THE REPUBLIC OF TURKEY

DOĞUŞ UNIVERSITY

INSTITUTE OF SOCIAL SCIENCES

MBA/FINANCE

THE EFFECT OF FINANCIAL RATIOS AND MACRO FACTORS ON

BIST - 30 INDEX RETURNS

Master's Thesis

Hüseyin Özdemir

201381010

Asst. Prof. Dr. Sıtkı Sönmezer (Advisor)

Istanbul, Oct 2017

THE REPUBLIC OF TURKEY

DOĞUŞ UNIVERSITY

INSTITUTE OF SOCIAL SCIENCES

MBA/FINANCE

THE EFFECT OF FINANCIAL RATIOS AND MACRO FACTORS ON BIST - 30 INDEX RETURNS

Master's Thesis

Hüseyin Özdemir

201381010

Asst. Prof. Dr. Sıtkı Sönmezer (Advisor)

Prof. Dr. Nüket Saracel (Jury)

Assoc. Prof. Özlem Taşseven (Jury)

Istanbul, Oct 2017

FOREWORD

In this study, it is tried to determine the effect of financial ratios and macro factors on BIST-30 index returns.

I would like to thank my advisor teacher who support me at all stages of the research.

I also want to thank my beloved wife Beril Akyelken Özdemir for her continuous support and never ending belief.

Hüseyin Özdemir

Istanbul, Oct 2017

ABSTRACT

Stock prices are one of the most influential factors for investors and companies while deciding investment on stocks in order to maximize stock returns. The investors will be able to make more consistent investment decision when the investor consider the macro factors and financial ratios that affect the stock returns. For this purpose, this study deals whether there is any relationship between stock returns and the financial ratios and to determine which macro factors are the most effective on stock returns by using Multiple Regression Analysis Model. Quarterly financial ratio datas and stock returns of 10 companies which are traded in BIST and ranked by market cap are selected in the period 2008-2015. Financial ratios including return on equity, debt to equity ratio and current ratio. Volatility index, gold price, inflation, brent oil price, money supply, Bovespa index, gross domestic product and industrial production index are used as macro factors that are expected to affect stock returns.According to the results of the analysis, Bovespa index affects stock returns and also the financial ratios can predict stock returns as the Debt to equity has the higher predictive power than Current ratio and Return on equity.

Key Words: Stock Returns, BIST-30 Index, Financial Ratios, Macro Factors

ÖZET

Hisse senedi fiyatları, hisse senedi getirilerini maksimize etmek için hisse senetlerine yatırım yapmaya karar verirken yatırımcılar ve şirketler için en önemli faktörlerden biridir. Yatırımcıların hisse senetleri piyasasında yatırım kararları sırasındaki en önemli faktörlerdendir. Yatırımcılar, yatırım yapmayı planladığı hisse senedi getirilerini etkileyen makro faktörleri ve finansal oranları göz önünde bulundurduğunda daha tutarlı yatırım kararları verebileceklerdir. Bu amaçla, çalışmada hisse senedi getirileri ile finansal oranlar arasında herhangi bir ilişki olup olmadığı ve en çok hangi makro faktörün hisse senedi getirilerini etkilediği Çoklu Regresyon Analiz Modeli kullanılarak incelenmiştir. Borsa İstanbul'da işlem gören ve piyasa değer büyüklüğüne göre sıralanan 10 şirketin 2008-2015 döneminde çeyreklik finansal oran verileri ve hisse senedi getirileri kullanılmıştır. Özsermaye Kârlılık Oranı, Cari Oran ve Borç/Özsermaye Oranı finansal oranlar olarak kullanılmıştır. Hisse senedi getirilerini etkilemesi beklenen makro faktörler olarak oynaklık endeksi, altın fiyatı, enflasyon, brent petrol fiyatı, para arzı, Bovespa endeksi, gayri safi yurtiçi hasıla, sanayi üretim endeksi kullanılmıştır. Analiz sonuçlarına göre, Bovespa index hisse senedi getirilerini etkilemekte ve ayrıca finansal oranlar ile hisse senedi getirileri tahmin edilebilmektedir. Borç/Özsermaye Oranı, cari oran ve özsermaye kârlılık oranından daha yüksek tahmin etme gücüne sahiptir.

Anahtar Kelimeler: Hisse Senedi Getirileri, BIST-30 Endeksi, Finansal Oranlar, Makro Faktörler

TABLE OF CONTENTS

LIST OF TABLES

ABBREVIATIONS

BIST: Istanbul Stock Exchange

GDP: Gross Domestic Product

INC: Incorporated Company

INF: Inflation

IPI: Industrial Product Index

M^2:   Money Supply

ADF :   Augmented Dickey – Fuller

VIX :   Volatility Index

ROE :   Return on Equity

INTRODUCTION

The Subject of the Study: Stock returns are the most significant factor affecting investors' decisions in the stock market. The ability of making stable decisions on the stock market depends on the accurate and meaningful determination of the factors affecting stock returns. Investors aim the minimum risk and maximum return in each transactions. Therefore, investors are required to benefit from financial ratios to make decisions and each transactions. Stock price and returns become more important since the investors who want to gain maximum profits from stocks in the stock market. Thus, investors willing to be informed about the factors that affect stock returns. The factors that affecting stock returns are important since they are directing investment decisions and thus causing the selection of the subject of the study.

The Purpose of the Study: To determine the macroeconomic variables and financial ratios that are effective on stock returns and to test them on the basis of a model of the relationship between stock returns and these variables. Moreover, it is aimed to indicate which of these variables are more effective on the stock returns in the study. In this direction, it is determined that to shed light on investors by explaining all the features of stocks and which macro factors and financial ratios impact on the formation of the stock returns.

The Significance of the Study: The most significant indicator that influences investors' decisions in the stock market are stock returns. The development of the stock market and the ability to remain steady depend on investors' decisions. In order to make a stable decision, the factors that affecting the stock returns must be determined in a correct and meaningful manner. Therefore, this study is important for people who want to learn about stocks and the factors that affecting stock returns.

The Plan of the Study: The study planned in three parts. First part of the study consists of definition and types of stocks, derivatives and functions, rights and benefits for investors, definition of stocks and the risks investors may face investing in stocks and stocks in BIST are examined. Second part, consisting of literature rewiev which is chronological order. Third part is the analysis part of the study which are including the factors affecting stock returns. Finacial ratios and macro factors are considered as factors that affecting stock returns. Debt/Equity ratio, return on equity and current ratio

are used as financial ratios. VIX, gold prices, inflation, brent oil prices, money supply, bovespa index, gross domestic price and industrial production index are used as macro factors. Macro factors are tested with BIST-30 index returns. Financial ratios are tested with returns of top 10 companies which are traded in BIST-30 and ranked by market capitalization. Unit root tested for each variables by using Augmented Dickey Fuller Test. Autocorrelation tested for macro factors by using Durbin Watson Test.

Used Methods and Techniques: In methods part of the study, data collection and statistical methods used in the study are expressed. In this section, findings are interpreted and results are evaluated as a result of multiple linear regression model that examines the relationship between macro factors and financial ratios and stock returns.

Faced Problem and Restrictions: The preparation of the study did not encounter any difficulties in searching articles and reaching any reports. Hence, there was no limitation in the study.

CHAPTER 1

1. STOCK, THE BASIC CONCEPTS ABOUT THE FACTORS AFFECTING STOCK RETURNS

In this chapter the basic concepts of stocks are revealed before country risk on stock market returns are explained and the concept of stock, types of stocks, rights and obligations of shareholders, the factors affecting stock prices and definitions about stock values are explained.

1.1. Description of Stock

In Turkish Code of Commerce there is no certain definition of the concept of stock, but in the relevant article of the code incorporated company is described as shared partnership having a title and certain capital; also the characteristics of the concept of the stocks are determined by saying "responsibility of stockholders is restricted with shares that they make a commitment (Sağcan, 1987).

Some descriptions about stocks in literature are stated below:

Stocks, which are one of the capital market instruments, are legally approved negotiable instruments that are issued by incorporated companies and represent stocks into partnership funds (Uludağ ve Arıcan, 2001). Stocks are the most important assets/bonds that mediate funds, supply and demands in capital market and provide owners dividend and capital gain (Aktaş ve Akdağ, 2013).

Stocks, which form a specific part of the business capital in incorporated companies and issued to represent stocks, are stockholder documents having the characteristics of valuable paper (Ceylan ve Korkmaz 1998, 55). These documents shows that the person, who has the paper, has the partnership and responsibility at business capital up to the amount written on the paper (Ataman ve Kibar, 1999).

Stocks are issued by commandite partners or incorporated companies whose capital is shared (Tuncer, 1985). However, according to Capital Markets Board (SPK) article 4, stocks issued by commandite partners cannot be sold through public offering (İMKB, 2011). Stock corporations should obtain permission from Capital Market Board in

order to issue stocks. According to legislations in Turkey with some special laws some corporations can issue stocks (Karan, 2001). These are Incorporated Companies, Limited partnership divided into stocks, some banks, Central Bank of Turkey, Insurance companies, general stores, government business enterprises, investment trusts, intermediary institutions, special finance institutions, mass housing administration, state partnership administration (Apak, Sermaye Piyasaları ve Borsa, 1995).

1.2. Types of Stocks

Stocks can be classified into five categories as Registered and Bearer, Common and Preferred, Bonus and Paid up, Premium and Non-Premium and Founder and Dividend stocks.

1.2.1. Registered and Bearer Stocks

Stocks are separated into two groups in terms of transfer methods as registered and bearer stocks. Unless stated in the articles of association, the stocks must be written in bearer.

Registered stocks are designed on behalf of person and occurred the delivery of the transfer of ownership to the purchaser of the stocks unless otherwise implied in record book. Bearer stocks are stocks that the person is eligible to be considered holding the stocks on writing the name of the owner (Ege and Bayrakdaroğlu, 2016).

Companies, which want to issue stocks, show in their main contract that how much of registered stocks will be issued in writing and how much will be issued to stockholders. The importance of this difference emerges in conveyancing (Karslı, 1989).

The transfer of registered stocks is occurred through enrollment of the endorsed stock in stock ledger, but for bearer stocks delivery is the only method (Kızılot, 2016).

Benefits of registered stocks are that they have definite partners, they are easy to follow, on the other hand stock transfer needs long and bureaucratic procedure so it delays circulation in the market and affects stock value liquidity negatively. Therefore, bearer

4

stocks have the edge on and are more preferred because their transactions are made easily and fast.

1.2.2. Common and Preferred Stocks

Stocks are separated into two groups in terms of profits to their owners; Common and Preferred Stocks

Stocks, which provide equal rights to their owners if there is no contrary to the articles of association, are referred as common stock (İMKB, 2008). Common stocks provide equal stock from profit and divestment and right to vote in general meeting of stockholders (Gitman, 2003). In addition, these features, they provide right to speak in situations such as; choosing manager, sale of company assets and amalgamation of business (Ceylan ve Korkmaz, 2008).

The privilege of preferred stock is described as management privilege and privileges on divestment (Taner ve Akkaya, 2009).

1.2.3. Bonus and Paid Up Stocks

Stocks are separated into two groups in terms of capital increase; bonus and paid up stocks.

Issued with the use of the preemptive right to the former stockholders or through new commitments and payments terms stocks in establishment phase or capital increase is called as bonus stocks. By adding contingency reserve, revaluation fund, undistributed profits, real estate sales or the value of the capital increase in its subsidiaries and the securities issued without any payment to the new bonus stocks are called as paid up stocks (Karan, 2004).

1.2.4 Premium and Non-Premium Stocks

Stocks which are issued with a nominal value written on stocks are non-premium stocks, issued with higher value than their nominal value stocks are premium stocks (Karan, 2004).

In order to issue premium stocks there must be a provision in articles of association or resolution of general assembly must be taken. The board decision is required to issue premium stocks in registered capital system on condition that the articles of association and premium on issued stocks are taxable (Coşkun, 2008).

1.2.5. Founder and Dividend Stocks

Stocks are divided into two groups according to whether they represent capital stocks. These groups are: founder and dividend stocks.

Organization services provision, in writing the names of the founder of association pursuant to the company that provides the right to participate in a part of abdomen and a certain share capital participation into such company management and right to provide the founding are called as founder stocks (Ergül, 2004).

Stocks, which will be given after the installation process and with the decision of company's general assembly will be considered as representing the share capital, are called as dividend stocks (Başkaya ve Alper, 2007).

1.3. Rights and Obligations of Stockholders

Stockholders gain right to partnership to the business issuing stocks; and this partnership imposes rights and obligations such as right to dividend, pre-emptive right, the right to participate in the management of a company, the right to participate in the liquidation balance, voting right, right to receive information and to keep secrets about debt and debt capital.

1.3.1. Right to Dividend

Right to dividend is one of the most important rights of stockholder and it gives its owner to take share from year profit from the company. However, it is vested right, it can be restricted under certain conditions (Borsa İstanbul 2016).

1.3.2. Pre-emptive Right

One of the important rights of the stockholder is preferential right. In order to maintain their shareholding percentages in the company of old shareholders' new stocks to be issued by the company in proportion to the percentage they have is called preferential right. With preferential right of emption is given to old stockholders in proportion to their number of stocks and at a lower price than market value over a certain period (Faerber, 2008).

If business wants to go public and bring in new partners to capital, preferential rights of old stockholders can be restricted (Okka, 2006). Also, business can partially or fully restrict the preferential rights of old stockholders in order to provide equal treatment all stockholders that have same rights (Tanör, 2000).

1.3.3. Right to Participate in the Management of a Company

Right to Participate in the Management of a Company is a right to select company board or to be selected into this board. However, management right is often provided by the simple majority of general assembly, those who has majority %51 of the company capital will be able to take possession or management. Also if capital expands into a wide base, management right becomes interesting and in some companies with %10 majority can take management. With special provisions in the articles of association or legal interventions in some situations minority may be able to put their votes into administration (İMKB, 2008).

1.3.4. Right to Participate in the Liquidation Balance

The right to participate in the liquidation balance is owned right over the assets of the company in proportion to the share capital in case of dissolution or liquidation of the business with the stock and if no provision contrary to the company's articles of association liquidation, remaining balance is distributed as cash (Civan, 2007).

1.3.5. Right to Vote

Number of voting rights to be provided to stockholders is determined by the main contract. Each stock is giving at least one right to vote and the right to vote of a stock can be improved with articles of association (Borsa İstanbul 2016).

1.3.6. Right to Receive Information

According to Turkish Code Commerce the right to receive information of stockholders cannot be blocked or limited by the articles of association or company decisions. Stockholders have the right to review annual reports, the profit and loss account within one year after the general meeting and want the necessary explanation on issues they seem suspicious (İMKB, 2008).

1.3.7. Capital Debt

Stocks, which have partnership shares, load some financial responsibilities to the owners with some rights. The stockholders have committed to pay to the establishment or operation of capital increase are the main requirements. These sanctions applied to stockholders can be ordered as compensation, the loss of rights on the deposit amount, the stockholders of sanctions, extraction from the partnership, the request for payment of default interest (Karslı, 1989).

According to Turkish Code of Commerce the most basic task of partners to company is to pay capital debt that they have committed.

Partners cannot be forced to undertake new commitments and responsibilities without their consent in order to use their pre-emptive rights in subsequent capital increasing and after fulfilling capital commitment (Civan, 2007).

1.3.8. Confidentiality Debt

During and after the partnership stockholders are obliged to keep company secrets. (Borsa İstanbul 2016).

1.4. Value Definitions of Stocks

The stock value definitions are discussed in the measurement and analysis used to determine the efficiency of the stock. In the literature, there is a number of concepts related to the value of stocks. The most used concepts will be examined below.

1.4.1. Nominal Value

The nominal value is the value written on the stock, usually given to determine the amount of capital and accounting records (İvgen, 2003).

A nominal value to stock is given during putting on the primary market to make accounting records related to capital and to determine the amount of registered capital and nominal value is benefited by calculations of per share earnings and capital increasing (Ercan ve Ban, 2008).

