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**THE EFFECTS OF TAXATION OF FINANCIAL
INSTRUMENTS ON STOCK RETURNS TRADED IN
ISTANBUL STOCK EXCHANGE: EVIDENCE FROM
ISE-30 INDEX**

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YEMİN METNİ

Tezli Yüksek Lisans projesi olarak sunduđum “**The Effects of Taxation of Financial Instruments on Stock Returns Traded in Istanbul Stock Exchange: Evidence from ISE-30 Index**” adlı alıřmanın, tarafımdan, bilimsel ahlak ve geleneklere aykırı dűşecek bir yardıma bařvurmaksızın yazıldıđını ve yararlandıđım eserlerin bibliyografyada gűsterilenlerden olduđunu, bunlara atıf yapılarak yararlanılmıř olduđunu belirtir ve bunu onurumla dođrularım.

Tarih

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Canan YALIN

İmza

ÖZET
Yüksek Lisans Tezi
Finansal Araçların Vergilendirilmesinin İstanbul Menkul Kıymetler Borsasında
İşlem Gören Hisse Senetlerinin Getirilerine Etkileri: İMKB-30 Endeksinden
Kanıtlar

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Türkiyede 2006 yılı finansal araçların vergilendirileme politikaları yönünden bir dönüm noktasıdır. Bu dönem itibariyle finansal piyasa işlemleri ilk kez olarak vergi mevzuatı içinde tanımlanmış ve “menkul kıymet ve diğer sermaye piyasası araçları” terimi yasa metnine dahil edilmiştir. Yeni vergilendirme politikalarının amacı vergilendirme işlemlerinin basitleştirilmesi ve yatırımcılar arasında kanunun uygulanması bakımından eşitliğin sağlanmasıdır.

Bu çalışma Türkiyede finansal piyasa araçlarının vergilendirilmesi ile ilgili düzenlemeleri analiz edip, İMKB-30 endeksinde kayıtlı hisselerin getiri ve hacim verilerini kullanarak vergilendirmenin hisse senedi piyasası üzerindeki etkilerini ampirik olarak araştırmaktadır. Ampirik çalışma için “Olay Analizi” metodu uygulanmıştır. İMKB’nin yarı güçlü formda etkinliğinin ölçülebilmesi için büyük vergisel değişikliklerin olduğu tarihlerdeki anormal getiri ve hacim verileri hesaplanmıştır.

Çalışmanın sonuçları İMKB-30 endeksinde kayıtlı hisse senetleri için çok küçük miktarda anormal fiyat hareketleri göstermektedir. Ancak, öte yandan vergi oranlarının değişiklik gösterdiği tarihten önceki ve sonraki dönemlere anormal hacim hareketleri gözlemlenmiş, bu hareketlerin istatistiki olarak anlamlı olduğu yönünde bulgular elde edilmiştir. Bu istatistik veriler hisse senedi işlemlerinin vergilendirilmesinin fiyat üzerinde oldukça düşük bir etkisinin bulunduğunu, diğer yandan hisse senedi hacmi ele alındığında vergi oranlarının değiştiği tarihlerden önce ve sonra anormal hisse hacmi gözlemlendiğini göstermektedir. Bu durum İMKB’nin yarı güçlü etkin formda bir piyasa olmadığını ortaya koymaktadır. Öte yandan, hacim yüksekken fiyatların çok fazla değişmemesi İMKB-30 hisselerinin derinliği olan bir piyasada işlem gördüğünün bir kanıtıdır.

Anahtar Kelimeler: Finansal araçlar, vergilendirme, olay analizi.

ABSTRACT

Master Thesis

The Effects of Taxation of Financial Instruments on Stock Returns Traded in Istanbul Stock Exchange: Evidence from ISE-30 Index

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The year 2006 is a turning point on taxation of financial market transactions in Turkey. Financial market transactions were defined for the first time within the law enforcement and the terms of “security and capital market instruments” went into legislation. The purpose of the new taxation policies is to simplify the process and bring equality in implementation of law among the investors.

This study analysis the tax regulations of the financial market instruments in Turkey and try to investigate the effects of taxation on the stock market empirically by using the return and volume data of stocks listed in ISE-30 index. We implement the “Event Study” methodology for the empirical investigation. Abnormal return and volume measurements around the major tax amendments calculated to evaluate the semi-strong form of market efficiency in ISE.

Results of the study suggest that there is very little unusual price behavior observed for the stocks listed ISE-30 index. There exists, however, strong evidence that points toward the unusual volume behavior before and after the tax rate amendments, which is statistically significant. These empirical findings prove that taxation of stock transactions plays a minor role in price formation, however when the stock volume is considered, we observe abnormal volumes before and after the tax rate amendments. Our results indicate that the ISE is not an efficient market at semi-strong form of efficiency. On the other hand, the result that high volume and big price changes are not interrelated indicates that ISE-30 stocks are traded in a “deep market”.

Key Words: Financial instruments, taxation, event study.

TABLE OF CONTENTS

THE EFFECTS OF TAXATION OF FINANCIAL INSTRUMENTS ON STOCK RETURN TRADED IN ISTANBUL STOCK EXCHANGE: EVIDENCE FROM ISE-30 INDEX

YEMİN METNİ.....	II
TEZ ONAY SAYFASI	III
ÖZET	III
ABSTRACT.....	IV
TABLE OF CONTENTS.....	V
ABBREVIATION.....	VIII
TABLES.....	IX
INTRODUCTION	1

CHAPTER 1: FINANCIAL MARKETS

1.1 Definition and Functions of Financial Markets	3
1.2 Types of Financial Markets.....	3
1.3 Capital Markets	5
1.3.1 Definition & Classification of Capital Markets	5
1.3.2 Role of Capital Markets in the Economy	7
1.3.3 Regulatory Framework of the Capital Markets in Turkey	8
1.3.4 Istanbul Stock Exchange (ISE)	9
1.4 Money Markets	9
1.5 Financial Market Instruments	10
1.5.1 Stocks	12
1.5.2 Bonds	15
1.5.3 Treasury Bills	16
1.5.4 Participation Dividend Certificates (PDC).....	16
1.5.5 Revenue Sharing Certificates.....	17
1.5.6 Banker Notes and Bank Guaranteed Notes (BGN).....	17

1.5.7 Commercial Papers	18
1.5.8 Asset Backed Securities (ABS).....	19
1.5.9 Real Estate Certificate (REC)	20
1.5.10 Profit and Loss Sharing Certificate (PLC).....	20
1.5.11 Mutual Funds Participation Certificate.....	21
1.5.12 Financial Derivatives	21
1.5 Turkish Financial System.....	23
1.6 Market Efficiency	23

CHAPTER 2: TAXATION OF THE CAPITAL MARKET INSTRUMENTS

2.1 Income from Capital Investments	27
2.2 Income from Capital Gains	28
2.3 Withholding Taxation by Banks and Financial Intermediaries on the Extent of Transitional Article No: 67	29
2.3.1 Types of Withholding Income:	30
2.3.2 Exemptions of the General Regulations.....	32
2.3.3 The Taxpayer of the Withholding Taxation.....	33
2.3.4 The Tax Base	33
2.3.5 Loss Deduction	34
2.3.6 Tax Rate, Tax Period, Declaration and Payment	35
2.3.7 The Withholding Agents.....	35
2.4 Taxation of Income from Stocks.....	37
2.4.1 Dividends	37
2.4.2 Trading Income	37
2.5 Taxation of Income from Bonds and Treasury Bills.....	38
2.6 Taxation of Income of Mutual Funds and Investment Trusts & Taxation of Income Generated from Mutual Funds and Investment Trusts.....	39
2.6 Taxation of Income from Financial Derivatives	40
2.7 Taxation of the Other Securities	40

