is reflected in higher values of these three variables, therefore, this indicates greater pressure on the exchange market depending on the nature of the involvement of the respective Central Bank. That is, speculative pressures are either accommodated by a loss of reserves or can be prevented by the monetary authorities through an increase in interest rates. Each portfolio may influence different industry in different manner by macroeconomic variables; a macroeconomic factor may affect one industry positively, but affect the other industry negatively.

The regression results specify that there is no significant pricing relation between the stock return and the tested macroeconomic variables. This indicates that other macroeconomic factors affect the stock return in Istanbul Stock exchange or the multifactor arbitrage pricing theory with macroeconomic variables fails to explain the effect in stock market. The

consequence found that there is no relationship between the macroeconomic variables and stock market return.

Kandir (2008) suggested that by make use of statistical tools like factor analysis, arbitrage pricing theory provide guidance in the use of variables without the requirement of pre specification of variables but it did not take too long before the criticism to appear. One most important criticism was that, arbitrage pricing theory can't be able to properly explain the variables which are used in the study, but just derive them statistically.

This insufficiency of the arbitrage pricing theory continues that the result obtained from factor analysis should be primary economic variables, such as gross national product (GNP) or interest rates. Additionally, in this paper they acknowledge that stock prices and stock returns are systematically affected by economic variables. For this purpose they have selected the data from July 1997 to June 2005 in order to analyze there impact. Their findings of suggested that there has been a significant relation between Macroeconomic factors and stock return in the countries examined.

Kandir (2008) recommended that the examination of major economic factors that are alternate of the derived factors in the arbitrage pricing theory which is the first to employ specific macroeconomic factors as proxies for undefined variables in the arbitrage pricing theory.

Expected dividends of a company can be directly affected because of increase in inflation rate, real production, oil prices and consumption. The new model has an explicit advantage over the arbitrage pricing theory.

There is no theoretical framework for the selection of macroeconomic  
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variables. Stock prices are found to share positive long-run relationships with industrial production and consumer price index. Whereas result they obtained has found to have a negative relation with money supply, interest rate and exchange rate.

Kazi (2009) identified the significant risk factors for the Australian stock market by applying co integration technique. It is Relevant to previously used variables, which act as a substitute for Australian systematic risk factors.

The linear combination of previous variables is found co integrated although not all variables are significant. The bank interest rate, corporate profitability, dividend yield, industrial production and, to a lesser extent, global market influence are significant for the Australian stock market returns in the long-run; while the stock prices are used in each quarter by its own market presentation, interest rate and global stock market arrangements of previous quarter.

The sensible implications for both local and overseas investors as all investors now able to direct their investment risks better while considering Australian stocks into their portfolios through monitoring only 4 to 5 factors that are identified here.

The relationship between kibar rates and stock prices of oil sector from the viewpoint of asset portfolio allotment is commonly negative. An increase in interest rates raises the necessary rate of return, which in turn inversely affects the value of the asset. Measured as opportunity cost, the nominal interest rate affects investor's decision on stock holdings. A rise in the <https://assignbuster.com/the-importance-of-the-stock-market-to-the-economy/>

opportunity cost may, however encourage investors to find a substitute shares for other assets.

Using co integration technique this paper performs an empirical analysis to identify the significant risk factors for the Australian stock market. In doing so it examines whether or not the selected a previous variables can give details about the return generating and pricing process of the Australian stock market.

The results are in conformity with the current finance theory, yet interestingly different on some points. In long run, it is found that the Australian stock market prices are being influenced by only 4 or 5 systematic risk factors.

Nguyen (2010) examined the stock price performance of an emerging stock market the Stock Exchange of Thailand, by applying a new equilibrium stock price theory. They have chosen the data for assessment during financial crises. The theory recommend stock market risks and returns are determined by essentials under a linear relationship recognized on the basis of a consistent multi factor model return generating process and the assumptions of perfectly aggressive and frictionless markets. The literature on asset pricing models has taken on original lease of life since the appearance of the Arbitrage Pricing Theory, is substitute theory to the renowned Capital Asset Pricing Model (CAPM). Being motivating in its own right the arbitrage pricing theory soon concerned a number of main financial economists and researchers which had yielded its several affect on different researches.

The methodology for testing the strength of the capital asset pricing model can be functional for testing the weight of arbitrage pricing theory. The two pass test measures are applied in almost every test of the arbitrage pricing theory. The study on certain macroeconomic forces which are going to systematically affect the stock returns of certain stocks. Their result suggests industrial production; changes in a default risk premium, term structure, and unanticipated inflati