1.4.2. Book Value

Book value is estimated dividing the number of stocks of the amount remaining after deducting accumulated losses. Total stockholders' equity amount represents the sum of equity such as revaluation fund, paid-in capital, reserves, retained earnings. Book value can give investors an idea of how much falling net asset values per share, however, it cannot be said that this value as it should be amount in the stock price (Konuralp, 2005).

If equity capital of business is greater than paid capital, book value is higher than nominal value, otherwise it will be lower than nominal value (Cornell 1993). Book value is called equity value by some (Bolak, 2001), also it is called as accounting value by others (Karaşin, 1987).

1.4.3. Market (Stock Market) Value

The price of the stock processed in the capital markets is called the market value of the stock. If the stock has been listed on the stock market, market value formed by demand and supply in the market is also called as the stock market value (Ercan ve Ban, 2012).

Market value consists of market supply and demand and can vary according to the actual value of the stocks. It can be observed that changes in the market value without changes in the market value of the partnership over time, depending on changing conditions in the market. Theoretically it is expected to approach to the actual value of the stock market value. However, it can be observed that market value of the stock falls below or rises above the real value. Stock cannot find the value in the market in the case that it is below the actual value, on the other hand in the event of being more valuable than actual value it is sold at higher prices (Halabak, 2006).

1.4.4. Issue (Emission) Value

Issue value is the price offered for sale in the primary market by the company in the derivation stage (Korkmaz ve Karaca, 2007). Issue value can be defined as emission price or public offering price (Koruyan, 2001).

1.4.5. Real Value

Real value concept was developed by Grahamm, Dodd and Cottle in order to evaluate stocks and can be used for evaluating every types of assets (Büker ve Ertuna, 1984). The actual value of the stock is defined as variables such as capital structure and investment opportunities, dividend policy, earnings, shares of companies (Grahamm 1995, 267).

The most accepted value in the stock value concepts is the real value and there are two important variables in the calculation of this value. These variables are: The company's future earnings and stockholdership in the ratio reflects the future risk of capitulation.

1.4.6. Liquidation Value

Liquidation value is estimated by dividing the number of stocks after payment all debts from the value that can be achieved by forced sale within a certain period of the company's remaining assets. The liquidation value is very important for investigation of the market value. Liquidation value forms the lower limit for the market value of the company's stocks.

In this case when the stock market value falls below the liquidation value it will be the right decision to liquidate the company (Belverd, 1994).

1.4.7. Going Concern Value

The value is defined as going-concern value in case of transfer of business as a whole and this value is greater than the value to be obtained from business assets by selling pieces (Ercan ve Ban, 2012). Going-concern value is often calculated as the difference between the book value or liquidation value and the actual value of business (Brealey, 1999).

Liquidation value creates a lower limit for the market value, on the other hand going-concern value forms the upper limit (Parasız, 2000).

1.5. Stock Market in Turkey

Borsa Istanbul Inc. is established in accordance with the 138th clause of 6362 numbered Capital Market Law which went into operation by being published in the official gazette on December 30, 2012; to make stock exchange activities. Borsa Istanbul, which brings the stock exchanges in the Capital Market of Turkey together under one roof, got official authorization on April 3, 2013 after the preparation of main agreement by Capital Market's Board and after it was declared. Borsa Istanbul, which was established by depending on 6362 numbered Capital Market Law, can make its own internal regulations in the fields and issues in which it is entitled and possess corporate body governed by private law (Borsa İstanbul 2016).

The main purpose and subject of activity of Borsa Istanbul is providing a purchase and selling of capital market instruments, foreign currencies, precious metals and gems and the other agreements, documents and assets which are approved by Capital Markets Board, within the scope of provisions of law and related legislation under open competition conditions in an easy and reliable way and in a transparent, active, competitive, honest and stable environment and also bringing the purchase and sale orders together in a way of concluding them or paving the way for them to be brought together and also on the point of determining and declaring the composed prices; to create, constitute and develop other market places organized with markets, fairs, platforms and systems and managing and/or operating them and the other stock exchanges or the markets of stock exchanges (Borsa İstanbul 2016).

The main components of stock-exchange market are tried to be explained in this part of the study. In the next part of the study; the theoretical explanations particularly in terms of country risk is given place by investigating the risks encountered in the stock-exchange market and the notions of yield.

1.5.1. Duties and Authorities of BIST

Investigating applications associated with entering securities to exchange list under the conditions stated in the quotation regulations, evaluating applications and making a decision. Opening markets related to financial futures related to money, foreign exchange precious metals by fulfilling the legal requirements. Creating securities markets for securities that can be traded at the exchange according to their types; determining securities that can be traded at these markets and publishing them on stock bulletin. Determining the working days and hours of markets and declaring on the stock market bulletin. Announcing prices as a result of transactions made on the stock market and total amount of these transactions at the end of the session. Taking necessary precautions within the authority granted by the legislation, in case of any unusual occurrence of adverse developments in the stock market.

1.5.2. Weaknesses of BIST

The crowding out impact of government securities on private sector securities undermines the effect of product range. Crowding-out effect can be expressed as government investments and spendings affect private sector investments negatively. Institutional investor base is not at the desired prevalence. Creating a strong basis for capital markets made institutional investor basis expand. Free float rate of companies is not high. One of the most important problems in Turkey is that low free float rate and stocks held by individual investors make difficult for individual investors' attempts to claim their rights. Exporters cannot benefit from the capital markets to the desired extent.

1.5.3. Strengths of BIST

Although capital markets have many aspects open for improvement, with legal infrastructure and regulations they can be compared with developed countries. The education level of staff is high and it consists of young, dynamic crew. System works flawlessly with its infrastructures following technological developments. Remote access to the market has been introduced. It is recognized as the market can be invested in and is at the top of developing markets in the world. In 1995 BIST established Federation of Euro-Asian Stock Exchanges and still manages it. There is investor hedge fund in BIST. The potential number and diversity of companies are high.

1.6. Risks Encountered in Stock Investments

"Risk" is called that the possibility of changes occurring in the current situation will bring differentiation in a result. According to another definition, risk is that it is a coincidence that cannot be controlled in the economic field and in terms of law it refers to the future uncertain event formed outside the will of the parties. Those who are exposed to risk have also right to win because they take a risk of losing (Serin, 1998).

According to finance theory risk can be described as the possibility of the future expected results will not occur in the future. This definition indicates that the rate of return will take place in vary also and rate of return the investors expect to get from their investments is not known. Such a definition includes that realization status of the expected rate of return taking place at the end of the investment period in other words includes deviation from expectations (Altay, 2004).

Risk is that the possibility of expected return is different from earned return. In stock investments investors can make investment decisions based on the data of the expectations and predictions. Total risk of investment, which is also known as security portfolio, can be reduced by putting together risky assets and riskless assets

"Do not put all your eggs in one basket" expression explains the diversification requirements in the simplest way. The total investment will face less risk when at least

in two risky assets are invested. Today, both individual and institutional investors are take notice of the principles to reduce risk through diversification (Berk, 1999). There are many sources of risks in investment in securities. These sources are being unmindful of an adequate number of similar investments, misunderstanding of the information, inaccuracy use of data, using older data due to economic changes and analysis errors.

Risk factors can be divided into two parts as "systematic risk" and "non-systematic risks". These factors affect the prices of stocks either directly or indirectly.

1.6.1. Systematic Risks

It is a type of risk that affects national economy and financial market. Changes in economic, social and political conditions and affects in all security available in the market.

Systematic risk causes from decline in stock prices to market crisis, from market crisis to securities institutions crisis. Phases between these crisis and banking crisis or financial crisis must be well paid attention (Erkan, 1997).

Depending on the relatively high systemic risk in the stocks in the Turkish capital markets changes in inflation, interest rates or foreign exchange immediately affect the price of the stock value in BIST. Types of systematic risk are explained as below.

Market Risk: Market risk is called that arise from the decline in prices of most stocks due to changes in the expectations of investors (Karaşin, 1987).

Interest Rate Risk: Interest rate risk expresses the possibility of increasing or decreasing of market interest rate. Interest rate causes to changes in the market prices of securities with certain interest and correspondingly their returns (Korkmaz ve Karaca, 2007). When the return of interest rate of investor is higher than the return of stock, investor probably will prefer interest rate.

Purchasing Power Risk: Purchasing power risk can be defined as inflation risk. If prices constantly increase and actualize more than return of investment power of purchasing declines. Nominal earnings are not significant in countries with a high rate of inflation. Real earnings must be calculated (Ertuna, 1991).

Inflation is defined that continuously increasing prices and correspondingly devaluation of the money in the market. Continuous increase in the general level of prices will reduce the purchasing power of the investor in case that it happens in the formation of the return on investment. On the other hand, dividend income expectation is also expected to be very low due to the high rate of inflation.

Exchange Risk: Exchange risk arises in the event of devaluation in investing with a foreign currency. In the coming years investors exceeding the country borders will increase the importance of exchange risk. There is a strong relationship between changes in exchange and interest rates in different countries. Profitability of investments made in foreign countries will change in parallel with the variability of exchanges (Ceylan ve Korkmaz, 2008). Giving place to the securities belonging to different countries in international portfolio made by investors may be a factor to reduce exchange risk.

Political Risk: Political risk describes the changes in return of securities caused by political conditions. Political Risk is emerging as a reflection of national and international political developments (Karabıyık, 1997). In globalized world changes that may occur in political conditions will lead to changes in the value of securities depending on integrating status of financiwal markets.

1.6.2. Non-Systematic Risks

Non-Systematic risks are independent from other factors that affect the industry and capital market. Therefore, non-systematic risk should be estimated separately for each firm. (M. Bolak 1991, 172). Examples of non-systematic risk can be stated as the death of a key manager or technical staff of the company, going on strike of employees in the company, entering the market of foreign company working with low cost, finding oil in the field of company ownership. (Berk, 1999)

Therefore, the basic rule related to financial investments portfolio provides the greatest return on the portfolio and is the purchase of securities differentiating risk. Systematic risk is a type of risk that cannot be brought under the control. However, with changes made in sources non-systematic risk can be reduced or even wiped out.

Business Risk: Business risk refers to the decline in returns to be obtained in the form of capital gains or dividend by investor, depending on the reduction of the income of the company or the power to create competitiveness. For example, a company foresaw that its income will increase by %20 each year, if growth rate is expected to reduce by %10 due to increasing competition conditions, it will make investor a loss because it will reduce the market prices of the stocks.

Although stability in stock prices create an index for measuring market risk, in measuring business risk stability of income of the company creates an index. Therefore, measurement of the distribution range of returns of company and stability of growth rate is sufficient for measurement of business risk (Konuralp, 2001).

Financial Risk: Financial risk is the reduction of the company's solvency ratio. Risk arises depending on companies financing their activities with own resources or external sources. Financial risk is the danger that the income of company falls below to pay interest and dividends as a result of losing continuity due to loans and lag behind in environmental conditions (Ceylan ve Korkmaz, 2008). For investors, financial risk increases since increase of the company's debt, sales fluctuation, the possibility of increasing in raw material prices, strike, obsolescence of production, increasing competition, deficiency of working capital and mismanagement. (Charles, Donald ve Cherrill, 1977). Financial risk ratio is different in each

company depending on influential factors. Investor can reduce financial risk with a good portfolio created from securities of various companies in the sector.

Liquidity Risk: Liquidity risk refers to disposing of security with below its market value. Liquidity is important for individuals and companies. If cash flows are not balanced, some liabilities cannot be fulfilled or providing cash causes to cost money and it reduces profit maximization (Ebiçlioğlu ve Kahraman, 2000). Liquidity risk in short-term securities is generally lower than the long-term securities.

Management Risk: Success of businesses depends on the ability of the management team. Management faults affect variables that determine the value of the stocks. As a result of management faults sales and profits of company can reduce also the risk can increase. These developments will lead to decline on stock prices by affecting them negatively (Akgüç, 1989).

1.7. The Macroeconomic Factors That Affecting Stock Prices

Stocks are highly risky investment instruments. Investors should review and analyze factors affecting the stock to receive a successful investment decision, to generate more returns and to avoid risks. Knowing of these factors is important for estimating the direction of movement the stock prices and it allows investors to make smarter decisions. Any change in macroeconomic factors can affect the value of stock prices through their impact on cash flows and discount of businesses. Investors should decide by making good investment analysis when investing in stocks, which are one of the tools of macroeconomic factors.

1.7.1. Money Supply

The money supply is defined as the amount of money available in circulation in the economy. Money supply is in the event of a decisive variable affecting other economic indicators with its role in the realization of the economic activity in the money market.

It is reported that monetary aggregates have a significant impact on the stock market in the finance literature. The increase of money supply can bring heat to stock market but increased inflationary expectations affect stock markets negatively (Chambers, 2003). Increases in the money supply have a positive effect on the stock prices in the short term. However, reduction in money supply generates pressure on stocks prices (Çelebi, 2001).

Economists have been debating for so long whether monetary policies have impact on stock prices. Some economists suggest that monetary policies do not affect stock prices, others say the exact opposite. Any increase at inflation rate raises discount rate causing increase in money supply also raises nominal risk-free rate of interest. In this case there will be a negative relationship between money supply and stock prices. On the other hand, with the economic stimulus provided by monetary growth it can be put against the negative impact on inflation and stock prices and this will result in an increase in future cash flows and stock prices. In addition, investors will become more profit share, it will have expected to increase demand for the shares of the business. Therefore, the impact on stock prices of the money supply is an empirical question (Chambers, 2003).

1.7.2. Volatility Index (VIX)

VIX is an index that computed on a real-time basis throughout each trading day. The only meaningful difference is that it measures volatility and not price. VIX was introduced in 1993 with two purposes in mind. First, it was intended to provide a benchmark of expected short-term market volatility. To facilitate comparisons of the then-current VIX level with historical levels, minute-by-minute values were computed using index option prices dating back to the beginning of January 1986. Second, VIX was intended to provide an index upon which futures and options contracts on volatility could be written. The social benefits of trading volatility

have long been recognized. The Chicago Board Options Exchange (CBOE) launched trading of VIX futures contracts in May 2004 and VIX option contracts in February 2006. VIX affects the stock prices directly. If expected market volatility increases (decreases), investors demand higher (lower) rates of return on stocks, so stock prices fall (rise). Tem relation between rate of change in VIX should be proportional to the rate of return on the S&P 500 index. Increased demand to buy index puts affects the level of VIX. Hence, should expect to find that the change in VIX rises at a higher absolute rate when the stock market falls than when it rises.(Whaley, 2008)

1.7.3. Inflation

Inflation is defined as continuous increase in different amounts in the overall level of prices. In other words, inflation can be defined as the depreciation of the money (Şahin 2006, 471).

Changes occurring in the price level affect the value of securities, the estimated return on the investments made in securities. Therefore, any increase in the price level becomes one of the most important factors in determining the price of securities (Halabak, 2006).

The relationship between stock and inflation can also be explained by the change in the money supply. A decline in the money supply is often associated with a tight monetary policy that causes the decline in inflation. Low inflation encourages the demand for the stock by increasing the confidence of investors, it affects the long and short-term capital inflows and leads to an increase in the stock prices.

Some suggest that there is a positive correlation between some variables, some say the exact opposite in the findings of researches on the relationship between inflation rate and stock returns in literature. Studies claim that positive relationship is based on the Fisher Hypothesis (Fisher, 1930), others are based on hypothesis of Fama (Fama, 1981). (Dağlı ve Ayaydın, 2012) Therefore, the impact of inflation on stock prices is controversial. The duration and severity of inflation determines what kind of effect it will have on stock prices (Kültür 1988, 14).

1.7.4. Industrial Production Index

Industrial production index is an indicator of the production of industry companies. The increase in the industrial production index means the growth of the national economy. In Turkey, the industrial production index is among the statistics of Turkish Statistical Institute.

Increase in industrial production and capacity utilization rates are good indicators for investors to make investment decisions. Stock investors should interpret the increases in industrial production index as positive and they have to take into consideration seasonal changes. Industrial production usually declines during the winter and summer but increases in the spring; also affects stock prices positively (Diril, 2000).