CHAPTER 3: EMPIRICAL STUDY

3.1 The Aim and the Scope of the Study	43
3.2 Literature Review	44
3.3 Data	60
3.4 Methodology and Hypothesis	61
3.4.1 Abnormal Return.....	63
3.4.2 Abnormal Volume.....	66
3.5 Empirical Results	67
3.6 Conclusion for Empirical Analysis	71
CONCLUSION.....	74
REFERENCES.....	77

ABBREVIATION

EMH	Efficient Market Hypothesis
ISE	Istanbul Stock Exchange
OTC	Over-the-Counter
IPOs	Initial Public Offerings
CML	Capital Market Law
CMB	Capital Market Board
PDC	Participation Dividend Certificates
BGN	Bank Guaranteed Notes
ABS	Asset Backed Securities
REC	Real Estate Certificates
PLC	Profit and Loss Sharing Certificate
TA	Transitional Article
FIFO	First in First Out
STT	Stock Transaction Tax
HUD	Hesap Uzmanları Derneği
NYSE	New York Stock Exchange
ASE	American Stock Exchange
OLS	Ordinary Least Square
TSE	Tokyo Stock Exchange
TRA	Tax Reform Act
U.S.	United States
CAPM	Capital Asset Pricing Model
AR	Abnormal Return
AV	Abnormal Volume
AAR	Average Abnormal Return
CAAR	Cumulative Average Abnormal Return
AAV	Average Abnormal Volume
CAAV	Cumulative Average Abnormal Volume

TABLES

Table 2.1: Taxation of Other Capital Market Instruments	41
Table 3.1: Stocks in the Sample	60
Table 3.2: Event Date, Event Window and the Estimation Period	64
Table 3.3: Average Abnormal Returns	68
Table 3.4: Cumulative Average Abnormal Returns	69
Table 3.5: Average Abnormal Volume	70
Table 3.6: Cumulative Average Abnormal Volume	71

INTRODUCTION

Efficient Market Hypothesis (EMH) suggest that financial markets are informationally efficient, or that prices on traded assets already reflect all known information. Namely, the efficient market hypothesis states that it is impossible to consistently outperform the market by using any information that the market already knows which simply means it is not possible to gain abnormal returns under the efficient market conditions.

After the issuing of EMH, many researchers try to investigate the validity of this hypothesis empirically. Most of these studies imply that, EMH does not work properly and some anomalies exist that make investors generate high returns by using different source of information. Changes in the tax policies are one of the anomalies that affect the market efficiency. In many countries taxation of securities is not a recent issue and several implementations have been conducted to find the ideal taxation policy on financial markets.

In Turkey the formation of capital markets have been accelerated since 80's and, especially after the 2001 crisis, new legislation and services implemented. And, in this environment it is understood by the government authorities that providing efficiency and stability at taxation on financial instruments play a leading role on the development of the financial markets. For this reason taxation policies on securities changed and simplified by the tax code amendments released after 01.01.2006.

The aim of this thesis is to investigate the effects of the new tax policies implemented recently, on Istanbul Stock Exchange (ISE) and by this way we try to test the semi-strong form of efficiency of the market. It was examined whether the changes in the taxation policies provide abnormal returns or create abnormal volume in the market for the companies that are listed in ISE-30 Index for fifteen days preceding and following the amendment dates during the period of 2005-2009.

In the first section of the study, the definition, role and the instruments of financial markets will be explained. Turkish financial system will be examined briefly and the concept of efficient markets will be illustrated more detailed parallel with the purpose of this study.

The second section overviews the taxation of the financial market instruments, gives information about the new policies in this area, and illustrate some of the financial market instruments that are more widely used by the Turkish investors in detail.

The third part of this thesis, briefly reviews the related literature focusing on the effects of transaction taxes on the market volume, return and volatility. Then the data and the methodology employed in this study will be explained and the results of the empirical analysis will be reported. Finally, in the last part of the third section the findings and concluding remarks will be summarized.

CHAPTER 1: FINANCIAL MARKETS

1.1 Definition and Functions of Financial Markets

A financial system is the collection of markets, institutions, laws, regulations, and techniques through which bonds, stocks and other securities are traded, interest rates are determined, and financial services are produced and delivered around the world. (Rose, Milton and Marquis, 2006: 3)

In the economic literature the market can be defined as the places where supply and demand come together. A financial market is a market where financial assets are exchanged. In this context financial markets are the structures being formed by the legal and administrative rules, which get fund suppliers and demanders together and organize the mechanism of the flow of funds. *Although the existence of a financial market is not necessary condition for the creation and exchange of a financial asset, in most economies financial assets are created and subsequently traded in some type of organized financial market structure. (Fabozzi and Modigliani, 1996: 11)*

The first economic function of financial markets is creating the interactions between the buyers and sellers in a financial market to determine the price of the asset traded in the market. Second, financial markets provide a mechanism for the financial assets to find the buyer and the seller. By this feature financial markets increase liquidity, which can motivate the investors to sell. The third function is that with its organized structure, it reduces the costs of transactions.

1.2 Types of Financial Markets

Financial markets can be classified in various ways. One way of classifying the financial markets is the type of financial claim. The claims traded in a financial market for a fixed dollar amount called debt instruments and the markets where these instruments traded are called as debt market. On the other hand, assets traded for a

residual amount are equity instruments and the market where these instruments are traded is the equity market.

Another way to classify the financial markets is by the maturity of the claims. Financial market for short-term financial assets called the money market, and the market for the long-term financial assets are the capital markets. Traditionally short term means less than one year. *Thus, the debt market can be divided into those debt instruments which are part of the money market and part of the capital market depending on the number of years to maturity.* (Fabozzi and Modigliani, 1996: 12)

A third way to classify financial market is by whether the financial claims are newly issued or not. *Market for securities result from the sale of securities by public or private corporations and governments directly to individuals and institutional investors called the primary market.* (Amling, 1989: 276) *Markets where previously issued assets are traded called the secondary markets. Secondary market transactions can take place on organized securities exchanges or in less formal markets.* (Weston and Brigham, 1982: 17)

Finally, a market can be classified by its organizational structure. According to this classification, financial markets are called auction markets, over the counter (OTC) markets, or intermediate markets. (Fabozzi and Modigliani, 1996: 13)

The most integrated market is an auction market, in which all transactors in a good converge at one place to bid on or offer a good. (Bodie, Kane and Marcus, 2005: 20). *Over-the-counter (OTC) market is a geographically dispersed group of traders who are linked to one another via telecommunication systems.* (Fabozzi and Modigliani, 1996: 144). *Buying and selling occurs between securities firms that have access through computer terminals and price sheets to information on bidding (buying) and asking (selling) prices offered by the other securities firms.* (Mandaci and Soydan, 2002: 6)

As the aim of this thesis is to investigate the effects of taxation on financial instrument, so that first the information on both capital and money markets will be given and then the financial instruments traded in these markets will be explained in more detail in the following parts.

1.3 Capital Markets

This section of the study consists of the definition and the classification of the capital markets. Role of the capital markets in economy, Turkish regulatory framework will be explained briefly and the stock exchange markets and the structure of the ISE will be explained in more detail.

1.3.1 Definition & Classification of Capital Markets

With the industrial revolution big companies started to establish and to realize the investments of these companies that has been in need of disposable funds. On the other hand, it has also become a necessity of some organized markets for the investment of small savings to the right places which allow the owner of the savings to earn extra revenues. All these circumstances inevitably originate the formation of the capital market.

Different from the money market, issuers and the buyers of the capital market securities have different motivations for the creation of the transactions. *Firms and individuals use money markets primarily to warehouse funds for short periods of time until a more important need or a more productive use for the funds arises. By contrast, firms and individuals use the capital markets for long term investments. The capital market provides an alternative to investment in assets such as real estate or gold.* (Mishkin and Eakins, 2003: 241)

In general terms capital markets are the market where the medium and long term supply and the demand for funds meet. Capital market has a more limited and technical attribute than the concept of financial markets.