1.7.5. Gross Domestic Product

Gross Domestic Product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific period, and is a macroeconomic indicator providing information about the general economic trend. When the economy and GDP grow, stocks prices also increase (Durukan, 1999).

Assume that there is an increase in GDP. The increase of GDP causes that raising of real income. As the real income arises in the economy, the income of the people who will also increase. Therefore, the demand for goods and services will raise since the income of tem people ease of demand will have a positive effect on the company returns. This means that sales of the companies are going up. Thus, the investors willing to invest stocks of that company in the stock markets. In this case, the prices of the companies' stocks will go up (Yalçın, 2011).

1.7.6. Brent Oil Price

It is thought that changes in oil prices is an important factor to understand the fluctuations in stock price. The relationship between oil prices and the stock market is researched in many study. In the long term, there is a relationship between oil prices and stock prices. Industrial sector is the most intensive sector that affected from the oil prices. (Abdioğlu ve Değirmenci, 2014).

1.7.7. Gold Price

Gold is a significant precious metals since limited production capacity and inelastic supply structure. (Akbulak, 2005). Some researches which are made in USA and also Turkey indicated that there is an inverse relationship between gold prices and stock prices. (Dramalija, 2008).

1.7.8. Bovespa Index

The Bovespa Index is an index of about 50 stocks that are traded on the Brazilian Stock Exchange. In today's globalized world, the interactions of the markets play an important role in investors' strategies for allocating funds and mitigating risk. The difference between the capital markets of the different countries can be caused like trading volume, geographical proximity, macroeconomic policy, growth rates, banking policies, political stability. Fora international investors, it is essential tok be able to diversify portfolios in the direction of foreign stock markets. In addition, the determination of the relationships between the stock exchanges of vaious countries is also important in terms of revealing the possibility of arbitrage. There is a long-term relationship between Bovespa index and ISE-100. The reason of this, the developing countries have similar characteristics in terms of general economic structures and thus, they can be perceived in the same risk group and prefered by foreign investors to gain high return in tock exchange of developing countries (Vuran, 2010).

1.8. Other Factors That Affecting Stock Prices

1.8.1. Internal Factors

These factors are influential factors in the price of the stock and occur in business' internal structure. These factors are stated below.

1.8.1.1. Capital Structures

The capital structure of the business is considered to have an impact on market value of the company thus stock market values (Canbaş, 2007). Capital structure consists of stockholder's equity and foreign liabilities; prices of stocks can vary against the changes taking place in the capital structure of businesses.

Changes in the financial structure of the company are the financial risks of businesses. When fixed obligations of businesses increase, they need more resource to fulfill these obligations, as a result financial risk will increase, too. Increase in bankruptcy risk and liquidation risk affects value of stocks. Increasing fixed liabilities raises profitability of stockholder's equity and provides stockholder's equity to be used in another investment area more profitable. However, the increase of fixed obligations may also increase interest payments and dividends paid to the stock may also be affected negatively (Demir, 2001).

Various approaches and theories have been developed to find the impact of changing capital structure of business on capital and business value (Sayılgan, 2008). The basic approaches developed for the capital structure are: The Traditional Approach, Modigliani and Miller Approach, Net Income Approach, Pecking and Asymmetric Information with Net Operating Income and Agency Theory (Akkaya, 2008).

1.8.1.2. Corporate Governance

Corporate governance, includes being responsible and reliable, fair accountable and transparent of business management and supervision. The continuity of business performance and sustainable financial success is earned by full applying these principles. Therefore, corporate governance is a management approach that aims to add value to the company and aims to render the maximum value of the company (Denis ve McConnell, 2003).

The age, experience, ability and success of the management team affect the income, the risk situation and hence stock prices of the business. If business management provide the expected profits of shareholders, stock prices are positively affected.

However; mistakes made by the management adversely affect company profits in business activities and cause a drop in stock prices.

Stock markets affects the company's management decisions. Therefore, directors will try to maximize the price of stocks due to the danger of losing the management (Demirgüç ve Levine, 1996).

1.8.1.3. Insider Trading

Insider training can be described as trading nonpublic information about the company or companies with a special relationship by one person who has access this secret or special information (Gücenme, 1994). In other words using the information about company obtained from a variety of ways in order to influence the prices of stocks in the capital market and disbursing before made it public (Şengül, 1988).

Increasing the contribution to the national economy of capital markets and the investors who invest in these markets is required in case of equality information in order to continue the process with confidence in this market. Otherwise equality on information is deteriorating and insider trading issues become on the agenda (Karasioğlu, 1998).

1.8.1.4. Manipulation

Manipulation is referred to as behavior intended to keep the price of securities an artificial level by tricking people to get these or sell securities. In 2003 European Union published Market Abuse definitions in one of its bulletins. These are stated below: "Market abuse consists of insider dealing and market manipulation. The objective of legislation against insider dealing is the same as that of legislation against market manipulation: to ensure the integrity of Community financial markets and to enhance investor confidence in those markets." (Sermaye Piyasası Kurulu 2016)

According to US Securities and Exchange Commission, manipulation defined as behavior which is deliberately designed to deceive investors for changing artificially or checking the market of a security (Özcan, 2012).

1.8.1.5. Estimated Operating Earnings

Estimated operating income plays an important role in the determination of the stock price. When operating profit rises it rises company's stock price, otherwise it lowers stock price. Therefore, estimated operating earnings have a direct impact on stock prices. Also stock price and estimated operating earnings are dependent on the current level of the current and historical operating earnings.

Existing and past earnings performances of businesses affect the stock prices accordingly future earnings (Meena ve Preeti, 2009).

1.8.1.6. Dividend Policy

Dividend distribution leads to an increase in the market price of the stock and is defined as distributing business profits earned in a particular period to its shareholders and companies (Ertaş ve Karaca, 2010).

Businesses are forced to pay a certain amount of the dividend to increase the market value of the shares or to prevent falling and value of the stock on the market increases when the dividend payment date approaches (Demir, 2001).

It is suggested that stock prices are affected by the company's dividend policy. If the company's profitability is larger than the rate of return provided by the investment of the shareholders, leaving profits in the company increase shareholders' assets and it raises the price of stocks being reflected their market value. Otherwise a high ratio dividend policy is beneficial for company. However, if company profitability and rate of return of shareholders are equal, dividend policy will not have any impact on the market price of stocks (Okka, 2006).

Dividend policy is important in terms of market value maximization for stocks held by the shareholders.

1.8.1.7. Information Quality Specified in the Financial Reports

Financial reports are reports that are prepared in accordance with accounting principles, the company's assets and capital structure the formation of the profit for the year and results of operations (Durmuş ve Aral, 1994). According to another definition, financial reports are accounting tools which are related to the company's operations and enable comparison over time (Goetz ve Klein, 1990).

While issuing stocks, businesses are required to submit any information other than the current secret of business, the financial position of the company to investors, their activities possible risk status and securities prices in a reliable way. All of the information passed on to investors through financial reports of businesses plays an important role in determining the investment decisions and the price of shares issued by the company.

1.8.1.8. Intellectual Capital

Intellectual capital is not fully shown in the balance sheet and the invisible qualities considered based on knowledge but it reflects the true value of the business (Yıldız, 2010). According to another definition intellectual capital is defined as all of the fortified, shaped, acquired intangible assets to provide businesses continue to produce more valuable assets and operations (Brooking, 1996).

It has been proven in studies that the identification or measurement of intellectual assets owned by the business makes a large contribution to profitability and performance of business; businesses develop and implement new methods to measure the value of intellectual capital. The elements, which create intellectual capital, should be known in order to use, understand and find intellectual capital. These elements are classified as human capital, structural capital and customer capital (Rudes ve Mihalic, 2007).

Skills, technical knowledge, experience and intuition of people in businesses consist of human capital (Yörük ve Erdem, 2008). Human capital is important because it constitutes a source of innovation in businesses also it represents the business potential of unlimited renewal (Kanıbir, 2004).

Structural capital is defined as all non-human sources of information such as organizational charts, databases, strategies in business structure. The elements of structural capital are more important than human capital because they allow the conversion of human capital into goods and services (Çıkrıkçı ve Daştan, 2002).

The customer capital has a significant impact on the income expected to get in the future and arises from the relationship between the customer and the company. Customers who have the most pronounced value of intellectual capital elements and businesses should ensure customer satisfaction so that they can profit that is one of the main objectives of them (Yörük ve Erdem, 2008).

1.8.2. External Factors

The external factors which are not related with the business but which have an impact on the business' stocks' prices can be aligned as political factors, speculation, seasonal movements and market psychology.

1.8.2.1. Political Factors

The prices of the stocks which are the mediator of stocks and bonds investment demonstrate a considerable susceptibility towards political events such as privatization policies of the government which will originate after the political events, elections and poll.

Because uncertainty will be relevant about the results of the elections, namely about entering the period of a coalition or a single party; the investment risk in the investments which will be made upon businesses are increasing and a decrease can be seen in the investments of stocks.

The privatization policies of the government which will originate after the elections also have an impact on the stocks' prices. With the privatization of the businesses which are under the government ownership; the increase is provided in capitalization rate and market activity of the national stocks and bonds market. By making a part of the stocks of the privatized firms be traded in the markets of other countries; a capability of being marketed internationally is provided for the stocks (Yalçıner, 2005).

In the countries which are governed by the coalition; a hard landing or rising can be seen in the stocks' prices in the periods of political debates or of the speculations about early election and these situations makes it hard for the investors to take an investment decision. However, in the countries in which there is a single party on the political power; economic stabilization along with political stability can be more easily provided and a positive mobility is expected in the prices of the stocks.

1.8.2.2. Speculation

Speculation is defined as the purchase of economic resources whose prices are expected to increase, depending upon the assumptions of individuals and activity of gaining profit by way of selling of the ones whose prices are expected to decrease. If the assumptions of the individuals prove to be right, the profit is gained and in the opposite case, a loss is made. Speculation can be made upon all goods and financial assets in which descent and ascent are seen in the prices and which are easily portable and kept without breaking down. The speculator is the person who does the activity of speculation, namely; who, by undertaking a risk with relying on his/her knowledge and capacity of evaluating the information, gets stocks and bounds for a cheap price and who aims to sell them with a more expensive price than the purchase price in the future.

The prices of the stocks are considerably affected by the speculative activities, especially in the flexible markets whose market depth is not too much (Ege ve Bayrakdaroğlu, 2009).

The process of purchasing and selling of stocks with a speculative quality can be a stability provider in stock exchange market, as well as it can gain a quality which destroys the stability if it is overdone.

1.8.2.3. Seasonal Movements

Seasonal movements can have an impact on the stocks' prices by causing a decrease or increase in the prices of stocks. In the prices of the stocks that are traded at the exchange as a result of the firms' annual balance sheets becoming clear in the first three months of the year, an increase is generally seen. Generally, in the months of March; the determination of firms' emoluments which will be distributed carries the increase in the stocks' prices to the end of April and after

the distribution of emoluments, a decrease is seen in the stocks' prices along with the effect of holiday season. In the firms with a good balance-sheet; with the preparation of a six-month balance-sheet and with the end of holiday season, markets start to get into action and a seasonal increase is seen after the recession and decrease in the summer months. During the preparation process of year-end balance sheet; the increase in the stocks' prices continue and the maximum value is reached in the stocks' prices from the time of the clarification of emolument rates which will be distributed by the firm's general assembly, to the time of distribution (Karslı, 1994).

1.8.2.4. Market Psychology

The rumors about the businesses, government crisis, the death of the leaders, the rumors about the firms' financial and administrative structures and the reactions of the investors can have a positive or negative effect on the supply and demand of stocks and they can generate psychological factors which affects the stocks' prices (Özalp ve Anagün, 2001).

During the period in which economic and politic environment is appropriate, a recession can be seen in the stock exchange and prices can decrease. During the period in which some of the indicators signal the existence of negative conditions; it is seen that the stock exchange can preserve its liveliness, the prices can increase and the demands can increase rapidly and these kind of contradictory situations are described with "market psychology". The investors' being pessimist or optimist about either economic or social or politic developments (such as wars, political crisis, treaties of peace) determines the market psychology and thus, have an impact on the stocks' prices.

1.8.3. Industry Related Factors

Factors related to the industry can be sorted by; the operations of the business, the position of the business in the sector, the level of competition in industry sector and incentives provided by the state to industry sector.

1.8.3.1. Principal Business Activity

Principal business activity influences stock prices in a certain level and in a certain direction. The structure of the national economy, consumption patterns, regulations, provided incentives bring some sectors into the forefront. The profitability of the businesses in these sectors is high thus their stock performance in stock market is also high (Yıldırım, 1995).

1.8.3.2. Position and Share of the Business in the Sector

Position of the business in the sector affects the value of the business. The value of a business in the sector, which is constantly growing, is higher than business located in downsizing sector.

Market share is the ratio of sales to total sales in the sector of the business. Market share shows the location and ranking of business in the sector. Changes in market share carry a quality of measure in terms of market share, they have big importance in business' decisions due to affecting profitability directly (Eren, 2000).

1.8.3.3. Level of Competition in the Industry

Directly or indirectly all of the activities to provide goods or services to the market are called competition (Eren, 1987).

In general competition is determined by two basic elements; the structure of the current market and the structure of market behavior. The features of market in which businesses operate are constituted by existing and potential competitors, substitution industrial products, negotiating power of buyers and sellers (Mac ve Seizing, 1982).

Changes expected to occur in economic conditions, laws and attitudes only affect businesses operating in that sector. These changes affect the value of stocks and company's profits negatively (Ceylan ve Korkmaz, 2007).

1.8.3.4. Governmental Incentive in the Sector

The notion of reinforcement is defined as the tangible or intangible support, help and encouragements given in various methods with the purpose of enabling certain economic activities to develop much more and more faster than the others (İncekara, 1995).

In the developing countries such as Turkey, the reinforcements provided by the government are for decreasing or removing all enterprise risks in the development process. Thereby, the properties, sectors or attempts which are encouraged, motivated with proportion to other entrepreneurs come to gain competitive power and the acquired competitive power can increase stocks' prices by increasing the firm value (Demir, 2001).

1.9. Comparison of BIST and Developing Countries

In recent years more changes are experienced in world stock markets than in the last half century. Both technological, economical developments and economic integration reveal some significant tendencies in securities exchanges and therefore capital markets are in search of new tendencies (Karacan, 2002).

BIST is considered as a developing stock market in the world. Developing stocks have started to attract the attention of international investors in 1992-1993. In the US bond and interest yields have shown a significant decline, which can be accepted as the reason why it happens. This situation leads international investors to seek higher returns and some of them do not hesitate to enter developing stock markets. (Apak ve Demirel, 2009).

Conjuncture increase in developing countries also reflects in the stock markets.

As a result of real economic growth in some developing countries after 80's, GDP has upsurged and this situation continued until 1998 Global Crisis uninterruptedly. It can be said that starting from 80s growth success will continue in especially Far East, Eastern Europe and South America due to disappearance of the impact of global crisis. Turkish economy has also followed this growth trend but not as much as South Korea, China, Israel and Poland. Developing stock markets provide investors more profit than developed stock markets thanks to international tax regulations, corporatization plans and capital movements. (Berk, 1999).

BIST National 100 Index ranked fifth in most growing stock markets rating with the increase of %96,6 in the year 2009.

In December of 2009 BIST was identified as the second rising stock market with the increase of %16 rising from 45.350,17 to 52.825, 02. In the same period the most declining stock market is Iran with %6.3 it was followed by Greece with %3 and Slovenia with %2.4. In December 2009 the most increased stock markets were Luxembourg with %18.6, BIST with %16.5, Sri Lanka with %16.2 and Japan with %9.9

When December 2009 is compared with December 2008 58 members of 61 World Federation of Exchanges rose and only in 3 stock markets a decline was experienced.

Especially in the first quarter of 2009 it was extraordinary bad for the world economy. Many countries faced with economic shrinkage. İ Turkey's economy shrank in the ratio of %14.7 according to last revised figure in the first quarter of 2009. Later, Turkey's economy started to recover and shrank in the ratio of %7.9 in the second quarter and %3.3 in the third quarter.