The typical feature of the capital market and its difference from money market is that, capital markets are formed by medium and long term funds. The maturity in capital markets are usually more than one year. The funds provided from the capital markets are usually used by the firms for the long term financing. Like the money market, the resources of the capital markets are the savings of the owner of the funds.

The supply and demand of funds realize by the help of primary markets where the initial public offerings (IPOs) take place and secondary markets which are also classified as stock exchanges and OTC markets. The primary market mostly works as a capital market while the secondary market works as security market.

Financial claims initially sold in the primary markets. It was the market where the issuer of the stocks or bonds directly meets the owners of the funds. In the primary market, government, companies or public sector organizations can obtain funds through the sale of a new stock or bond. Whether a bank or intermediary plays a role between the issuer and the buyer does not change the characteristic of the primary market. Investors prefer to purchase a primary market instrument if they want to hold the instrument forever or until its maturity date.

Secondary Markets are like used car markets; they let people exchange used or previously issued financial claims for cash at will. Secondary markets provide liquidity for investors who own primary claims. Securities can only be sold once in primary market; all subsequent transaction takes place in secondary markets. (Kidwell and others, 2003: 19). In Turkey, ISE is a good example of a secondary market.

Capital markets also can be classified as organized markets and OTC markets. The best example for the organized markets is stock exchange markets. Stock exchange markets are the certain places where the securities pass through under certain rules and the prices of the securities determined.

Financial claims can also be traded OTC, be visiting or phoning an OTC dealer or by using a computer system that links the OTC dealers. OTC markets do not have central location. However the dealers in the market must follow some strict rules that are stated by the regulatory entities. *Most of the money market transactions originate over the phone, most capital market transactions measured by volume occur in organized exchanges.* (Mishkin and Eakins, 2003: 243)

1.3.2 Role of Capital Markets in the Economy

The benefits of the capital markets for the economy and their basic functions can be listed below:

1- Markets provide a permanent place for the trade of the financial instruments. By this function every instrument will find its buyer, so the marketability in other words liquidity of the financial assets increases. In this environment, financial assets change holders more easily and with lower costs.

2- Capital markets bring action and boom to the savings. Financial markets are the places where the supply and demand of the funds meets. Thus, these markets become the best places of marketing for the companies or institutions who issue financial instruments.

3- Stock markets encourage the public offerings and by this way spread the capital to the base. Effective secondary markets give the opportunity for the small investors to buy or sell in small amounts.

4- Registering of the instruments prevents the informal economy.

5- Companies have the opportunity to raise long term finance through equity and debt financing.

6- Through full disclosure requirements, companies are encouraged to observe better accounting and management practices.

7- Capital markets provide an avenue for the divestiture of State Owned Enterprises, whereby shares in these may be sold through the stock exchange, allowing members of the public to participate in the ownership of these companies.

8- Increase investment by companies will lead to employment expansion, income generation and with a larger percentage of the population earning income, savings and consumption will increase resulting in a cycle of increased investment, production, enhanced economic growth and wealth creation.

9- Enhance the inflow of international capital inflow.

10- Capital markets create price transparency and liquidity. They provide for a wide range of investors to hedge and speculate.

1.3.3 Regulatory Framework of the Capital Markets in Turkey

The Capital Markets Law (CML) was enacted in 1981 and one year later, The Capital Markets Board (CMB) which is the main regulatory body in Turkey was established. ISE started trading at the end of 1985 after the Regulation for the Establishment and Operations of Securities Exchanges led to the establishment of the ISE.

The objective of the CML is to regulate; supervise and provide for the secure, fair and orderly functioning of the capital markets, while protecting the right and interests of investors. (Budak and Altaş, 2010: 6)

CML specifies capital market instruments, public offerings and sales, issuers, exchanges and other organized markets. And also capital market activities, capital market institutions and the structure of the CMB are all subject to the provisions of CML.

Joint stock companies which have more than 250 shareholders or which offer their shares to the public are subject to the CML. In addition to this, securities issued by the state economic enterprises (including those within the scope of privatization program), municipalities and related institutions are subject to the disclosure requirements.

1.3.4 Istanbul Stock Exchange (ISE)

A stock exchange, shares market or bourse is a company, corporation or mutual organization that provides facilities for stock brokers and traders to trade stocks and other securities. Stock exchanges provide facilities for the issue and redemption of securities, trading in other financial instruments and the payment of income and dividends.

ISE was established at the end of 1985. It is a mutual organization with a quasi-governmental structure, whose members are the banks and brokerage firms. The Chairman is appointed by the government, but the remaining four board members are elected by General Assembly from among its members. ISE has some self-regulatory authority on its members and its own budget, but major decisions are subject to CMB approval. (Budak and Altaş, 2010: 17)

Functions of the ISE can be listed as follows: (Budak and Altaş, 2010: 18)

- 1- Examine listing application of securities, request additional information and documentary if necessary*
- 2- Launch the derivatives market (currently there is no derivatives activity within ISE)*
- 3- Determine types of securities to be traded on the Exchange, launch necessary markets and disclosure information about traded securities.*
- 4- Determine working days and hours for the exchange markets.*
- 5- Ensure reliable and smooth trading of securities.*
- 6- Sanction the ISE members violating ISE regulations.*
- 7- Take necessary precautions in the line with the rules and regulations in the event of extraordinary circumstances on the exchange.*

1.4 Money Markets

Financial markets for the short term financial assets called the money market.

The traditional difference between the short-term and long-term is one year. So, a financial asset with a maturity of one year or less is considered as short-term and therefore part of the money market.

Money market is the sub-sector of the fixed income market. It consists of very short-term debt securities that usually are highly marketable. Many of these securities trade in large denominations, and so are out of the reach of individual investors. (Bodie, Kane and Marcus, 2005: 32)

The major instruments of the money market are treasury bills, certificates of deposits, commercial papers, repos and reverses. Some of these instruments which are subject to the taxation will be explained in more detail within the following parts.

1.5 Financial Market Instruments

Financial market instruments are classified as the debt and equity instruments. Investors trade debt and equity securities in both capital and money markets. In the Turkish tax legislation the financial market instruments are defined under the title of “securities and other capital market instruments”. Some of the financial instruments having maturities less than one year have been included in this classification. For this reason, in the following parts some detailed information about both the capital market and money market instruments will be explained.

Securities are financial instruments or legal documents signifying either an ownership position in a company or a creditor relationship with a company or government.

According to the CML Article-3, securities are defined as: “Negotiable instruments which represent a share or participation in the property of the issuer or an obligation of the issuer, represent a specified quantity of money, are of a series of instrument of the same nature, have the same wording, are dealt in as a medium for

investment, are fungible, earn periodic income and have the terms and conditions determined by the Board.”

In accordance with the definition above, we can list the components of a security as listed below:

1- The most important element in the definition of a security is that they are negotiable instruments. Because of this feature of the security, the right that is represented by the security can not be transferred to other parties without transferring the document itself and vice versa. This right can only be used by presenting the document or transferred by transferring the document.

2- They are documents that represent a specified quantity of money with same wording and nature.

3- They are not issued for a single transaction like bill of exchange or bonds; instead they are issued in series and offered to the public by blocks.

4- They represent a share or participation in the property of the issuer or an obligation of the issuer.

5- They earn periodic income.

6- Each of a security will have nominal value which is written on it and a market price which is determined by the supply and demand in the market.

7- Securities like other valuable documents can be written on the registered or the bearer.