To enliven the economy countries announced bailout and stimulus packages. The largest stimulus package was formed by the US with 787 Billion USD. Turkey also put into practice precaution packages. The effects of the global crisis on the financial markets reduced in the third quarter of 2009 due to applied monetary and financial precautions.

CHAPTER 2. LITERATURE REVIEW

The factors that have an impact on stock returns have been the basis of many studies. It has been one of the most important curiosities about which variables shoul be taken into consideration when making investment decisions. Macro and micro factors are considered in some of the studies that examine the factors affecting the stock return, while a significant number of the studies are dealt with as financial ratios and variables that may have an effect on stock returns. Considering the related literature, financial ratios have been found to have significant effects on stock returns, while in some studies no relationship between financial ratios and stock returns has been found. In this context, some studies in the domestic and foreign literature regarding the effect of financial ratios on stock returns are given in chronological order.

In the study, conducted by Lam (2002), on the purpose of testing relationship between stock returns and leverage ratio such as book leverage and market leverage. The study indicated that both of two leverage ratios have relations with stock returns. Johnson (2004), improved an option-based value of the company in the presence of information risk (measured by analyst forecast dispersion). According to his result, a weak unconditional positive relation relation between future returns and leverage, but after controlling for underlying company characteristics (e.g., volatility) he indicated that the relation between leverage and future returns turned out to be negative.

Yılmaz, et al. (2006), on the purpose of testing relationship between ISE 100 index and interest rate, money supply, foreign trade balance, industrial production index, exchange rate and consumer price index. The data set covered from 1990 to 2003 and used ISE 100 index as dependent variable and interest rate, money supply, foreign trade balance, industrial production index, exchange rate and consumer price index as independent variables. According to the result, there was a statistically significant and positive relation between ISE 100 index and exchange rate, consumer price index and money supply. There was a statistically significant and negative relation between ISE 100 index and interest rate and foreign trade balance. Industrial production index is not effective on ISE 100. The authors found that there is a one-way causality relationship between ISE 100 index and consumer price index and interest rate and exchange rate and money supply bidirectionally.

There is no causality relationship between ISE 100 and industrial production index and foreign trade balance.

Sönmez and Terzioğlu (2007), on the purpose of testing relationship between ISE 100 index and GDP. They used quarterly data covering from 1986 to 2002. The study concluded that there is no relation between ISE 100 index and GDP.

Dehuan and Jin (2008), on the purpose of testing relationship between stock returns and macro factors which are total asset turnover rate, earnings per share, profit margin, return on assets, return on equity and profitability on sales. In their studies, they analyzed the firms which had the highest 10% performance on the market in terms of annual returns. Stock returns are used as a dependent variable. Total asset turnover rate, earnings per share, profit margin, Return on assets, Return on equity and profitability on sales are used as independent variables. Simple and multiple analysis are used in the study. The result shows that macro factors had a significant effect on stock return. These factors usually indicated that while stock price is increasing, the explanation power is decreasing.

Dizdarlar and Derindere (2008), on the purpose of testing relationship between ISE 100 and current accounts, foreign trade balance, domestic investments, portfolio investments, emission volume, money supply, industrial production index, foreign debt, consumer price index, gold price, open market operations weighted average interest rate, open market repo and reverse repo datas are used for the period 2002-2007. The result indicated that the exchange rate is the most factor affecting the ISE 100 index.

Demir and Yağcılar (2009), on the purpose of testing relationship between returns on stock of banks traded ISE and macro factors using arbitrage pricing theory. The data set covered from 2000 to 2006. Exchange rate, capacity utilization rate, Treasury bill interest rate, money supply, industrial production index, GDP, gold price and current account balance are used as independent variables. ISE-100 index is used as a dependent variable. Treasury bill interest rate, industrial production index and current account balance is effective on ISE-100 index.

Omağ (2009), on the purpose of testing relationship between financial index and national index and inflation, money supply and long term interest rate for the period 1991-2006 in Turkey. Inflation data is used as consumer price index, long term interest rate as the interest rate on saving deposits with one year maturity.

As a result of the study, there was a negative relation between both indexes and interest rate. However, there was a positive relation between both indexes and money supply and inflation.

Zügül and Şahin (2009), tried to determine the macroeconomic factors affecting stocks' returns during January 2004 – December 2008 using monthly data. At the end of the study, they found that money supply, exchange rate and interest rate are statistically significant and negatively related to ISE 100 index and also there was a statistically significant and positive relation between ISE 100 index and inflation rate.

Cihangir and Kandemir (2010), tried to determine the macroeconomic factors affecting stocks' returns during 1988 – 2002 through Arbitrage Pricing Model. ISE 30 index are used as a dependent variable. Consumer price index, export/import ratio, capacity utilization ratio, gold price, exchange rate, interest rate on treasury bills, short-term deposit interests, current account balance and money supply are used as independent variables. According to the results of the study, there was only one factor having a statistically significant relationship with ISE 30 index is Consumer Price Index.

İşcan (2010), on the purpose of testing relationship between ISE 100 index and Brent oil price. In the study used daily data covering from December 2001 to December 2009. The study analyzed with Variance based Granger causality test. The result indicated that there is no long-term cointegration relation between ISE 100 and Brent oil price.

In the study, conducted by Büyükşalvarcı (2011), on the purpose of testing relationship between financial ratios and stock returns. In the research, data period contains the years 2001 and 2008 crsis for the manufacturing sector firms. In the study, 17 financial ratios are classified under five groups that are liquidity ratios, operating ratios, financial structure ratios, profitability ratios and stock exchange performance ratios. According to analysis result in 2008 there was a statistically significant and negative relation between cash ratio and stock returns. In 2001 there was no statistically significant relationship between stock returns and liquidity ratios. According to analysis result in 2001 there was a statistically significant and positive relation between asset turnover and stock returns and also there was a statistically significant and negative relation between equity turnover and stock returns. In 2008 there was no statistically significant relationship between stock returns and operating ratios. According to analysis result in 2001 there was a statistically significant and positive relation between leverage ratio and stock returns and also there was a statistically significant and negative relation between short

term debt/total asset and stock returns. In 2008 there was no statistically significant relationship between stock returns and financial structure ratios. According to the result of profitability ratios, both in 2001 and 2008, there was a statistically significant relation between ROE and stock returns. According to the result of stock exchange performance ratios, both in 2001 and 2008, there was a statistically significant and positive relation between Market value/Book Value and stock returns. There was a statistically significant and positive relation between Earnings per Share and stock returns.

In the study, conducted by Caglayan and Kangalli (2011), on the purpose of testing relationship between stock returns and macro factors. They used static and dynamic models for binary panel data. The study included eighty four companies of manufacturing sector, which are traded on the Borsa Istanbul. The results indicated that there are statistically significant relation between stock returns and inflation rate, interest rate, exchange rate and balance of trade deficit.

Kheradyar, et al. (2011), on the purpose of testing relationship between stock prices and financial ratios. Data covered from January 2000 to December 2009 in Malaysia stock exchange. Dividend yield, earning yield and book-to-market value are used as financial ratios in the study. They indicated that the financial ratios can predict stock return and yet, the book-to-market ratio has higher predictive power than the others. Moreover, they deduced that the financial ratios are able to enhance stock return predictability when the ratios are combined in the multiple predictive regression models. Bali et al. (2008), analysed the predictability of stock returns by using market-industry-level and firm-level earnings. They deduced that neither dividend payout ratio nor the level of aggregate earnings can predict the excess market return.

Nargelecekenler (2011), on the purpose of testing relationship between stock prices and price/earnings ratio. He used a panel data of 24 sectoral index over the 2000-2008 period in BIST. The result indicated that low price/earnings ratio is effective on stock prices. Aydemir et al. (2012) searched that financial ratios are effective on stock prices. He used a panel data set covering 73 manufacturing firms listed in BIST over the period of 1990-2000. He deduced that profitability and liquidity ratios have a positive effect on stock returns. Furthermore, leverage ratio which is taken as as an indicator of indebtedness has the same effect. However, he also indicated that there is no relation between operating ratios and stock returns. Korkmaz and Karaca (2013), analyzed the factors affecting stock returns using a panel of 16 firms listed in BIST over the period 1998-2010. According to the results, there were a statistically significant and positive relation between stock returns and Dividend Payout Ratio, Earnings Peer Share,

Return on Assets, Market to Book Value, change in Market value of firm and change in firm's market value.

Özer, et al. (2011), on the purpose of testing relationship between ISE 100 index and interest rate, money supply, foreign trade balance, industrial production index, gold pice, exchange rate and consumer price index. The data set covered from 1999 to 2009. At the end of study, there was a statistically significant and positive relation between ISE 100 index and money supply, industrial production index, gold price, exchange rate and consumer price index. There was a statistically significant and negative relation between ISE 100 index and interest rate and foreign trade balance. The authors also claimed that there was a long-term relation between ISE 100 index and money supply, foreign trade balance, industrial production index, gold price and consumer price index.

Sayılgan and Süslü (2011), on the purpose of testing relationship between stock returns and macro factors in Turkey and developing markets. Quarterly data from 1999 to 2006 analyzed for Argentina, Brazil, Indonesia, Hungary, Malaysia, Mexico, Poland, Russia, Chile, Turkey and Jordan. As a result of the study, exchange rate, inflation rate and S&P 500 index are effective on stock returns in developing countries. Moreover, there is no statistically relation between stock returns and interest rate, GDP, money supply and oil prices.

In the study, conducted by Çömlekçi, Kara and Kaya (2013), on the purpose of testing relationship between ISE-100 and macro factors. In the study, return of ISE-100 index was used as a dependent variable. Interest rate, money supply (M^2), industrial production index (IPI) and exchange rates were used as independent variables. The data was used monthly from January 2002 to June 2012. In the study, the multiple regression model was used for ordinary least squares method. According to the results, there is a positive relationship betveen money supply and storck returns. However, there is a negative relationship betveen exchange rate and ISE-100 index. There is no statistically significant relationship between stock returns and interest rate and industrial production index (IPI).

In the study, conducted by Korkmaz (2013), on the purpose of testing relationship between stock returns and market value increase (MVI), earnings per share (EPS), return on asset (ROA).

The data contains 16 companies in BIST at the period of 1998 – 2010 by panel regression method. Results indicated that market value increase and earnings per share are increased stock returns, ROA does not affect it.

In the study, conducted by Sevinç (2014), on the purpose of testing relationship between BIST-30 index and BIST-100 index, M^2 money supply, current account balance, exchange rate, inflation rate, deposit interest rate, gold price, export/import ratio, IPI (industrial production index), capacity utilization rate by using Arbitrage Pricing Theory. The datas included the period of January 2003 – March 2013. There was a statistically significant and positive relation between stock returns and BIST-100, current account balance, exchange rate, inflation rate, export/import ratio, capacity utilization rate. There was a statistically significant and negative relation between stock returns and money supply (M^2), gold price, deposit interest rate. There was no statistically significant relation between stock returns and industrial production index.

In the study, conducted by Güngör and Kaygın (2015), the factors affecting the future direction of stock price are taken from both macroeconomic and microeconomic perspectives with dynamic panel data method. The sample of the study is composed of 57 manufacturing industry companies traded in BIST in the period of 2005-2011. Stock prices are used as dependent variable. Financial ratios representing microeconomic factors (liquidity, profitability, activity, leverage and stock market performance ratios) and macroeconomic factors (exchange rate, inflation rate, money supply, interest rate, GDP, gold prices, petroleum prices, foreign trade balance and industrial production index) are used as independent variables. At the result of study, it has been determined that there is no statistically significant relationship between current ratio, net profit/total assets ratio, net profit/net sales ratio, market to book ratio and stock prices. There is a positive relationship between stock prices and acid test ratio, short-term liabilities/total equity, tangible asset/equity ratio, net profit/equity ratio and price/earning ratio. There is a negative relationship between Debt/equity ratio and stock prices. There is a positive relationship between stock prices and exchange rate, money supply, petroleum prices and IPI. There is a negative relationship between stock prices and inflation rate, interest rate, GDP, gold prices, foreign trade balance.

In the study, conducted by Cevik (2016), on the purpose of testing the predictability of stock returns through financial ratios and determining the financial ratios that are efffective on stock returns, the ones traded in BIST and in the manufacturing sector have used the 2005 – 2012 period data of 96 companies. In the study, stock returns are used as dependent variable and 27

financial ratios are used under the five financial ratios as independent variables. According to the results of the econometric analysis tested by panel logit regression method, the leverage ratio, price/sales ratio, asset turnover rate and ROA are determined as important variables explaining stock returns.

CHAPTER 3. METHODS AND FINDINGS

3.1. Macroeconomic Factors

All the indicators that affect the prices of stocks it also affects their income. It has been proven by scientific methods that return of stocks are influenced by macro factors. Macro factors are called the factors that affect the market itself and the market it is in. They are useful in determining the direction of stock movements. The major macro factors that affecting the stock price as interest rate, inflation, currency, IPI, Money Supply, gold price, oil price, foreign stock exchange index, GDP and portfolio investment of foreigners. In this study, Volatility Index (VIX), gold price, inflation, brentoil price, Money Supply (M^2), Bovespa Index, Gross Domestic Product (GDP) and Industrial Production Index (IPI) are used as macro factors.

3.1.1. Model of the Study

Multiple linear regression model applications are involved in the study. In this application the relationship between stocks and macro economic factors are tried to be explained using multiple linear regression analysis application.

3.1.2. Research Aim and Significance

Stocks are the most important tools that lead to savers and needers of medium and long-term funding to come together. This study is crucial for people who want to learn and invest about stocks and the factors that affecting stock prices. The main purpose of this study is that shed light on the institutions by explaining all the features of stocks and which factor is more impact on the formation of the stock prices. The aim of this study was to determine what the factors affecting the stock and which factor is found to be more effective.

3.1.3. Data Collection

In the application data set consists of since 2008 March to 2015 December 3 month data. Since GDP ratios are revealed as 3 month period. BIST 30 Index was taken into consideration as daily and closing prices of were used from the official website of BIST and used rate of return of this index since 2008 March to 2015 December. Inflation rate is based on Consumer Price Index as a monthly period and also Industrial Production Index data was collected as a monthly period. Gold (ons), brentoil price (Usd), Volatility Index (VIX) and Bovespa Index were taken into consideration the selling price end of the day. Money supply (M^2) was used weekly data.

3.1.4. Statistical Methods used in the Study

In linear regression model analysis data was analyzed through STATA software. BIST 30 Index was used as dependent variable. Inflation, Money supply (M^2), Gold price, Brent oil price, VIX, Bovespa Index, Industrial Production Index (IPI) and (GDP) were used as independent wariables.

In this part of the study, the relationship between BİST-30 and macro economic factors was explained with Multiple Linear Regression Model in STATA. The data of dependent and independent variables are taken from the years between 2008 and 2015.

3.1.5. Multiple Linear Regression Model Analysis

Regression anaylsis is an analysis that explain the relationship between dependent variables and independent variables.