Securities can be classified as follows:

- 1- Stocks,
- 2- Bonds,
- 3- Treasury bills,
- 4- Participation dividend certificates,
- 5- Profit and loss sharing certificates,
- 6- Banker notes and bank guaranteed notes,
- 7- Mutual funds participation certificates,

- 8- Commercial papers,
- 9- Asset-backed securities,
- 10- Revenue sharing certificates,
- 11- Real estate certificates,

Other capital market instruments are the instruments which are not securities and which have terms and conditions determined by the CMB, excluding cash, checks, bills of exchange, promissory notes and certificates of deposit. (ISE, 2006: 12)

1.5.1 Stocks

Stocks have the higher trading volume in financial markets among the other financial instruments. Stocks are the negotiable instruments, issued by the corporations and represent the share in the capital of the corporation. Limited liability partnerships also have the right to issue stocks but they can not sell by public offerings.

Stocks can be issued by the corporations, limited partnerships, institutions established by special laws and Housing Development Administrations. The stock issued by the corporations can be traded in the capital markets while the others that are issued by the limited partnerships can not.

1.5.1.1 The Rights and the Obligations of the Stockholders

1- Receive Dividends: *This is the most important financial right of the owner. The stockholders earn dividend according to the laws and regulations, and the way explained in the articles of association with the decision of the general meeting. (İnam, 2007: 392)*

2- Right to Vote for Management: Stockholders can join management of the company by joining to general meeting of the company and vote for the items on the agenda. *The power to vote for the board of directors and for or against major issues,*

(such as mergers or an expansion into new product lines) belongs to the common stockholders because they are the owners of the corporation. (Fransis, 1988: 28)

3- Pre-emptive Right: *This right grants existing shareholders the right to buy some proportion of the new shares issued at a price below market value. The price at which the new shares can be purchased is called the subscription price. (Fabozzi and Modigliani, 1996: 132)*

4- Receive Proportionate Share from the Dissolution: In dissolution of the partnerships first of all the company debts are paid. After the paying of the debts, the stockholders have the right to take their share from the remaining amount.

5- Receive Information about the Corporation: *Stockholders have right to get information about the management activities; examine the profit and loss statements and annual financial reports. (Koruyan, 2001: 84)*

6- Obligation of Secrecy: *The stockholders should hide the secrets of the company even he/she leaves the partnership. This obligation is related with the right of getting information about the company. According to the Capital Market legislation, it is related with prohibiting of insider trading activities. (Koruyan, 2001: 84)*

7- Subscribe to Capital Increases: In the establishment of the company or during the raising of capital, the owner of the subscription to the capital should fulfill this obligation.

1.5.1.2 Types of Stocks on the Issuing Point of View

In corporate law, a stock or share is a legal document that certifies the ownership of a specific number of stock shares in a corporation. According to the issuing process, stocks are divided into two forms; registered stock and bearer stock. A registered stock is normally only evidence of title, and a record of the true holders of the shares will appear in the stockholder's register of the corporation. Stockholders choose to have their stock registered with the company in their name and receive a physical stock certificate. Registered stocks are written on a specific name and the transfer of the stock can be done by transfer of claims or endorsement and delivery. Registered stock certificates are proof of ownership and gives the

holder of record certain rights, typically including the right to vote at the corporation's stockholders meeting.

A bearer stock as its name implies a bearer instrument that is wholly owned by whoever holds the physical stock. The issuing firm neither registers the owner of the stock, nor does it track transfers of ownership. The company disperses dividends to bearer shares when a physical coupon is presented to the firm. Because the share is not registered to any authority, transferring the ownership of the stock involves only delivering the physical document.

To the way followed on the issuing process and its nature there are different types of stocks. According to this, the types of stocks and their definitions are as follows.

On the basis of the rights bounded to the stock there are four types of stocks.

1- Common Stock: Common stock represents the basic ownership claim in a corporation. *The holders of common stock are the owners of the firm, have the voting power that, among other things, elects the board of directors, and have a right to the earnings of the firm after all expenses and obligations have been paid; but they also run the risk of receiving nothing if earnings are insufficient to cover all obligations.* (Fischer and Jordan, 1987: 11). This residual nature of common stock means that it is more risky than a firm's bonds or preferred stock.

2- Preferred Stock: *Like common stock, preferred stock represents ownership interest in the corporation, but as the name implies it receives preferential treatment over common stock with respect to dividend payments and claim against the firm's asset in the event of bankruptcy or liquidation.* (Kidwell and others, 2003: 259)

Preferred stock is an equity security. But as resembled to both fixed income and equity instruments, it is known as a hybrid security. *Preferred stock occupies a middle position between bonds and common stock both in terms of priority of*

payment of income and in case the corporation is liquidated. Preferred stockholders are paid after the bondholders but before the common stockholders. (Jones, 1991: 37-38)

3- Founders Stock: *These are the stocks given to the partners who are contributed to the formation of the company. Practically, buying and selling of these stocks are very rare. These stocks have dividend privilege over the common stock but they do not provide management right as they do not represent any capital share of the firm. (İnam, 2007: 391)*

4- Non-voting shares: *They are ordinary shares, with the exception that they do not entitle the holders to vote. Instead, they entitle the holders to benefit from the dividends and dissolution shares. (Mandacı and Soydan, 2002: 98)*

1.5.2 Bonds

Bonds are the note payables issued by the establishments who have the right to issue. *The buyer of a newly issued coupon bond is lending money to the issuer who, in turn agrees to pay interest on this loan and repay the principal at a stated maturity date. (Jones, 1991: 178)* It was a general name for a traceable loan security issued by governments and companies as a mean of raising capital. *The bond guarantees its holder both the repayment of capital at a future specified date and a fixed rate of interest. Bonds offer the greatest certainty of income, but may fail to keep pace with inflation. (İnam, 2007: 392)*

The bearer of the bond is a long term creditor for the issuer of the bond and have no right on the company's capital except for the claim right. They do not have the right to attend in the management of the company. But on the other hand they have interest earning privilege on the yearly income of the company.

Bond issuer are the incorporated companies, public economic enterprises (including those within the scope of privatization program), local government and

the entities, administrations and enterprises bounded to the local government with their special legislation.

The issuers of the bond must register the bonds to the CMB. The bonds issued by the General and Annexed Budget Administrations and Turkish Central Bank do not have to register to the CMB. On the other hand, information about these bonds should be transferred to the CMB in 10 days following the definition of the issue. (İnam, 2007: 397)

1.5.3 Treasury Bills

These papers are the short term debt obligation backed by the government with a maturity of less than one year. Treasury bills generally have constant maturities of one month, three months or six months. *They pay interest to their investors by selling at a discount from their face (or maturity) values.* (Fransis, 1988: 24) Rather than paying fixed interest payments, the appreciation of the bond provides the return to the holder.

Treasury bill prices are used to determine short term risk free rates. They are also used to adjust for the value of intervening interest payments when calculating longer term rates.

1.5.4 Participation Dividend Certificates (PDC)

CMB organize PDC for the purpose of ensuring the participation of households to the economic development by investing the savings to the securities, and also to diversify the types of financial instruments in the market.

PDC is a negotiable document that does not in fact provide the holders with the ownership right. They provide some rights to the owner of the document like dividend payments and dissolution payments. (Mandacı and Soydan, 2002: 101)

From these definitions it can be said about PDC that, they are nonvoting documents sold in cash and give right to take share from the profit, have the right of priority over the assets in the event of dissolution, have the pre-emptive right but have no partnership right. By this way, companies issuing PDC provide the capital stock needed without sharing the management. From the investor point of view these instruments are convenient investment tools for the ones who pay attention to the dividend they take, in stead of being part of the management or earning interest.

1.5.5 Revenue Sharing Certificates

These certificates generally issued to construct or expand upon various revenue generating entities. They are municipal bonds distinguished by its guarantee of repayment solely from revenues generated by these specified revenue generating entity associated with the purpose of the bonds.

They are payable only from a specified source of revenue, such as a toll road or a sewer project, and usually do not require a public referendum before they can be issued. These securities are not guaranteed or backed by the taxing power of government. Instead, revenue bonds depend for their value on the revenue-generating capacity of the particular project they support. (Rose, Milton and Marquis, 2006: 568)

This definition presents two important features; first the revenue sharing certificates associated with the revenues of the infrastructure plants belongs to the public like transportation, communication or energy. Second there is no relationship between the ownership and the management of this type of publicly owned plants and the owners of the certificates. (ISE, 2006: 185)

1.5.6 Banker Notes and Bank Guaranteed Notes (BGN)

Bank bills are registered or bearer capital market instruments issued by Development and Investment Banks as obligator. The maturity of the bank bills

determined as at least 60 days up to 720 days on the selling day and written on the bill at the arrangement. (Koruyan, 2001: 98)

Bank Guaranteed Notes are issued by commercial banks, and based on the already discounted promissory notes of credit customers by commercial banks under their guarantees. Similar to the banker notes, BGN have a maturity of minimum 60 days to maximum 720 days. (Mandacı and Soydan, 2002: 120)

1.5.7 Commercial Papers

Commercial paper is one of the oldest of all money market instruments. *By definition, commercial paper is a short term unsecured promissory note issued by large, well known, and financially strong corporation (including finance companies).*(Jones, 1991: 31) *It is traded mainly in the primary market. Opportunities for resale in the secondary market are more limited. (Rose, Milton and Marquis: 330)*

There are two types of commercial papers, direct paper and dealer paper. Direct papers main issuers are large finance companies and bank holding companies. These issuers deal directly with the investor rather than using an intermediary as security dealer. These companies, which regularly extend installment credit to consumers and large working capital loans and leases to business firms, announce the rates they are currently paying on various maturities of their paper. Investors select their preferred maturities and buy the securities directly from the issuer. The other type of commercial paper is dealer paper, issued by security dealers on behalf of their corporate customers. This paper is also known as industrial paper. Dealer paper; issued mainly by non-financial companies, smaller bank holding companies, and finance companies. It is used primarily to fund accounts receivable and inventory for the issuing companies and is usually closely connected to fluctuations in business inventory level.

Commercial paper is an unsecured promissory note with a fixed maturity of no less than 60 days and more than 270 days. Since, this paper can not be backed by collateral, only firms with excellent credit rating from a recognized rating agency will be able to sell their commercial paper at a reasonable price. Commercial paper is usually sold at a discount from face value, and carries higher interest repayment dates than bonds. Typically, the longer the maturity on a note, the higher the interest rate the issuing institution must pay. Interest rates fluctuate with market conditions, but are typically lower than bank's rates. Commercial papers can be sold either by public offering or not, they have secondary markets.

1.5.8 Asset Backed Securities (ABS)

Securitization of assets refers to the issuance of securities that have a pool of assets collateral. The securities thus created are called asset-backed securities. (Fabozzi and Modigliani, 1996: 107-108) The pool of assets is typically a group of small and illiquid assets that are unable to be sold individually. Pooling the assets into financial instruments allows them to be sold to general investors and allows the risk of investing in the underlying assets to be diversified because each security will represent a fraction of the total value of the diverse pool of underlying assets. The pool of underlying assets can include common payment from credit cards, auto loans and mortgage loans, to esoteric cash flows from aircraft leases, royalty payments and movie revenues.

According to the CML general financial partnerships, banks, finance companies, leasing companies and real estate investment companies can be the issuer of the asset backed securities.

The process that give rise to the creation of asset backed securities, known as securitization, offers several potential advantages to those larger corporations able to use the device. (Rose, Milton and Marquis, 2006: 594) These instruments reduce the cost of capital, increase the control over the balance sheet, and improve the

financial strength of the issuing firm by increasing its ratio of equity capital relative to its assets and liabilities.

1.5.9 Real Estate Certificate (REC)

A certificate of deposit that provides a guaranteed rate of interest as well as the possible rent revenues and capital gains that may be derived from the property that the funds from the certificate are used to acquire. The guaranteed rate of interest is usually lower than the rate paid on regular certificates of deposits. *Turkish RES are issued in conjunction with a construction project.* (Mandacı and Soydan, 2002: 124)

1.5.10 Profit and Loss Sharing Certificate (PLC)

These are securities that give the right to share the profit or loss of the entity without associating the ownership.

PLC are hybrid securities, which resembles the common stocks by its profit or loss sharing feature, on the other hand resembles the bonds by its not giving ownership right and have some maturities. PLC is mostly issued for the investors who wants share from the profit but does not want to join the management or earn interest. From this point of view it can be told that PLC is some kind of common stock that does not have voting right.

A PLC involves investing a certain sum of money into short term operations. Its maturity can vary from sixty days to one year. It offers diversification among short-term placements. All these characteristics would make it especially marketable and relatively attractive to savers who desire to have liquid investment tools.

These securities may have a maturity of 3 months to 7 years. The CMB registration is essential for these certificates and securities dealers and brokers can not issue PLC. (Mandacı and Soydan, 2002: 99)

1.5.11 Mutual Funds Participation Certificate

According to the Article No: 37 of CML: “The property established to manage a portfolio of capital market instruments, real estate, gold, or other precious metals by funds collected from the public in return for participation certificates issued in accordance with the provisions of this Law, on the account of the holders of such certificates under the principle of distribution of risk and fiduciary ownership is called mutual fund.”

The mutual fund participation certificate defined as follows: *It is a negotiable instrument which carries the rights of the owner of the document against the founder organization and shows how many shares he has participated.* (ISE, 2006: 565) According to Turkish Legislation, participation certificate of A Type mutual funds attributed as security.

Among other capital market instruments participation certificate is one of the securities with no nominal value on it. The value represented by the certificate, imply the participation rate in the fund portfolio constituted by the founders. This value will be determined according to the financial value of the fund portfolio. (Koruyan, 2001: 102)

1.5.12 Financial Derivatives

After 1970s, the financial world became more risky place for the institutions. Increasing volatility in both stock and bond markets made the financial institutions more concerned about reducing the risk they face. Within this environment the financial innovation came to rescue by producing new instruments that help the financial institutions manage the risk better. These instruments are called financial derivatives including futures, forward, options and swaps. Their payoffs are linked to previously issued securities and are useful risk reduction tools. The risks that can be hedged are interest rate risk, foreign exchange risk, and commodity and stock price changes. *In Turkey, CMB regulations specify five vehicles upon which futures and*

option contracts can be traded. These are; commodities, securities, gold and precious metals, foreign exchange and indexes. (Mandacı and Soydan, 2002: 146)

A future contract is similar to a forward contract in that it specifies that a financial instrument must be delivered by one party to another on a stated future date. However it differs from a forward contract in several ways that overcome some of the liquidity and default problems of forward markets. (Mishkin and Eakins, 2003: 620) Most participants in futures are either hedgers or speculators. The former seek to reduce price uncertainty over some future period. Speculators on the other hand, seek to profit from the uncertainty that will occur in the future. (Jones, 1991: 45)

Forward contract, just like a future contract, is an agreement for the future delivery of something at a specified price and at the end of a designated period of time. (Fabozzi and Modigliani, 1996: 220)

Another vehicle for hedging is the use of options. Options are marketable securities that give their owners the right but not the obligation to buy or sell a stated number of shares of a particular security at a fixed price within a predetermined time period. (Fransis, 1988: 634)

Before the expiration date, the owner of an option can choose to do nothing and hold the option longer, or sell the option at its current market price, or exercise the option. There are two types of option contracts; American options can be exercised at any time up to the expiration date of the contract, and European options can be exercised only on the expiration date.

A swap is an agreement whereby two parties agree to exchange periodic payments. (Fabozzi and Modigliani, 1996: 282) Swaps can be viewed as portfolios of forward contracts. However, instead of pricing each exchange independently, the swap sets one forward price that applies to all of the transactions. Therefore, the swap price will be an average of the forward prices that would prevail if each exchange were priced separately. (Bodie, Kane and Marcus, 2005: 850)

1.5 Turkish Financial System

Turkish financial system has a segmented structure in the name of regulations. The banking system is organized and regulated by the Banking Regulations and Supervision Agency, where the capital markets are regulated by the CMB of Turkey. On the other side the insurance industry is managed by the Undersecretariat of Treasury.