Multiple linear regression model equation can be described as follows:

$$Y = B_1 * X_1 + B_2 * X_2 + B_3 * X_3 + \ldots + B_n * X_{n} + \varepsilon$$

Y: Dependent variable

X_i: Independent variable

B_i : Parameters to be estimated

ε : Error term

Hypothesis

H_o : Gold, GDP, Inflation, Brent Oil Prices, VIX, M^2, Bovespa Index and IPI are effective on BIST-30 Index

H_1 : Gold, GDP, Inflation, Brent Oil, VIX, M^2, Bovespa Index and IPI are not effective on BIST-30 Index

3.1.5.1. Summary of Multiple Linear Regression Analysis in STATA

Table 1. The Result of Multiple Linear Regression Analysis

Source	SS	df	MS
Model	0 .250548083	8	0.03131851
Residual	0.463538505	23	0.020153848
Total	0.714086589	31	0.023035051

Number of obs	=	32	
F(8, 23)	=	1.55	
Prob > F	=	0.1935	
R-squared	=	0.3509	
Adj R-squared	=	0.1251	
Root MSE	=	0.14196	

Table 2. VIF Results

Variable	VIF	1/VIF
Bovespa	3.46	0.289117
Brent Oil	2.38	0.420956
VIX	2.29	0.436633
Gold	1.64	0.610962
GDP	1.39	0.720324
IPI	1.38	0.722267
Inflation	1.31	0.763788
M^2	1.19	0.839357
Mean VIF		1.88

Table 3. The Result of Coefficients

BIST 30	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
VIX	0.04753	0.08692	0.55	0.590	-0.13228	0.22734
Gold	-0.28512	0.43784	-0.65	0.521	-1.19086	0.62063
Inflation	-0.20203	0.15613	-1.29	0.209	-0.52500	0.12094
Brent Oil	-0.17042	0.19817	-0.86	0.399	-0.58036	0.23952
M^2	-1.92113	1.21071	-1.59	0.126	-4.42568	0.58342
Bovespa	0.89971	0.40586	2.22	0.037	0.06013	1.73928
GDP	-0.00014	0.00033	-0.41	0.687	-0.00082	0.00055
IPI	-0.10632	0.43826	-0.24	0.810	-1.01293	0.80028
Cons	0.15889	0.13100	1.21	0.237	-0.11210	0.42988

Summary table shows that, R-Squared is 0,3509 and this can be interpreted as %35,09 of dependent variable are explained by independent variables.

The model which dependent variable is explained by independent variables is statistically significant, $F(8, 23) = 1,55$, $p < ,05$.

The multiple linear regression model equation can be described as follows:

BIST 30 = 0,1588918 + 0,0475289VIX - 0,2851173Gold − 0,2020274Inflation − 0,170421Brentoil − 1,921132M^2 + 0,8997053Bovespa − 0,0001355GDP − 0,1063233IPI + Ɛ

Same equation with standardized coefficients:

BİST 30 = 0,139VIX - 0,140Gold − 0,249Inflation − 0,223Brentoil − 0,291M^2 + 0,693Bovespa − 0,081GDP − 0,048IPI

This equation shows that:

One unit increase in VIX increase BİST 30 Index by 13,9 percent .

One unit increase in Gold Price decrease BİST 30 Index by 14 percent .

One unit increase in Inflation decrease BİST 30 Index by 24,9 percent .

One unit increase in Brent Oil Price decrease BİST 30 Index by 22,3 percent .

One unit increase in M^2 decrease BİST 30 Index by 29,1 percent .

One unit increase in Bovespa Index increase BİST 30 Index by 69,3 percent .

One unit increase in GDP decrease BİST 30 Index by 8,1 percent .

One unit increase in IPI decrease BİST 30 Index by 4,8 percent .

3.1.5.2. Autocorrelation

It is an important assumptions that there is not a relationship between the error terms in linear economic model. Such a relationship is defined as autocorrelation. (Yıldırtan, 2011). In case of error term with autocorrelation, the error term variance estimator would be deviated. It can be caused meaningful parameter even if meaningless parameter, R^2 which is high rising. In addition, F and t tests can be a wrong results.(Yıldırtan, 2011). Distinct autocorrelation tests can be applied in academical researches. In this study, Durbin Watson test are used.

3.1.5.2.1 Durbin Watson Test

The Durbin Watson statistic is a number that test for autocorrelation in the residuals from a statistical regression analysis. The regression model $y_t = \beta_0 + \beta_1 x_{1t} + \beta_2 x_{2t} + ... \beta_k x_{kt} + \varepsilon_t$ based on sets of n observations. The test of the null and alternative hypothesises are ;

H_0 : There is no autocorrelation

H_1 : There is an positive or negative autocorrelation

The decision rule is as follows :

> If $d < d_L$ Reject H_0

> If $d > d_U$ Accept H_0

> If $d_L < d < d_U$ Test is inconclusive.

Upper and lower critical values, d_U and d_L have been tabulated for different values of k and n where **n** = number of observations and **k** = number of independent variables and for significance levels of 5%.(Newbold, Carlson, Thorne, 2010)

For this study, the computed Durbin-Watson d-statistic(9, 32) = 2.10326 where BIST 30 index is dependent value and VIX (Volatility Index), IPI (Industrial Production Index), Gold Price, Inflation, Brent Oil Price , M^2, Bovespa Index and GDP (Gross Domestic Price) are independent values. d_U and d_L values have been Durbin Watson test tabulated as

d_L = 0.904 and d_U = 2.102 where k = 8, n = 32 and α = 0.05.

Thus, d = 2.10326 > d_U = 2.102 that is the null hypothesis can not be reject or accept null hyphotesis. Therefore, concluding that the error terms are not autocorrelated.

3.1.5.2.2. Unit Root Test

A unit root test tests whether a time series variable is non-stationary and possesses a unit root using an autoregressive model. The null hypothesis is generally defined as series contains a unit root and the alternative hypothesis is either stationarity, trend stationarity or explosive root depending on the test used. Two common trend removal or de-trending procedures are first differencing and time-trend regression. First differencing is appropriate for I(1) time series and time-trend regression is appropriate for trend stationary I(0) time series. Unit root tests can be used to determine if trending data should be first differenced or regressed on deterministic functions of time to render the data stationary. A commonly used test that is valid in large samples is the Augmented Dickey–Fuller test. Other popular tests are Phillips Peron, KPSS (Kwiatkowski–Phillips–Schmidt–Shin) and Zivot Andrews. In this study, unit root computed by Augmented Dickey-Fuller test.

3.1.5.2.3. AUGMENTED DICKEY – FULLER TEST (ADF)

The early and pioneering work on testing for a unit root in time series was done by Dickey and Fuller (Dickey and Fuller 1979, Fuller 1976). In case of Dickey Fuller Test, there may create a problem of autocorrelation. To tackle autocorrelation problem, Dickey Fuller have developed a test called Augmented Dickey Fuller Test (equation 1, 2 and 3).

$$(1) \quad \Delta Y_t = \gamma Y_{t-1} + \sum_{j=1}^{p} \left(\delta_j \Delta Y_{t-j} \right) + e_t \qquad \text{the model has only intercept}$$

$$(2) \quad \Delta Y_t = \alpha + \gamma Y_{t-1} + \sum_{j=1}^{p} \left(\delta_j \Delta Y_{t-j} \right) + e_t \qquad \text{the model has only trend and intercept}$$

$$(3) \quad \Delta Y_t = \alpha + \beta t + \gamma Y_{t-1} + \sum_{j=1}^{p} \left(\delta_j \Delta Y_{t-j} \right) + e_t \qquad \text{the model has no trend, no intercept}$$

$where:$

45

- t is the time index,
- α is an intercept constant called a drift,
- β is the coefficient on a time trend,
- γ is the coefficient presenting process root,
- p is the lag order of the first-differences autoregressive process,
- e_t is an independent identically distributes residual term.

All the three model come to same decision all the time whether our variable why has unit root or not that means all the three model must comply that our variable which is y has unit root or not. To make the variable stationary, used first differencing method. The hypothesis as follows:

Null hypothesis H_0 : The variable is not stationary or has unit root.

Alternative hypothesis H_1 : The variable is stationary or does not have unit root.

ADF TEST FOR BIST 30

D.Bist30	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Bist30 L1	-0.8779459	0.1707498	-5.14	0.000	-1.227168	-0.5287232
_cons	0.0249974	0.0260457	0.96	0.345	-0.0282721	0.078267

. dfuller Bist30, regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.142	-3.709	-2.983	-2.623

In ADF test, used 5% critical value compared to test statistic value. The values compared as absolute value.In addition L1 must be negative number. Otherwise the model is not valid. If the absolute test statistic value is grater than the absolute 5% critical value then reject the null hypothesis means that the variable is stationary or does not have unit root.

First model of ADF test that is only intercept. |-5.142| > |-2.983|, Thus reject the null hypothesis means that BIST 30 is stationary or does not have unit root.

D.Bist30	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Bist30 L1	-0.8760645	0.1719884	-5.09	0.000	-1.228367	-0.5237622
_trend	-0.0022344	0.0029099	-0.77	0.449	-0.008195	0.0037262
_cons	0.0607114	0.0533985	1.14	0.265	-0.0486704	0.1700933

. dfuller Bist30, trend regress lags(0)			
Dickey-Fuller test for unit root		Number of obs = 31	
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.094	-4.325	-3.576	-3.226

Second model of ADF test that is only trend and intercept.

|-5.094| > |-3.576|, Thus reject the null hypothesis means that BIST 30 is stationary or has no unit root.

D.Bist30	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Bist30 L1	-0.8573539	0.1691736	-5.07	0.00	-1.202.853	-0.5118552

. dfuller Bist30, noconstant regress lags(0)			
Dickey-Fuller test for unit root		Number of obs = 31	
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.068	-2.650	-1.950	-1.602

Third model of ADF test that is neither intercept nor trend.

|-5.068| > |-1.950|, Thus reject the null hypothesis means that BIST 30 is stationary or has no unit root.

ADF TEST FOR VIX

D.VIX	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
VIX L1	-1.241652	0.1814345	-6.84	0.000	-1.612727	-0.8705769
_cons	0.1060893	0.0817876	1.30	0.205	-0.0611851	0.2733636

. dfuller VIX, regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -6.844	-3.709	-2.983	-2.623

First model of ADF test that is only intercept. |-6.844| > |-2.983|, Thus reject the null hypothesis means that VIX is stationary or does not have unit root.

D.VIX	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
VIX L1	-1.241466	0.1845973	-6.73	0.000	-1.619.596	-0.8633354
_trend	-0.0011685	0.0091026	-0.13	0.899	-0.0198143	0.0174774
_cons	0.1247676	0.1676193	0.74	0.463	-0.218585	0.4681201

dfuller VIX, trend regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -6.725	-4.325	-3.576	-3.226

Second model of ADF test that is only trend and intercept.

|-6.725| > |-3.576|, Thus reject the null hypothesis means that VIX is stationary or has no unit root.

D.VIX	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
VIX L1	-1.193006	0.1795242	-6.65	0.000	-1.559643	-0.8263683

dfuller VIX, noconstant regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -6.645	-2.650	-1.950	-1.602

Third model of ADF test that is neither intercept nor trend.

|-6.645| > |-1.950|, Thus reject the null hypothesis means that VIX is stationary or has no unit root.

ADF TEST FOR GOLD

D.Gold	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Gold L1	-0.9846126	0.1856653	-5.30	0.000	-1.364341	-0.6048845
_cons	0.0082069	0.0138747	0.59	0.559	-0.0201701	0.0365838

. dfuller Gold, regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.303	-3.709	-2.983	-2.623

First model of ADF test that is only intercept. |-5.303| > |-2.983|, Thus reject the null hypothesis means that Gold is stationary or does not have unit root.

D.Gold	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Gold L1	-1.202737	0.1850569	-6.50	0.000	-1.581809	-0.8236649
_trend	-0.0042218	0.0015255	-2.77	0.010	-0.0073466	-0.001097
_cons	0.0784128	0.0282857	2.77	0.010	0.0204722	0.1363535

. dfuller Gold, trend regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -6.499	-4.325	-3.576	-3.226

Second model of ADF test that is only trend and intercept.

|-6.499| > |-3.576|, Thus reject the null hypothesis means that Gold is stationary or has no unit root.

D.Gold	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Gold L1	-0.9667086	0.1811855	-5.34	0.000	-1.336739	-0.5966784

dfuller Gold, noconstant regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.335	-2.650	-1.950	-1.602

Third model of ADF test that is neither intercept nor trend.

|-5.335| > |-1.950|, Thus reject the null hypothesis means that Gold is stationary or has no unit root.

ADF TEST FOR INFLATION

D.Inflation	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Inflation L1	-1.313338	0.1774235	-7.40	0.000	-1.67621	-0.9504665
_cons	0.0040322	0.0327738	0.12	0.903	-0.0629978	0.0710622

. dfuller Inflation, regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -7.402	-3.709	-2.983	-2.623

First model of ADF test that is only intercept. |-7.402| > |-2.983|, Thus reject the null hypothesis means that Inflation is stationary or does not have unit root.

D.Inflation	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Inflation L1	-1.313966	0.179717	-7.31	0.000	-1.682099	-0.945832
_trend	0.0019136	0.0037114	0.52	0.610	-0.0056888	0.009516
_cons	-0.0265846	0.0680289	-0.39	0.699	-0.1659355	0.1127663

. dfuller Inflation, trend regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -7.311	-4.325	-3.576	-3.226

Second model of ADF test that is only trend and intercept.

|-7.311| > |-3.576|, Thus reject the null hypothesis means that Inflation is stationary or has no unit root.

D.Inflation	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Inflation L1	-1.313098	0.1744764	-7.53	0.000	-1.669427	-0.95677

. dfuller Inflation, noconstant regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -7.526	-2.650	-1.950	-1.602

Third model of ADF test that is neither intercept nor trend.

|-7.526| > |-1.950|, Thus reject the null hypothesis means that Inflation is stationary or has no unit root.

ADF TEST FOR BRENT OİL

D.BrentOil	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
BrentOil L1	-0.9239015	0.1886564	-4.90	0.000	-1.309747	-0.5380559
_cons	-0.0089637	0.0367063	-0.24	0.809	-0.0840364	0.0661091

. dfuller BrentOil, regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -4.897	-3.709	-2.983	-2.623

First model of ADF test that is only intercept. |-4.897| > |-2.983|, Thus reject the null hypothesis means that Brent Oil is stationary or does not have unit root.

D.BrentOil	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
BrentOil L1	-0.9716831	0.1903307	-5.11	0.000	-1.361558	-0.5818084
_trend	-0.0052934	0.0041402	-1.28	0.212	-0.0137742	0.0031875
_cons	0.0756727	0.0755034	1.00	0.325	-0.078989	0.2303344

dfuller BrentOil, trend regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.105	-4.325	-3.576	-3.226

Second model of ADF test that is only trend and intercept.

|-5.105| > |-3.576|, Thus reject the null hypothesis means that Brent Oil is stationary or has no unit root.

D.BrentOil	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
BrentOil L1	-0.9236168	0.1856726	-4.97	0.000	-1.302811	-0.5444228

. dfuller BrentOil, noconstant regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -4.974	-2.650	-1.950	-1.602

Third model of ADF test that is neither intercept nor trend.

|-4.974| > |-1.950|, Thus reject the null hypothesis means that Brent Oil is stationary or has no unit root.

ADF TEST FOR M^2

D.M^2	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
M^2 L1	-1.055681	0.1960427	-5.38	0.00	-1.456633	-0.6547286
_cons	0.0466638	0.010022	4.66	0.00	0.0261665	0.067161

dfuller M2, regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.385	-3.709	-2.983	-2.623

First model of ADF test that is only intercept. |-5.385| > |-2.983|, Thus reject the null hypothesis means that M^2 is stationary or does not have unit root.

D.M^2	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
M^2 L1	-1.059059	0.2001969	-5.29	0	-1.469144	-0.6489743
_trend	0.0000893	0.0004754	0.19	0.852	-0.0008844	0.001063
_cons	0.0453925	0.0122359	3.71	0.001	0.0203283	0.0704566

dfuller M2, trend regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.29	-4.325	-3.576	-3.226

Second model of ADF test that is only trend and intercept.

|-5.290| > |-3.576|, Thus reject the null hypothesis means that M^2 is stationary or has no unit root

D.M^2	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
M^2 L1	-0.2253731	0.1058535	-2.13	0.042	-0.4415548	-0.0091914

dfuller M2, noconstant regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -2.129	-2.65	-1.95	-1.602

Third model of ADF test that is neither intercept nor trend.

|-2.129| > |-1.950|, Thus reject the null hypothesis means that M^2 is stationary or has no unit root.

ADF TEST FOR BOVESPA

D.Bovespa	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Bovespa L1	-0.8820853	0.1845928	-4.78	0.000	-1.25962	-0.5045507
_cons	-0.0047531	0.02155	-0.22	0.827	-0.0488279	0.0393216

dfuller Bovespa, regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -4.779	-3.709	-2.983	-2.623

First model of ADF test that is only intercept. |-4.779| > |-2.983|, Thus reject the null hypothesis means that Bovespa Index is stationary or does not have unit root.

D.Bovespa	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Bovespa L1	-0.8864569	0.1875549	-4.73	0.000	-1.270646	-0.5022681
_trend	-0.0010304	0.0024459	-0.42	0.677	-0.0060406	0.0039798
_cons	0.0117118	0.0447827	0.26	0.796	-0.0800214	0.1034449

dfuller Bovespa, trend regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -4.726	-4.325	-3.576	-3.226

Second model of ADF test that is only trend and intercept.

|-4.726| > |-3.576|, Thus reject the null hypothesis means that Bovespa Index is stationary or has no unit root.

D.Bovespa	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Bovespa L1	-0.8803836	0.1814836	-4.85	0.000	-1.251023	-0.5097447

. dfuller Bovespa, noconstant regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -4.851	-2.65	-1.95	-1.602

Third model of ADF test that is neither intercept nor trend.

|-4.851| > |-1.950|, Thus reject the null hypothesis means that Bovespa Index is stationary or has no unit root.

ADF TEST FOR IPI

D.IPI	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
IPI L1	-0.914434	0.1843435	-4.96	0.000	-1.291459	-0.5374092
_cons	0.0368441	0.0148397	2.48	0.019	0.0064936	0.0671947

. dfuller IPI, regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -4.960	-3.709	-2.983	-2.623

First model of ADF test that is only intercept. |-4.960| > |-2.983|, Thus reject the null hypothesis means that Industrial Production Index (IPI) is stationary or does not have unit root.

D.IPI	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
IPI L1	-0.9882652	0.1875095	-5.27	0.000	-1.372361	-0.6041694
_trend	0.0021131	0.001432	1.48	0.151	-0.0008202	0.0050463
_cons	0.0061803	0.0253659	0.24	0.809	-0.0457793	0.05814

. dfuller IPI, trend regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.270	-4.325	-3.576	-3.226

Second model of ADF test that is only trend and intercept. |-5.270| > |-3.576|, Thus reject the null hypothesis means that Industrial Production Index (IPI) is stationary or has no unit root.

D.IPI	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
IPI L1	-0.6722298	0.1693451	-3.97	0.000	-1.018079	-0.3263811

. dfuller IPI, noconstant regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -3.970	-2.650	-1.950	-1.602

Third model of ADF test that is neither intercept nor trend.

|-3.970| > |-1.950|, Thus reject the null hypothesis means that Industrial Production Index (IPI) is stationary or has no unit root.

ADF TEST FOR GDP

ADF test applied for GDP and the result indicated that GDP is not stationary or has unit root. The series has converted into first difference to check GDP has unit root or not and the result shows that first difference of GDP is stationary or has no unit root.

D.GDP	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
GDP L1	-0.9833345	0.1911122	-5.15	0.000	-1.37481	-0.5918589
_cons	8752.99	4452.31	1.97	0.059	-367.1543	0.178730

dfuller DGDP, regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.145	-3.716	-2.986	-2.624

First model of ADF test that is only intercept. |-5.145| > |-2.986|, Thus reject the null hypothesis means that GDP is stationary or does not have unit root.

D.GDP	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
GDP L1	-1.008696	0.1954095	-5.16	0.000	-1.409644	-0.6077492
_trend	360.9854	473.4693	0.76	0.452	-610.4933	1332.464
_cons	3415.021	8315.173	0.41	0.685	-13646.31	20476.350

dfuller DGDP, trend regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -5.162	-4.334	-3.580	-3.228

Second model of ADF test that is only trend and intercept. |-5.162| > |-3.580|, Thus reject the null hypothesis means that GDP is stationary or has no unit root.

D.GDP	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
GDP L1	-0.8197179	0.1803368	-4.55	0.000	-1.188548	-0.4508878

. dfuller DGDP, noconstant regress lags(0)			
Dickey-Fuller test for unit root		Number of obs =	31
Interpolated Dickey-Fuller			
Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Z(t) -4.545	-2.652	-1.950	-1.602

Third model of ADF test that is neither intercept nor trend.

|-4.545| > |-1.950|, Thus reject the null hypothesis means that GDP is stationary or has no unit root.

3.2. Financial Ratios

Stocks are the most risky instruments among financial instruments. For this reason, investors, stocks to invest they need to focus on making a decision to gain maximum return in their investments. This requirement, investors tend to define stocks return and the factors are accurate and meaningful that affecting this return. To consider factors like financial ratios, financial structure, liquidity, profitability and stock performance, give some information to investors about the real value of companies' stocks. Financial ratios reflect the real financial statements of companies. Stock prices can be estimated substantially with financial ratios. In most researches, it was found that there was a linear relationship between financial ratios and stock return. (Büyükşalvarcı, 2009).

In most of academic studies which researching the relationship between financial ratios and return of stocks there was an assumption that a linear relationship between financial ratios and stock return and analyzing in this direction. In this study, contained BIST-30 companies. However, the top 10 companies with the largest market cap were choosed data set consists of since 2008 March to 2015 December 3 months data. Stock prices considered as closing value for selected companies since 2008 March to 2015 December from the official website of Bloomberg and then the rate of return was calculated for 10 companies. After that, calculated ROE, Debt/Equity Ratio and Current Ratio for the companies. The data was collected from the financial reports where is in the official website of a company and the calculated the ratios. Rate of return of a company was used as dependent variable. ROE, Debt/Equity and Current Ratio of a company were used as independent wariables.

In this part of the study, the relationship between rate of return of a company and ROE, Debt/Equity and Current Ratio of a company was explained with Multiple Linear Regression Model in STATA.

3.2.1. Return on Equity (ROE)

ROE is a profitability ratio that measures the ability of a company to generate profits from its stockholders investments in the company. In other words, the return on equity ratio indicates how much profit of common stockholders' equity generates. It is a significant measure of a company's earnings performance. For investors it is a worthwhile metric when analyzing a company and its stock. It can be calculated as follows:

$$ROE = \text{Net Income} / \text{Shareholder's Equity}$$

The higher a company's return on equity means that the better management is at employing investors' capital to generate profits. Investors analyse the trend in ROE for individual firms and compare this to historical and industry benchmarks. A rising ROE can indicate that a company is able to grow profits without adding new equity into the business, which dilutes the ownership share of existing shareholders. (Kijewska, 2014)

There are issues to be considered when calculating since inflation rate can be effective over ROE. Numerator and denominator which are forming the inflation rate can not be affected at the same ratio. Net profit directly affected by inflation, but equities may follow slightly behind inflation. In this case, the ratio can tend to grow over time. When the capital increase is made, this ratio may shrink. (Çabuk ve Lozal, 2000).

3.2.2. Debt / Equity Ratio

Debt/Equity Ratio measures a company's financial leverage, calculated by dividing a company's total liabilities by its equity. The Debt/Equity ratio shows how much debt a company is using to finance its assets relative to the amount of value represented in equity. A smaller number means a company is less reliant on debt as compared to equity. Generally, a smaller number also translates to less risk; this is because more debt means more interest payments and more outstanding loans that must be paid. On the other hand, stockholder's equity carries no guarantee of income to investors. Company creditors it wants to be a low rate, company partners want to be a high rate. This ratio which is equal to 1 adequate in terms of the balance of debt to equity. That rate is less than 1 means that the majority of assets used in activities are financed with equity. That rate is more than 1 means that the funds provided by third parties more than the funds provided from company partners. (Akça, 2008).

3.2.3. Current Ratio

The current ratio is determined by current assets dividing by current liabilities. Namely, current ratio which is widely used to measure liquidity of company measures a company's ability to pay short term obligations. It is considered the current assets relative to that company's current liabilities. (Pinches, 1990). It indicated that the power of payment of the company in the short-term and net working capital is sufficient or not. Generally, higher rates are better, implying that the firm has a higher amount of current assets when compared to current liabilities and should easily be able to pay off its short-term debt. In other words, the higher rates mean that the liquidity of a company is higher. Current assets consist of cash and cash equivalent, marketable securities, short-term receivables, inventories and other current assets. Current ratio reflects the overall liquidity position of the company. A higher this ratio, shows that high level of solvency for short term debt and sufficient net working capital. A lower this ratio, shows that financial status is weak and as a result the sign can be interrupted activities. (Karakozak, 2012). The current ratio is considered adequate 1.5 (Tandoğan, 2002). Although it seems positive over 1,5 instead of companies' receivables, it can be considered as negative in terms of business administration. If the higher of current rate result from idle funds, then this may cause adverse effect on return on equity. There is a cost of keeping exceed liquid assets.

3.2.4. MARKET CAPITALIZATION

Market capitalization of a stock exchange is the total number of issued stocks of companies multiplied by their respective prices at a given time. In this study, market capitalization is calculated for all BIST-30 companies. 9th of September datas are used for the stock price in official website of Bloomberg. Data set consists of since 2008 March to 2015 December 3 months data. In this model, the top 10 companies with the largest market cap were choosed. Then, calculated ROE, Debt/Equity Ratio and Current Ratios for the companies. The main purpose of this model is testing correlation between ratios (ROE, Debt/Equity Ratio, Current Ratio) and rate of return of stock prices. The model analyzed through STATA software. Rate of return of companies' stock prices were used as dependent variable. ROE, Debt/Equity Ratio and Current Ratios of companies were used as independent variables.

Table 4. Top 10 Companies Ranked by Market Cap

Company	Stock Price (09/09/2016)	# of Stocks (x 1.000 TL)	Market Cap
T. GARANTI BANKASI A.S.	8.19	4,200	34,398
AKBANK T. A.S.	8.24	4,000	32,960
KOC HOLDING A.S.	12.89	2,536	32,688
TURKCELL ILETISIM HIZMETLERI A.S.	9.96	2,200	21,912
T. IS BANKASI A.S.	4.86	4,500	21,872
TURK TELEKOMUNIKASYON A.S.	5.84	3,500	20,440
HACI OMER SABANCI HOLDING A.S.	9.57	2,040	19,527
ENKA INSAAT VE SANAYI A.S.	4.50	4,200	18,900
YAPI VE KREDI BANKASI A.S.	3.69	4,347	16,041
EREGLI DEMIR CELIK FABRIKLARI A.S.	4.55	3,500	15,925

3.3 Findings

This research examined the relationship between macro factors and financial ratios and stock returns with Multiple Linear Regression Analysis Model. Firstly, applying the Multiple Linear Regression Analysis Model for testing the macro factors which are effective on stock returns. The results summarized in Table I and indicated that there is a significant relationship between stock returns and Bovespa index at the 5% level.

In the second apply the Multiple Linear Regression Model for testing the financial ratios which are effective on companies' returns. The results summarized in the tables for ten companies one by one as below and indicated that Debt/Equity ratio is more effective than ROE and Current ratio on companies' returns. In the study, Debt/Equity ratio is effective on five companies which are Garanti, Is Bank, T.Telekom, Enka and Yapi Kredi Bank. ROE is only effective on Turkcell returns. This two results show that Debt/Equity ratio has the higher predictive power than ROE and Current ratio.

Garanati A.S. Regression Analysis Results

Table 5. The Result of Multiple Linear Regression Analysis For Garanti

Source	SS	df	MS
Model	0.357075626	3	0.119025209
Residual	1.1760427	28	0.042001525
Total	1.53311832	31	0.04945543

Number of obs	=	32
$F(3, 28)$	=	2.83
Prob > F	=	0.0562
R-squared	=	0.2329
Adj R-squared	=	0.1507
Root MSE	=	0.20494

Variable	VIF	1/VIF
DEBT/EQUITY	1.50	0.665
CURRENT RATIO	1.49	0.670
ROE	1.10	0.911
Mean	1.37	

Garanti	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	-0.105473	0.628608	-0.17	0.87	-1.393119	1.182173
DEBT/EQUITY	-0.1482903	0.064834	-2.29	0.03	-0.2810967	-0.015484
CURRENT RATIO	0.0282706	0.149315	0.19	0.85	-0.277587	0.3341281
_cons	1.065846	0.595846	1.79	0.08	-0.1546882	2.286381

Regression Analysis results for Garanti indicated that there is no multicollinearity problem for the variables since the values of VIFs are less than 3. For the Debt/Equity ratio, the emprical results reveal a detrimental effect, since the coefficient is negative and it is statistically significant at the % 5 significance level, since its probability value is lower than the significance level of % 5.

Akbank A.S. Regression Analysis Results

Table 6. The Result of Multiple Linear Regression Analysis For Akbank

Source	SS	df	MS
Model	0.153899	3	0.0512997
Residual	1.106468	28	0.0395167
Total	1.260368	31	0.0406570

Number of obs	=	32
F(3, 28)	=	1.3
Prob > F	=	0.2945
R-squared	=	0.1221
Adj R-squared	=	0.028
Root MSE	=	0.19879

Variable	VIF	1/VIF
DEBT/EQUITY	1.96	0.510
CURRENT RATIO	1.85	0.542
ROE	1.10	0.905
Mean	1.64	

Akbank	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	0.6239707	0.87549	0.71	0.48	-1.16939	2.417331
DEBT/EQUITY	-0.1004965	0.06285	-1.60	0.12	-0.2292397	0.0282467
CURRENT RATIO	-0.2232865	0.161215	-1.39	0.18	-0.5535203	0.1069472
_cons	0.9061445	0.599312	1.51	0.14	-0.321491	2.13378

Regression Analysis results for Akbank indicated that there is no multicollinearity problem for the variables since the values of VIFs are less than 3. ROE, Debt/Equity ratio and Current ratio are not statistically significant at the % 5 significance level since its probability value is greater than the significance level of % 5.

Koç Holding A.S. Regression Analysis Results

Table 7. The Result of Multiple Linear Regression Analysis For Koç

Source	SS	df	MS
Model	0.050470	2	0.0252348
Residual	0.996025	29	0.0343457
Total	1.046495	31	0.0337579

Number of obs	=	32
F(2, 29)	=	0.73
Prob > F	=	0.4884
R-squared	=	0.0482
Adj R-squared	=	-0.0174
Root MSE	=	0.18533

Variable	VIF	1/VIF
DEBT/EQUITY	1.00	0.997
ROE	1.00	0.996
Mean	1.00	

Koç	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	0.3321169	0.912772	0.36	0.72	-1.534711	2.198945
DEBT/EQUITY	-0.0418001	0.03692	-1.13	0.27	-0.1173103	0.0337101
_cons	0.1149537	0.108633	1.06	0.30	-0.1072254	0.3371329

Regression Analysis results for Koç Holding indicated that there is a multicollinearity problem for the Debt/Equity ratio and Current ratio variables since Debt/Equity ratio of VIFs is equal to 19.63 and Current Ratio of VIFs is equal to 19.59. Thrown out either Debt/Equity ratio or Current ratio and the result shown that ROE, Debt/Equity ratio and Current ratio are not statistically significant at the % 5 significance level since its probability value is greater than the significance level of % 5.

Turkcell A.S. Regression Analysis Results

Table 8. The Result of Multiple Linear Regression Analysis For Turkcell

Source	SS	df	MS
Model	0.073195	3	0.0243983
Residual	0.488491	28	0.0174461
Total	0.561686	31	0.0181189

Number of obs =	32
F(3, 28) =	1.4
Prob > F =	0.2639
R-squared =	0.1303
Adj R-squared =	0.0371
Root MSE =	0.13208

Variable	VIF	1/VIF
DEBT/EQUITY	1.70	0.588
CURRENT RATIO	1.68	0.596
ROE	1.07	0.936
Mean	1.48	

Turkcell	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	0.786207	0.388521	2.02	0.05	-0.0096413	1.582055
DEBT/EQUITY	0.1241727	0.282335	0.44	0.66	-0.4541641	0.7025095
CURRENT RATIO	0.0502465	0.068237	0.74	0.47	-0.0895305	0.1900234
_cons	-0.2608887	0.282088	-0.92	0.36	-0.8387198	0.3169424

Regression Analysis results for Turkcell indicated that there is no multicollinearity problem for the variables since the values of VIFs are less than 3. For the ROE, the emprical results denote a positive link, since the coefficient is positive and it is statistically significant at the % 5 significance level, since its probability value is equal to the significance level of % 5.