In Turkey, CMB is the main authority that regulates and supervises the securities markets and institutions. *The CMB determines the operational principles of the capital markets and is responsible for the protection of the rights and interests of investors. CMB regulates and supervises public companies, listed companies, financial intermediaries, exchanges, mutual, close-end and pension funds, Settlement and Custody Bank, Association of Capital Market Intermediary Institution of Turkey (TSPAKB), Central Registry Agency and other related institutions operating in the capital markets, such as independent audit firms, rating agencies etc.* (Budak and Altaş, 2010: 3)

1.6 Market Efficiency

The aim of this thesis is to test the market efficiency of the Turkish stock market by using the recent tax policy amendments. For this purpose in this part of the thesis brief information on the market efficiency is given.

The stock prices are determined by investors on the basis of the expected cash flows to be received from a stock and the risk involved. Investors use all the information they have available or can reasonably obtain. This information set consists of both known information and beliefs about the future. Regardless of its form, information is the key to the determination of stock prices and therefore is the central issue of the efficient market concept. (Jones,1991: 462)

The term efficient capital market is used to describe the operating characteristics of capital market. *There is a distinction between an operationally efficient market and a pricing efficient capital markets.* (Fabozzi and Modigliani, 1996: 154) When the market is operationally efficient then the investors can obtain services for transaction more cheaply. On the other hand the pricing efficiency means that the prices in the market always fully reflect all possible information that is relevant for the valuation of the securities. That is, relevant information about the security is quickly impounded into the price of securities.

In his article of pricing efficiency, Fama (1970) described two definitions in order to test the market price efficiency. First the definition of the fully reflect information of prices must be done, and then the relevant information to be fully reflected in the prices must be defined. Fama and most of the other authors define the fully reflects in terms of the return of a security. In defining the relevant information set Fama classified the pricing efficiency of a market into three forms: weak, semi-strong and strong. The distinction between these forms lies in the relevant information that is hypothesized to be impounded in the price of the security.

The Weak form hypothesis asserts that the prices of common stocks are independent, that is past prices have no predictive power for future prices. (Cottle, Murray and Block, 1988: 23)

Semi-strong efficiency means that all publicly available information regarding the prospects of a firm must be reflected already in the stocks price. Such information includes in addition to past prices, fundamental data on the firm's product line, quality of management, balance sheet compositions, patents held, earning forecasts, and accounting practices. (Bodie, Kane and Marcus, 2005: 373) Test of semi strong EMH are tests of the lag in the adjustment of stock prices to announcements of information. If lags exist in the adjustment of stock prices to certain announcements, the market is not fully efficient in the semi-strong sense.

If the semi-strong hypothesis is true, then only a few insiders trading on valuable information can earn a profit larger than what could be earned by using a naïve buy-and-hold strategy. (Fransis, 1988: 608)

The most stringent form of market efficiency is the strong form, which asserts that stock prices fully reflect all information public or non-public. If the market is strong efficient, no group of investors should be able to earn, over a reasonable period of time, excess rates of return by using publicly available information in a superior manner. Strong form efficiency encompasses the weak and semi-strong forms and represents the highest level of market efficiency. (Jones, 1991: 467-468)

The degree of efficiency is likely to vary across countries, depending on maturity, liquidity and the degree of regulation. However, it is not easy to beat the market in a developed stock market. But it may be possible to earn abnormal returns in an emerging market for the investors or traders who may benefit from private information not available immediately to general investor. (Mandacı and Soydan, 2002: 136)

CHAPTER 2: TAXATION OF THE CAPITAL MARKET INSTRUMENTS

Taxes imposed by the governments have a profound effect on the returns earned by investors on financial assets. Governments use their taxing power to encourage the purchase of certain financial assets and thereby redirect the flow of savings and investment toward areas of critical social need. (Rose, Milton and Marquis, 2006: 223)

Turkey has a liberal foreign investment policy. There are no restrictions on foreign investment, repatriation of capital and profits. Foreign individuals and corporations (including investment trusts and investment funds abroad) can freely purchase and sell all sorts of securities and other capital market instruments. However a foreign investor should use a Turkish intermediary for capital market activities.

In Turkey, tax policy for investment instruments changed dramatically at the beginning of 2006 and was significantly simplified. *These changes included specification on both the determination of the tax base and taxation technique.* (HUD, 2010: 383) Initially 15% withholding tax has been imposed on all kinds of investment instruments (deposits, equities, bonds, mutual funds etc.) regardless of the type of the investor. However during 2006, some amendments were made. The withholding tax rate has been reduced to 10% on some instruments for domestic investors and abolished for foreign investors. Currently foreign investors are not subject to any taxes on securities. With the change in taxation policy in 2008, residents also became subject to 0% withholding tax on equities.

On the other hand, in 2009 the Constitutional Court cancelled the different withholding tax practices of investment instruments between domestic and non-resident investors. Ministry of Finance will have to announce a new taxation policy until September 2010. The current regulation will remain in effect until that time.

In this part of the thesis, the taxation of the capital market transactions will be examined under the Turkish Taxation Code. Under the body of current law the taxation of the capital market transactions is not separated, and discussed both in Income Tax Code and Corporate Tax Code under the title of “Income from Investments and Capital Gains”.

Income generated from the capital market transactions under the extent of commercial activities is accepted to be the commercial income, and the related provisions of Income Tax Code are conducted for this type of earnings. Alike this situation, income generated by the corporation from the capital market transactions are assumed to be the part of the company’s income and provisions of the Corporate Tax code will be conducted to this types of earnings.

2.1 Income from Capital Investments

According to the Article No:75 of Income Tax Code, income from capital investments defined as the revenues like dividends, interest or rent obtained from capital (consist of cash or cash alike values), instead of commercial, agricultural or professional activities.

In the Article No: 75 of the Income Tax Code, following revenues are considered to be the income from capital investment regardless of their source.

1- Dividends earned from all sorts of stocks.

2- Income generated from participation stocks. (Dividends of Limited Company partners, Joint Venture partners and limited partners, and earnings allocated by cooperatives.)

3- Dividends paid to the chairman and members of the board of directors.

4- Interests generated from both government and private sector bills and bonds. (Including, income generated from securities which are issued by Housing Development Office, Public Participation Administration and Privatization Administration).

- 5- All sorts of interest on receivables.
- 6- Interest from deposits
- 7- Income generated from the selling undue coupons of stocks and bonds.
- 8- Cash or property in kind obtained from transfer and alienation of unaccrued dividends of participation stocks.
- 9- Values generated from discounting all sorts of bill.
- 10- Dividends paid to the creditors lending without interest, dividends paid to the profit and loss sharing certificates and dividends paid by the private financial institutions in response to the profit or loss participation accounts.
- 11- Income from repurchase agreements.
- 12- Payments made by incorporated pension funds, provident funds and pension and insurance companies.

For the determination of the net gain in capital from investments, the expenses that will be subtracted from the gross amount are explained in the Article No: 78 of Income Tax Code. According to this article expenses subtracted are as follows:

- 1- Preservation expenses of the securities.
- 2- Collection expenses of the dividends and interests
- 3- Taxes and fees (like stamp duty)

Interests related with the borrowings for the purchase of securities can not be subtracted from the gross amount as expense.

2.2 Income from Capital Gains

Trading income of the securities considered as capital gain and taxation provisions are explained in the first paragraph of Repeated Article No: 80 of Income Tax Code. According to this article, earnings generated from the disposal of securities and other capital market instruments (except the stocks acquired without

consideration and belong to the domestic corporation and held more than two years) are considered as income from capital gain.