T. Is Bankası A.S. Regression Analysis Results

Table 9. The Result of Multiple Linear Regression Analysis For T. Is Bank

Source	SS	df	MS
Model	0.153773	3	0.0512575
Residual	1.022918	28	0.0365328
Total	1.176690	31	0.0379578

Number of obs	=	32
F(3, 28)	=	1.4
Prob > F	=	0.2626
R-squared	=	0.1307
Adj R-squared	=	0.0375
Root MSE	=	0.19114

Variable	VIF	1/VIF
DEBT/EQUITY	1.22	0.822
CURRENT RATIO	1.18	0.845
ROE	1.05	0.951
Mean	1.15	

İş Bankası	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	0.3275749	0.8766	0.37	0.71	-1.468059	2.123208
DEBT/EQUITY	-0.1054574	0.054409	-1.94	0.06	-0.2169088	0.0059939
CURRENT RATIO	0.0021032	0.117313	0.02	0.99	-0.238202	0.2424084
_cons	0.7866547	0.424172	1.85	0.07	-0.0822228	1.655532

Regression Analysis results for T. Is Bank indicated that there is no multicollinearity problem for the variables since the values of VIFs are less than 3. For the Debt/Equity ratio, the emprical results reveal a detrimental effect, since the coefficient is negative and it is statistically significant at the % 10 significance level, since its probability value is lower than the significance level of % 10.

T. Telekom A.S. Regression Analysis Results

Table 10. The Result of Multiple Linear Regression Analysis For T. Telekom

Source	SS	df	MS
Model	0.098471	3	0.0328237
Residual	0.252590	28	0.0090211
Total	0.351061	31	0.0113246

Number of obs =	32
$F(3, 28)$ =	3.64
Prob > F =	0.0247
R-squared =	0.2805
Adj R-squared =	0.2034
Root MSE =	0.09498

Variable	VIF	1/VIF
DEBT/EQUITY	1.31	0.763
CURRENT RATIO	1.30	0.768
ROE	1.25	0.800
Mean	1.29	

T.Telekom	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	-0.1959467	0.161135	-1.22	0.23	-0.5260177	0.1341243
DEBT/EQUITY	-0.0757581	0.02307	-3.28	0.00	-0.123014	-0.028502
CURRENT RATIO	0.0456529	0.071273	0.64	0.53	-0.100344	0.1916498
_cons	0.176942	0.095179	1.86	0.07	-0.0180223	0.3719062

Regression Analysis results for T. Telekom indicated that there is no multicollinearity problem for the variables since the values of VIFs are less than 3. For the Debt/Equity ratio, the emprical results reveal a detrimental effect, since the coefficient is negative and it is statistically significant at the % 5 significance level, since its probability value is lower than the significance level of % 5.

Sabancı Holding A.S. Regression Analysis Results

Table 11. The Result of Multiple Linear Regression Analysis For Sabancı

Source	SS	df	MS
Model	0.094037	3	0.0313456
Residual	0.881340	28	0.0314764
Total	0.975376	31	0.0314638

Number of obs =		32
F(3, 28) =		1
Prob > F	=	0.4092
R-squared	=	0.0964
Adj R-squared	=	-0.0004
Root MSE	=	0.17742

Variable	VIF	1/VIF
DEBT/EQUITY	1.02	0.980
CURRENT RATIO	1.01	0.988
ROE	1.01	0.990
Mean	1.01	

Sabancı	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	-1.501887	1.769161	-0.85	0.40	-5.12585	2.122075
DEBT/EQUITY	-0.1052688	0.066529	-1.58	0.13	-0.2415465	0.0310088
CURRENT RATIO	0.0014412	0.505743	0.00	1.00	-1.034526	1.037409
_cons	0.5996692	0.496283	1.21	0.24	-0.4169206	1.616259

Regression Analysis results for Sabancı indicated that there is no multicollinearity problem for the variables since the values of VIFs are less than 3. ROE, Debt/Equity ratio and Current ratio are not statistically significant at the % 5 significance level since its probability value is greater than the significance level of % 5.

Enka A.S. Regression Analysis Results

Table 12. The Result of Multiple Linear Regression Analysis For Enka

Source	SS	df	MS				Variable	VIF	1/VIF
				Number of obs	=	32			
				F(3, 28)	=	2.24	DEBT/EQUITY	1.03	0.968
Model	0.120971	2	0.0604854	Prob > F	=	0.1243			
Residual	0.782172	29	0.0269714	R-squared	=	0.1339	ROE	1.03	0.967
Total	0.903143	31	0.0291336	Adj R-squared	=	0.0742	Mean	1.03	
				Root MSE	=	0.16423			

Enka	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	-0.5734533	0.785023	-0.73	0.47	-2.179006	1.0321
DEBT/EQUITY	-0.1809222	0.099055	-1.83	0.08	-0.3835119	0.0216674
_cons	0.137372	0.087963	1.56	0.13	-0.0425326	0.3172766

Regression Analysis results for Enka indicated that there is a multicollinearity problem for the Debt/Equity ratio and Current ratio variables since Debt/Equity ratio of VIFs is equal to 8.37 and Current Ratio of VIFs is equal to 8.34. Thrown out either Debt/Equity ratio or Current ratio and the result shown that Debt/Equity ratio the emprical results reveal a detrimental effect, since the coefficient is negative and it is statistically significant at the % 10 significance level, since its probability value is lower than the significance level of % 10.

Yapı ve Kredi A.S. Regression Analysis Results

Table 13. The Result of Multiple Linear Regression Analysis For Yapı Kredi

Source	SS	df	MS
Model	0.195469	3	0.0651564
Residual	0.936832	28	0.0334583
Total	1.132302	31	0.0365259

Number of obs	=	32
$F(3, 28)$	=	1.95
Prob > F	=	0.1449
R-squared	=	0.1726
Adj R-squared	=	0.084
Root MSE	=	0.18292

Variable	VIF	1/VIF
DEBT/EQUITY	1.20	0.835
CURRENT RATIO	1.19	0.844
ROE	1.11	0.899
Mean	1.17	

Yapı Kredi	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	-0.0752832	0.700015	-0.11	0.92	-1.509199	1.358633
DEBT/EQUITY	-0.0874481	0.0379	-2.31	0.03	-0.1650832	-0.009813
CURRENT RATIO	0.0011733	0.222585	0.01	1.00	-0.4547721	0.4571187
_cons	0.6921265	0.412228	1.68	0.10	-0.1522851	1.536538

Regression Analysis results for Yapı Kredi indicated that there is no multicollinearity problem for the variables since the values of VIFs are less than 3. For the Debt/Equity ratio, the emprical results reveal a detrimental effect, since the coefficient is negative and it is statistically significant at the % 5 significance level, since its probability value is lower than the significance level of % 5.

Eregli Demir Celik A.S. Regression Analysis Results

Table 14. The Result of Multiple Linear Regression Analysis For Eregli

Source	SS	df	MS
Model	0.018783	3	0.0062609
Residual	1.420638	28	0.0507371
Total	1.439421	31	0.0464329

Number of obs	=	32
F(3, 28)	=	0.12
Prob > F	=	0.9455
R-squared	=	0.013
Adj R-squared	=	-0.0927
Root MSE	=	0.22525

Variable	VIF	1/VIF
DEBT/EQUITY	2.01	0.498
CURRENT RATIO	1.78	0.561
ROE	1.30	0.766
Mean	1.70	

Ereğli	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
ROE	-0.398673	0.829696	-0.48	0.64	-2.098228	1.300882
DEBT/EQUITY	-0.1261028	0.376945	-0.33	0.74	-0.898239	0.6460334
CURRENT RATIO	-0.0450465	0.136383	-0.33	0.74	-0.3244142	0.2343213
_cons	0.2049866	0.529672	0.39	0.70	-0.8799966	1.28997

Regression Analysis results for Eregli indicated that there is no multicollinearity problem for the variables since the values of VIFs are less than 3. ROE, Debt/Equity ratio and Current ratio are not statistically significant at the % 5 significance level since its probability value is greater than the significance level of % 5.

CONCLUSION

Stocks are the most significant securities for investors and the economy. The main purpose of the investors is to maximize stock returns with minimum risk. In order to maximize returns the investors have to consider the factors that affecting the stock prices for making the right investment decisions. When investors cannot estimate the factors that they invest in, they may take risks with their investments. In literature, there are limited studies that examined the relationship between stock returns and macro factors and financial ratios. It is aimed to fill this gap wtih this thesis in the literature. In this study, tested the relationship between stock returns and macro factors and financial ratios with multiple linear regression model. BIST 30 index return used as a dependent variable and VIX, Brent oil price, Inflation, Money supply(m^2), Industry production index, GDP, Bovespa index, Dax Index, S&P 500 index, Usd exchange rate and Gold prices are taken into consideration as independent variables. However, Usd exchange rate, Dax index and S&P 500 index are not included in the regression analysis to avoid multicollineartiy. In the analysis, autocorrelation tested by Durbin Watson testing method and concluding that the error terms are not autocorrelated. Unit root test analyzed by Augmented Dickey Fuller test and the results indicated that only GDP has unit root. However, taking the first difference of GDP and the concluded that first difference of GDP has also no unit root.

According to the multiple linear regression analysis model, Bovespa index compared to BIST 30 index have a positive and statistically significant relationship. In other studies, similar results have obtained. The reason can be interpreted as substitution effect. The investor can be tended to foreign stocks with similar features when the stock returns goes down or up in their countries since the substitution effect in the capital market. Investors will be able to invest more profitable stocks and diversify risk amoung these markets by considering similar situation of relationship between these two developing countries. Another result is that there is no statistically significant relation between BIST 30 index and gold price, brent oil price, inflation, GDP, IPI, VIX and M^2.

In this study, also examined the predictive power of the financial ratios on BIST-30 index returns over seven years from 2008 to 2015. Top 10 companies which are traded in BIST-30 ranked by market cap are selected. These companies are Garanti, Akbank, Koç Holding,

Turkcell, T.Is Bank, T.Telekom, Sabancı Holding, Enka, Yapı ve Kredi Bank and Eregli. ROE, Debt/Equity ratio and Current ratio are used as financial ratios. Tested that there is a relationship or not between companies' stock returns and financial ratios one by one. In the study, concluded that Debt/Equity ratio of banks are higher than the other companies. There is a negative and statistically significant relation between Debt/Equity ratio and Garanti, T.Is bank and Yapı ve Kredi bank. The increase in debt caused raising stock risk-premium of companies'. Furthermore, changing in debt affects inversely the profitability of a company. Increasing in debt interpreted by investor that the company can not be provided funding needs from internal sources and also the risk of not fulfilling the companies' financial obligations is increasing. Debt/Equity ratio is statistically significant at the % 5 significance level over the stock returns for T.Telekom. For Enka, Debt/Equity ratio is statistically significant at the % 10 significance level over the stock returns as well. There is not a statistically significant relation between Akbank, Koç Holding, Sabancı Holding and Eregli stock returns and ROE, Debt/Equity ratio and Current ratio. There is a positive and statistically signifcant relation between Turkcell storck return and ROE. The reason can be interpreted as net income are going up and stable increase in net profit of Turkcell over seven years. Raising of dividend yield is also affected this ratio last year compared to previous years. In summary, Debt/Equity ratio is effective on five companies' stock returns. ROE is only effective on stock returns of Turkcell. However, current ratio has no effect on companies' stock returns. According to the this results, the predictive power of Debt/Equity ratio is higher than ROE and Current ratio.

To sum up, by examining the stock returns on the basis of firms, significant findings have been reached in terms of how firms' assets are financed and the effects of these decisions on stock returns. These findings will help investors and companies to evaluate their investment decisions. These macro factors and financial ratios have to consider to make investment decisions and also other factors and financial ratios which may affect stock returns can not be ignored. It is hoped that the findings obtained from the study will guide the investors who are willing to invest in stocks.

REFERENCES

Akça, Seçil (2008), *Beta Katsayısı ile Finansal oranlar Arasındaki İlişkilerin*

Ölçülmesi: İstanbul Menkul Kıymetler Borsası'nda Bir Uygulama, 38.

Akgüç, Ö. (1989), "Finansal Yönetim. İstanbul: Avcıol Yayınevi", 680.

Akkaya, C. (2008), "Sermaye Yapısı, Varlık Verimliliği ve Karlılık: İMKB de Faaliyet Gösteren Deri- Tekstil Sektörü İşletmeleri Üzerine Bir Uygulama." *Süleyman Demirel Üniversitesi İ.İ.B.F. Dergisi* (30), 2.

Aktaş, M., & Akdağ, S. (2013), "Türkiye'de Ekonomik Faktörlerin Hisse Senedi Fiyatları İle İlişkilerinin Araştırılması. International Journal Social Science Research", 2(1), 51.

Altay, E. (2004), *Sermaye Piyasası Teorisi- Arbitraj Fiyatlama Teorisi*. İstanbul: Derin Yayınları. 3

Apak, S. (1995), "Sermaye Piyasaları ve Borsa. İstanbul": Bilim Teknik Yayınevi, 95.

Apak, S., & Demirel, E., (2009), *Finansal Yönetim Cilt 1.Sermaye Piyasaları*. İstanbul: Papatya Yayıncılık, 35.

Ataman, Ü., & Kibar, H., (1999), *Hisse Senetlerinin Gerçek Değerinin Hesaplanması*. İstanbul: Türkmen Kitabevi.

Bali, T. G., Demirtas, K. O., & Tehranian, H. (2008). *Aggregate Earnings, Firm-Level Earnings, and Expected Stock Returns. Journal of Financial and Quantitative Analysis*, 43(3), 657-684

Başkaya, Z., & Değer, A. (2007), *Finans Matematiği*. Bursa: Ekin Basın Yayın Dağıtım, 273.

Belverd, N. (1994), "Financial Accounting". Boston: Houghton Mifflin Company, 836

Berk, N. (1999), *Finansal Yönetim*. İstanbul: Türkmen Kitapevi, 367-437.

Bolak, M. (2001), *Sermaye Piyasası, Menkul Kıymetler ve Portföy Analizi*. İstanbul: Beta Basım Yayınları, 103

Büyükşalvarcı, A (2011), "Finansal Analizde Kullanılan Oranlar ve Hisse Senedi Getirileri Arasındaki İlişki" : *Ekonomik Kriz Dönemleri İçin İMKB İmalat Sanayi Şirketleri Üzerine Ampirik Bir Uygulama*

Brealey, R. A., Myers, S. C., & Marcus, A. J. (1999), "İşletme Finansmanının Temelleri. İstanbul: Literatür", 120.

Brooking, A. (1996), *Intellectual Capital*: "Core Assets of the Third Millenium Enterprise. London": Thomson Business Press, 41.

Büker, S., & Ertuna, Ö. (1984), "İşletme Finansmanı". Açık Öğretim Fakültesi Yayını, 313.

Büyükşalvarcı Ahmet, (2009), "Finansal Oranlar ile Hisse Senedi Getirileri Arasındaki İlişkinin Analizi" : *İMKB İmalat Sektörü Üzerine Bir Araştırma*

Caglayan, E., & Kangalli, S. (2011). "Analysis of Binary Panel Data by Static and Dynamic Logit Models": *Stock Returns and Macroeconomic Factors. The Empirical Economics Letters*, 10(5), 496-501.

Canbaş, S., Kandır, S., & Erişmiş, A. (2007), "Hisse Senedi Verimini Etkileyen Bazı Şirket Özelliklerinin İMKB Şirketlerinde Test Edilmesi. Finans, Politik & Ekonomik Yorumlar", 44(512), 18.

Çevik, N.K. (2016). "Borsa İstanbul'da Faaliyet Gösteren İmalat Şirketlerinin Hisse Senedi

Performansları ile Finansal Oranları Arasındaki İlişki:" *Panel Logit Regresyon*

Tahminleri. Sosyal Bilimler Metinleri Dergisi, 25-41.

Ceylan, A., & Korkmaz, T. (1998), *Borsada Uygulamalı Portföy Yönetimi*. Bursa: Ekin Yayınevi, 55.