For the taxation of the earnings generated from the disposal of stock, whether it is traded in stock exchange and the holding period is important, while for the other type of securities it is not. (Atila and Gündoğdu, 2005: 100)

“Disposal” means; selling, transfer and alienation in return of consideration, exchange, barter, condemnation, nationalization or put as capital of goods and rights.

The net gain will be determined by subtracting the cost of buying the security, transaction expenses, taxes and fees from all kind of disposal income. The buying price of the security will be determined by indexing this amount with Producer Price Index. To use indexation, increase in the rate of inflation must be 10% or higher in taxation period.

2.3 Withholding Taxation by Banks and Financial Intermediaries on the Extent of Transitional Article No: 67

The Transitional Article (T.A.) No: 67 were added to the Income Tax Code by the 30. Article of the Law No: 5281 published in the Official Gazette Number 25687 on 31.12.2004. This transitional article would come into effect after the date of 01.01.2006. By this amendment, new regulations become effective on the taxation of income generated from the disposal or holding of securities and other capital market instruments and income generated from deposit interest, repurchase agreements and participation banks. This new regulations will be applied between the dates 01.01.2006 – 31.12.2015.

On the other hand, by considering the innovations and general trends in the taxation of the savings, the policies explained in the T.A. No: 67 arranged by the Law No: 5527 published in the Official Gazette number 26221 on 07.07.2006. Also the withholding tax rate applied to some of the financial instruments changed with

the Executive Order Number 2006/10731 on 22.07.2006 and Executive Order Number 2008/14272 on 27.10.2008.

As mentioned in the justification of the Law No: 5281, the purpose of these new amendments is to simplify the taxation of the financial instruments from individual's side and provide equality between the taxation of these.

2.3.1 Types of Withholding Income:

The general approach applied to the taxation of income from capital investments is the withholding at source. The withholding taxation will be applied according to the Article 94 and T.A. 67 of the Income Tax Code. (Kıvanç and Poyraz, 2010: 95)

The types of income in the scope of withholding taxation explained in the Article No: 94 of Income Tax Code as follows:

- Dividends

- Interest payments of all sorts of bills and treasury bonds, and income generated from securities issued by Housing Development Office, Public Participation Administration and Privatization Administration issued before 01.01.2006

- Payments made by incorporated pension funds, provident funds and pension and insurance companies.

The types of income in the scope of withholding taxation explained in the first paragraph of the T.A. No:67 as follows:

-Income generated from buying and selling activities of the securities and other capital market instruments,

-Income generated from the redemption of the securities and other capital market instruments,

-Periodic yields of the securities and other capital market instruments,
-Income obtained from the borrowing and lending transactions of securities and other capital market instruments.

The withholding agents for these earnings are the banks and intermediary institutions. They make the withholding over the transaction they act as intermediary in every three month period of calendar year. In the second paragraph of T.A.No:67 for the income from interests of bond and treasury bills paid without the intermediary of banks and other institutions and income generated from the securities issued by Housing Development Office and Privatization Administration withholding will be done by the payer.

Withholding over deposit interests, earnings from repurchase agreements, dividends paid to the creditors lending without interest and dividends paid in return of profit and loss sharing certificates has to be done within the provisions of T.A.No:67.

Securities and other capital market instruments;

a- Securities and other capital market instruments issued in Turkey and registered with the CMB and/or dealing in the stock exchanges and derivatives markets operating in Turkey.

b- Without having the previous feature, securities and other capital market instruments issued by the Treasury or other Public Corporations.

Forward contracts and options are considered as the other capital market instruments in the implementation of this article. Income generated from any financial instrument that does not cover these features can not be the part of the withholding taxation procedure.

From the T.A No: 67 the taxable income from withholding can be simply listed as follows:

- 1- Purchase and selling income of stocks.
- 2- Interest revenue and trading income of the government bond and bills.
- 3- Interest revenue and trading income of the private sector bonds and bills.
- 4- Deposit interests
- 5- Income from repurchase agreements.
- 6- Income of private financial institutions.
- 7- Income generated from forward contracts and options.
- 8- Income of other securities traded in capital markets and derivatives exchange.
- 9- Interest revenue and buying-selling income of securities issued by treasury or other public corporations.
- 10- Income generated from the buying and lending transactions of the securities or other capital market instruments.

2.3.2 Exemptions of the General Regulations

The withholding taxation involves the income that is generated through intermediation of banks and other financial institutions. So that, the income generated by these institutions from the securities and other capital market instruments in their own portfolios is not under the scope of the taxation. (Atabey, 2008: 311)

Some items of income, even if they are involved in the general definition, are excluded from the T.A. No: 67 with the regulations in the paragraphs 1, 9 and 10. (Tan, 2006: 98)

In accordance with the regulations explained in the first paragraph of T.A. No: 67, income items that are excluded from the withholding are as follows:

- Income generated from the purchase and selling, redemption of the Eurobonds and collection of the periodic income of these securities.

- Income generating from the realization of stocks held more than one year which are issued by a resident company and traded in ISE.

- Income generating from disposing of mutual fund participation papers held more than one year and who's composed of at least 51% of stocks traded in ISE.

- Income from the dividends. (HUD, 2010: 425)

2.3.3 The Taxpayer of the Withholding Taxation

In the application of the withholding taxation, the feature of the taxpayer does not impede the taxation. The taxpayer can be a real or legal person, resident or non-resident, or the income generated can be excluded from the taxation.

2.3.4 The Tax Base

Tax base is the economic value or physical item upon which the assessment or determination of tax liability is based. Taxable income is the tax base of Income Tax Code. In determination of the tax base, there is no difference between the returns of the securities and other capital market instruments. The withholding base can be constituted from the bid-ask spread of the securities or difference from the buying and redemption value of the securities. The determination of the tax base of withholding taxation can be explained in detail as follows:

- In buying and selling activities, the tax base will be the amount between the purchasing and selling value of the securities. The commissions paid and the banking and insurance transactions tax will be considered as expenses deducted from the tax base. The expenses other than these can not be considered as deductible expenses.

- In the selling of the securities and other capital market instruments that are bought in various dates, the buying amount that is considered in the determination of the tax base will be calculated by using the first in first out (FIFO) method. In buying and selling transactions occurred on the same day, the price will be determined by

the weighted average price information, but the tax base must be calculated by using FIFO. If a security or other capital market instrument realized before purchasing, than the tax base amount will be determined by taking into consideration the first buying transaction occurred after the selling.

- In the transaction of securities or other capital market instruments indexed to foreign currency, gold or any other value, the buying and selling value to set the tax base determined by the Turkish Lira value on the transaction date.

- When the securities or other capital market instruments issued in foreign currency, the exchange rate differences will not be taken into consideration in determining the tax base.

- In the redemption of the securities or other capital market instruments the tax base will be the difference between buying and redemption price. The commissions paid and banking and insurance transactions tax will be considered as expenses deducted from the tax base.

- The tax base in the periodical income from securities or other capital market instruments will be the value of the income gained.

- When a security or other capital market instrument be part of lending and borrowing transactions, than the amount taken by the lender as the payment of the transaction will be the tax base.

2.3.5 Loss Deduction

Within the calendar year the losses can be deducted from the earnings if the type of the securities and other capital market instruments are the same. (Akyol, 2006a: 15) In this situation, the tax payable will be calculated by consolidation of the transactions for every three months period. If the tax withheld is more than the tax payable the difference will be transferred to the customer's account. The losses that can not be deducted within the calendar year, it is possible to deduct these losses from earnings of securities of same type by giving an annual declaration.

In determining the same type of securities and other capital market instruments following classifications will be considered:

- 1- Fixed income securities and other capital market instruments,
- 2- Variable income securities and other capital market instruments,
- 3- Future transactions and option contracts.

Classification will be determined by the type of the security on which the financial derivatives issued. Losses that can not be deducted by declaration can not be deducted from other income components or transferred to the following years.