Ceylan, A., & Korkmaz, T. (2008), *İşletmelerde Finansal Yönetim. Bursa*: Ekin Basım Yayın Dağıtım, 502-503.

Chambers, N., İşeri, M., & Çilingirtürk, A. M. (2003), *Makro Ekonomik Göstergelerin İMKB Üzerindeki Etkilerini İncelemeye Yönelik Bir Araştırma*. İstanbul: Türkmen Kitapevi, 34.

Charles, J., Donald, T., & Cherrill, H. (1977), *Essentials of Modern İnvestments*. New York: The Ronald Pres Company, 136.

Civan, M. (2007), *Sermaye Piyasası Analizleri ve Portföy Yönetimi*. Ankara: Gazi Kitabevi, 94-98.

Coşkun, M. (2008), "Sermaye Piyasaları". Eskişehir: Genç Copy Center, 273.

Çabuk, A. ve Lozal, İ., (2000), ''Mali Tablolar Analizi'' Uludağ Üniversitesi Güçlendirme Vakfı Yayın No:154, Vipaş A.Ş. Yayın Sıra No:30, Bursa 2000. 207

Çelebi, A. (2001), "Hisse Senedi Piyasalarındaki Bilimsel Gelişmeler ve Hisse Senedi Fiyatlarıyla Makroekonomik Göstergeler Arasındaki İlişkiler": Türkiye Örneği. Eskişehir:Anadolu Üniversitesi Sosyal Bilimler Enstitüsü Yayınlanmamış Yüksek Lisans Tezi, 98.

Çıkrıkçı, M., & Daştan, A. (2002), "Entelektüel Sermayenin Temel Finansal Tablolar Aracılığıyla Sunulması. Bankacılar Dergisi"(43), 18–32.

Çömlekçi, İ., Kara, O., & Kaya, V. (2013), "Hisse Senedi Getirilerini Etkileyen Makroekonomik Değişkenler 2002-2012 Türkiye Örneği".

Dağlı, H., & Ayaydın, H. (2012), "Gelişen Piyasalarda Hisse Senedi Getirisini Etkileyen Makroekonomik Değişkenler Üzerine Bir İnceleme": *Panel Veri Analizi. Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 26(3-4).

Dehaun, J. ve Jin, Z.(2008) "Fırm Performance and Stock Returns: An Empirical Study of the Top Performing Stocks Listed on Shanghai Stock Exchange" Academy of Accounting and Financial Studies Journal, 12(1):79-85.

Demir, Y. (2001), "Hisse Senedi Fiyatlarını Etkileyen İşletme Düzeyindeki Faktörler ve Mali Sektör Üzerine İMKB de Bir Uygulama". Süleyman Demirel Üniversitesi İ.İ.B.F. Dergisi, 6(2), 112-115.

Demir, Yusuf ve Göçmen Yağcılar, Gamze (2009), İ"MKB'de İşlem Gören Banka Hisse Senetlerinin Getirilerini Etkileyen Faktörlerin Arbitraj Fiyatlama Modeli İle Belirlenmesi", Alanya İşletme Fakültesi Dergisi (1), 36-51.

Denis, D., & Mc Connell, J. (2003), *International Corparete Governance. Journal of Financial and Quantative Finance*, 38(1), 2

Diril, M. (2000), "Hisse Senetlerine Yatırım ve Türkiye'de Hisse Senedi Fiyatlarını Etkileyen Faktörler. Balıkesir": Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Yayınlanmamış Yüksek Lisans Tezi, 85.

Dizdarlar, H. Işın ve Derindere, Sinem (2008), "Hisse Senedi Endeksini Etkileyen Faktörler: İMKB 100 Endeksini Etkileyen Makroekonomik Göstergeler Üzerine Bir Araştırma, Yönetim Dergisi", 113-124.

Durmuş, H., & Aral, M. E. (1994), "Mali Tablolar Tahlili". İstanbul: Yaylım Matbaası.

Durukan, B. (1999), "İstanbul Menkul Kıymetler Borsasında Makroekonomik Değişkenlerin Hisse Senedi Fiyatlarına Etkisi". İMKB Dergisi, 3(1), 26.

Ebiçlioğlu, F. K., & Kahraman, A. (2000), *Yönetim Muhasebesi*. Ankara: Türmob Yayınları, 676

Ege, İ., & Bayrakdaroğlu, A. (2000), "İMKB Şirketlerinin Hisse Senedi Getiri Başarılarının Lojistik Regresyon Tekniği ile Analizi. Zonguldak Karaelmas Üniversitesi Sosyal Bilimler Dergisi", 5(10), 140.

Ercan, M. K., & Ban, Ü. (2008), *Değere Dayalı İşletme Finansı*, Finansal Yönetim. Ankara: Gazi Kitabevi, 119.

Eren, E. (1987), *İşletmelerde Stratejik Planlama ve Yönetim*. İstanbul: Bayrak Matbaacılık, 142.

Eren, E. (2000), *İşletmelerde Stratejik Yönetim ve İşletme Politikası*. İstanbul: Beta Yayınevi, 45.

Ergül, N. (2004), "Herkes İçin Finans". İstanbul: Literatür Yayıncılık, 12.

Erkan, N. (1997), "Menkul Kıymetler Piyasalarında Sistematik Riskler". Ankara: SPK Yayınları, 17.

Ertaş, F. C., & Karaca, S. (2010), "Kar Dağıtım İlanı ve Gerçekleşmesi Arasında Geçen Sürenin Firma Değerine Etkisi", Muhasebe ve Finansman Dergisi(47), 59.

Ertuna, İ. (1991), "Yatırım Ve Portföy Analizi. İstanbul": Boğaziçi Üniversitesi Yayınları, 7.

Faerber, E. (2008), *All About Stocks*. McGraw Hill, 15.

Gitman, L. J. (2003), *Principles of Managerial Finance*. New York: Addison-Wesley Series, 25.

Goetz, B., & Klein, F. R. (1990), "Accointing in Action, The Riverside Pres". Boston: Houghton Company, 152.

Gücenme, Ü. (1994), *Türkiye'de Sermaye Piyasasındaki Son Gelişmeler*. Ankara: Türkiye Bankalar Birliği Yayınları, 55.

Güngör, B., ve Kaygın, C.Y. (2015). "Dinamik Panel Veri Analizi ile Hisse Senedi Fiyatını Etkileyen Faktörlerin Belirlenmesi." Kafkas Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, 6(9), 149-168.

Habalak, D. (2006), "Menkul Kıymet Yatırım Aracı Olarak Hisse Senetleri ve Türkiye de Hisse Senedi Fiyatlarını Etkileyen Faktörler". *Marmara Üniversitesi Sosyal Bilimler Enstitüsü Yayımlanmamış Yüksek Lisans Tezi* , 71-132.

IMKB. (2008), "Sermaye Piyasası ve Borsa Temel Bilgiler Kılavuzu". İstanbul: İMKB Yayınları, 187-196.

IMKB. (2011), "Sermaye Piyasası ve Borsa Temel Bilgiler Kılavuzu". İstanbul: İMKB Yayınları, 195.

İncekara, A. (1995), "Türkiye'de Teşvik Sistemi". İTO Yayınları, 9.

İşcan, Erhan (2010), "Petrol Fiyatının Hisse Senedi Piyasası Üzerindeki Etkisi", Maliye Dergisi, Sayı 158, Ocak-Haziran 2010,607–617.

İvgen, H. (2003), *Şirket Değerleme, Hisse Senedi Yatırımcıları, Analistler ve Şirket Yöneticileri İçin*. İstanbul: Scala Yayıncılık, 25.

Johnson, T. C. (2004). *Forecast Dispersion and the Cross Section of Expected Returns*. The Journal of Finance, 59 (5), 1957-1978.

Kanıbir, H. (2004), "Yeni Bir Rekabet Gücü Kaynağı Olarak Entelektüel Sermaye ve Organizasyonel Performansa Yansımaları".Havacılık ve Uzay Teknolojileri Dergisi,1(3), 81.

Karabıyık, L. E. (1997), "Menkul Kıymetler Borsası ve Diğer Yatırım Alternatifleri". Bursa: Marmara Kitabevi, 80.

Karacan, A. İ. (2002), "Mali Piyasalar Üzerine Denemeler". İstanbul: Creative Yayıncılık, 269.

Karakozak, Özlem (2012), "2008 Küresel Finansal Krizin Finansal Oranlar Üzerine Etkisi: İMKB'de İşlem Gören İmalat Sanayi İşletmeleri Üzerine Bir Uygulama, Yayınlanmamış Yüksek Lisans Tezi", Niğde Üniversitesi Sosyal Bilimler Enstitüsü, 63

Karan, M. B. (2001), *Yatırım Analizi ve Portföy Yönetimi*. Ankara: Gazi Kitabevi, 303.

Karasioğlu, F. (1998), "İçeriden Öğrenenlerin Ticareti (İnsider Trading) ve Türkiye'de Muhasebenin Yatırımcılara Bilgi Sağlama Sorumluluğu".Süleyman Demirel Üniversitesi İ.İ.B.F Dergisi, 114.

Karaşin, G. (1987), *Sermaye Piyasası Analizleri*. Ankara: SPK Yayınları, 26.

Karslı, M. (1989), *Sermaye Piyasası Borsa Menkul Kıymetler*. İstanbul, 342.

Kheradyar, S., Ibrahim, I., & Nor, F.M. (2011). "Stock Return Predictability with Financial Ratios". International Journal of Trade, Economics and Finance, 2(5), 391-396.

Kijewska, A. (2014), "Determinats of the ROE on the Example of Companies From Metallurgy and Mining Sector In Poland".

Konuralp, G. (2005), *Sermaye Piyasaları, Analizler, Kurumlar ve Portföy Yönetimi*. Alfa Basım Melisa Matbaacılık, 177.

Korkmaz, Ö. (2013), "Firma Performansını Etkileyen Faktörler ve Türkiye Örneği"

Korkmaz, Ö., & Karaca, S. S. (2013). "The Factors Affecting Firm Performance": *The Case of Turkey*. Ege Academic Review, 169-179. 496

Koruyan, A. (2001), *Sermaye Piyasası, Taraflar- Kurumlar, İşletmeler*.

Lam, K. S. (2002). "The Relationship between Size, Book-to-Market Equity Ratio, Earnings-Price Ratio, and Return for the Hong Kong Stock Market". Global Finance Journal, 13, 163-179.

Meena, S., & Preeti, S. (2009), "Prediction of Stock Returns for Growth Firms – A Fundamental Analysis." The Journal of Business Perspective, 13(3), 31-40.

Nargelecekenler, M. (2011). "Stock Prices and Price/Earning Ratio Relationship: A Sectoral Analysis with Panel Data". *Business and Economics Research Journal*, 2(2), 165-184.

Okka, O. (2006), *Finansal Yönetime Giriş*. Ankara: Nobel Yayın Dağıtım, 408-416.

OMAĞ, Aclan (2009), "Türkiye'de 1991-2006 Döneminde Makroekonomik Değişkenlerin Hisse Senedi Fiyatlarına Etkisi", Öneri Dergisi, (8), 283-288.

Özalp, A., & Anagün, S. (2001), "Sektörel Hisse Senedi Fiyat Tahmininde Yapay Sinir Ağı Yaklaşımı ve Klasik Tahminleme Yöntemleri ile Karşılaştırılması", 2-17.

Özcan, R. (2012), "Hisse Senedi Piyasalarında Manipülasyon Stratejileri". İMKB Dergisi, 23.

ÖZER, Ali, Kaya, Abdulkadir ve Özer, Nevin (2011), "Hisse Senedi Fiyatları ile Makroekonomik Değişkenlerin Etkileşimi", Dokuz Eylül Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, (26), 163-182.

Parasız, İ. (2000), *Para Banka ve Finansal Piyasalar*. Bursa: Ezgi Kitabevi, 327.

Pinches, George E. (1990), *Essentials of Financial Management*, America, 56.

Rudez, H. N., & Mihalic, T. (2007), "Intellectual Capital in The Hotel İndustry: A Case Study from Slovenia". The International Journal of Hospitality Management(26), 189

Sağcan, M. (1987), *Menkul Kıymetler ve Hisse Senetleri*. İzmir, 55.

Sayılgan, G. (2008), "Soru ve Yanıtlarıyla İşletme Finansmanı". Ankara, 268

Sayılgan, Güven ve Süslü, Cemil (2011), "Makroekonomik Faktörlerin Hisse Senedi Getirilerine Etkisi": *Türkiye ve Gelişmekte Olan Piyasalar Üzerine Bir İnceleme, BDDK Bankacılık ve Finansal Piyasalar Dergisi*, (5), 73-96.

Serin, V. (1998), *İktisat Politikası*. İstanbul: Alfa Yayınları, 549.

Sevinç, E. (2014), "Makroekonomik Değişkenlerin, BIST-30 Endeksinde İşlem Gören Hisse Senedi Getirileri Üzerindeki Etkilerinin Arbitraj Fiyatlama Modeli Kullanarak Belirlenmesi"

Sönmez, Feriştah ve Terzioğlu, Mustafa (2007), "Gayri Safi Millî Hasıla İMKB 100 Endeksini Etkiliyor mu?", Muhasebe ve Finansman Dergisi, 96-101.

Taner, B., & Akkaya, C. (2009), "Sermaye Piyasası Faaliyet Alanı ve Menkul Kıymetler. Ankara": Detay Yayınları. 123

Tanör, R. (2000), *Türk Sermaye Piyasası- Halka Arz*. İstanbul: Beta Yayıncılık, 300.

Tuncer, S. (1985), *Türkiye Sermaye Piyasası*. İstanbul, 204

Uludağ, İ., & Arıcan, E. (2001), *Finansal Hizmetler Ekonomisi, Piyasalar, Kurumlar, Araçlar.* İstanbul: Beta Yayınları, 142.

Vuran, B. (2010), "IMKB 100 Endeksinin Uluslararası Hisse Senedi Endeksleri ile İlişkisinin Eşbütünleşim Analizi ile Belirlenmesi", 165-166.

Yalçın, H. (2011). "İMKB'de Hisse Senedi Fiyatlarını Etkileyen Faktörler", Yüksek Lisans Tezi, İstanbul, Beykent Üniversitesi Sosyal Bilimler Üniversitesi, 63.

Yalçıner, K. (2005), "Uluslararası Hisse Senedi Piyasasına Hisse Senedi İhracı ve İMKB' de İşlem Gören Firmaların İhraç Performansı". Atatürk Üniversitesi İ.İ.B.F Dergisi, 19(2), 396-397.

Yıldırım, A. (1995), *Tophane'de Büyük Oyun*: Borsanın 10 Yıllık Fırtınalı Öyküsü. İstanbul: Güncel Yayıncılık, 382.

Yıldız, S. (2010), "Entelektüel Sermaye Teori ve Araştırma". İstanbul, 33.

Yılmaz, Ö., Güngör, B., & Kaya, V. (2006), "Hisse Senedi Fiyatları ve Makro Ekonomik Değişkenler Arasındaki Eşbütünleşme ve Nedensellik". İMKB Dergisi, 9(34), 1-16.

Yörük, N., & Erdem, S. (2008), "Entelektüel Sermaye Unsurlarının İMKB de İşlem Gören Otomotiv Sektörü Firmaların Finansal Performansı Üzerine Etkisi". Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi, 22(2), 399-400.

Zügül, Muhittin ve Şahin, Cumhur (2009), "İMKB 100 Endeksi ile Bazı Makroekonomik Değişkenler Arasındaki İlişkiyi İncelemeye Yönelik Bir Uygulama", Akademik Bakış Uluslararası Hakemli Sosyal Bilimler E-Dergisi, 1-16.

AUTOBIOGRAPHY

Huseyin Ozdemir was born in Bakırköy on May 20, 1988. He is married. He graduated from Doğuş University in 2012 about Mathematics. He is working in Türkiye Finans as Branch Performance Management.Specialist since 2013. In 2013, he began to study Master of Business Administration Department at Doğuş University. He knows fluently english as a second language.