2.3.6 Tax Rate, Tax Period, Declaration and Payment

Initially 15% withholding tax has been imposed on all kinds of investment instruments (deposits, equities, bonds, mutual funds etc.) regardless of the type of the investor. However this tax rate was decreased to 10% by Executive Order No: 2006/10731 effective from 23.07.2006 for domestic taxpayers. With the Act No: 5527 tax rate for the foreign taxpayers has been abolished after 07.07.2006. With the Executive Order No: 2008/14272 domestic taxpayers also became subject to 0% withholding tax on equities.

On the other hand, in 2009 the Constitutional Court cancelled the different withholding tax practices of investment instruments between domestic and foreign investors.

Clearing date will be taken as the basis by banks and intermediary institution in defining the taxation period. These institutions have to give the declaration via internet until the evening of 23rd day following the taxation period and the payment have to be done until the 26th day following the taxation period.

2.3.7 The Withholding Agents

The withholding taxation disposed in the T.A No: 67 subparagraph (1) has to be executed by the following agents:

- Turkish Central Bank and private banks operated in Turkey under the scope of Banking Act number 5411

- Intermediary Institutions operating in Turkey under the scope of CML Number 2499.

It is understood from the explanations above that the withholding taxation of the financial transactions must be done by the banks operating in the scope of Banking Code and the Central Bank of Turkey. (Emekçi and Erdal, 2006: 24) The establishment requirements of the intermediary institutions are explained in the CML Article No: 33. According to the CML the intermediary institutions must have the following features:

- 1- They must established as joint stock corporations,
- 2- 100% of their capital must be in the form of registered shares
- 3- 100% of their capital must be paid in fully,
- 4- Their paid-in-capital must be not less than the amount determined by the Board,
- 5- Their Articles of Association must be in compliance with the provisions of this law,
- 6- Their founders must be certifies as never having been subject to legal prosecution due to bankruptcy or other infamous offence.

The responsibility of banks and intermediary institutions in withholding procedure is limited with the information and documents they get and the earnings they act as intermediary in generating.

When the taxpayers take the custody services from any institution except ISE Settlement and Custody Bank, the withholding responsibility will belong to this institution. In practice banks with foreign partners and major banks can be operated in Turkey. Therefore the taxing obligation of the custody institutions is generated basically by the banks. (HUD, 2010: 397)

2.4 Taxation of Income from Stocks

As is known, after the date of 01.01.2006 T.A. No: 67 came in to effect, and by this way, taxation of the income from securities restructured on the withholding tax base. Thus, the capital gains raised from the dispose of the stocks began to tax by the withholding. The withholding taxation include all income generated without separating individuals and companies.

The scope of the T.A. No: 67 were determined by the purchase or issue date of the securities and in this determination the effective date of the amendment which is 01.01.2006 has been taken as the basis. The taxation regime of the stocks is also determined by the purchase date. According to this, income generated from the stocks which have the following features will be under the scope of the withholding taxation.

- Purchased after the date of 01.01.2006,
- Belong to the domestic taxpayers and traded at ISE,
- Disposed of within one year.

2.4.1 Dividends

As the income generated from dividends are not within the scope of the T.A. No: 67, they are not subject to withholding taxation. According to the No:22 Article of the Income Tax Code, the one half of the amount of dividend earned excluded from taxation, and the amount left will be declared if it is above the declaration rate stated in the No:86 Article of Income Tax Code. Withholding taxes will be deducted from the income tax calculated based on the statement of the taxpayer.

2.4.2 Trading Income

The trading income of the securities will be taxed in the context of T.A. No: 67. On the other hand, with the Executive Order No 2008/14272 published in

27.10.2008, the tax rate applied to the income generated from the trading activities of stocks was decreased to 0% for both domestic and foreign taxpayers. So after 14.11.2008 (the effective date of the amendment) income generated from the transactions of the stocks will be taxed with the rate of 0%.

For the income generated from selling of stocks which were issued by resident corporations, traded in ISE and held more than one year will not be taxed under the regulations of T.A. No: 67, also for this income the declaration will not be necessary, as they are not considered as capital gains legally. (Akyol, 2006b: 10)

Taxation of the Stocks obtained before 01.01.2006: These stocks are not within the context of withholding taxation. 31.12.2005 dated legislation will be applied to this kind of income, which means that after cost indexation and exception exercise, the left over will be declared by the taxpayer.

Income generated from the stocks obtained after 01.01.2006 is subject to the withholding taxation. The 15% withholding rate applied to the individual's income was first decreased to 10% on 22.07.2006 for residents with Executive Order number 2006/10731, than to 0% on 27.10.2008 with Executive Order number 2008/14272. Tax rate change for foreigners is occurred on 27.06.2006 with 5527 numbered Act. Taxpayer shall not give annual or independent declaration.

2.5 Taxation of Income from Bonds and Treasury Bills

Bonds and treasury bills are in the context of the withholding taxation. But the interest and trading income obtained from Eurobonds is excluded from the application of the T.A. No: 67, so if the interest earned is above the declaration limit, this income shall be added to the statement. For the trading income, the left over amount after the cost indexation and exception exercise will be declared. *The foreigners do not have to give statement for the income generated from Eurobonds. The taxation of the private sector bonds is same as the government bonds. (Sağlam, 2006: 23-24)*

Taxation of bonds and treasury bills issued before 01.01.2006: Income generated from bonds and bills issued before 01.01.2006 will not be considered within the extent of withholding taxation. Regulations effective before 31.12.2005 will be applied to this income. *Therefore, for the bonds and treasury bills, depending on the issue date and whether issued in Turkish Lira or not, withholding rate will be applied to the income generated from these instruments.* (Gündoğdu, 2006: 54)

Taxation of bond and treasury bills issued after 01.01.2006: Interest and trading earnings are in the extent of T.A. No: 67, which means that the withholding tax rate which was 15%, was re-determined as 10% for the residents with Executive Order number 2006/10731 and 0% for the foreigners with Act No: 5527.

2.6 Taxation of Income of Mutual Funds and Investment Trusts & Taxation of Income Generated from Mutual Funds and Investment Trusts

According to the Article No: 37 of CML: “The property established to manage a portfolio of capital market instruments, real estate, gold, or other precious metals by funds collected from the public in return for participation certificates issued in accordance with the provisions of this Law, on the account of the holders of such certificates under the principle of distribution of risk and fiduciary ownership is called mutual fund.” *In the Corporate Law, mutual funds under the coordination and auditing of the CMB, and similar foreign mutual funds are classified as corporations. The income generated by these funds from their portfolio management is excluded from the corporate taxation. But these revenues are within the scope of withholding taxation. The tax rate differs according to the type of the mutual fund.* (Çiçek, 2009: 127)

Revenues generated from the selling of participation certificates of mutual fund to the founders (Fund) assumed to be the allocation of income realized within the fund. Selling the certificate to fund is the distribution of profit for mutual funds. On the other hand revenues generated from the selling of mutual fund participation

certificates to the third parties are considered as income from capital gain. (Kıvanç and Poyraz, 2010: 98)

Earnings of resident individuals:

-Income generated from refunding of the mutual fund participation certificate to the related fund, will be taxed at 10% rate, and will not be included in the annual declaration. The tax rate is 0% for the foreign taxpayers.

-Income generated from the selling of participation certificates of mutual funds to third parties, held more than 1 year and at least 51% of its portfolio is consists of stocks that are traded in ISE, will not be considered within the withholding taxation and these earnings are not included in the annual declaration.

2.6 Taxation of Income from Financial Derivatives

Taxation of the financial derivatives is explained in the 14. paragraph of the T.A. No: 67 in Income Tax Code. According to this paragraph, financial derivatives assumed to be the other capital market instruments in application of withholding taxation. *The banks and other financial intermediaries should apply withholding tax to the marginal income between the market price and transaction price of the value exercised on the contract.* (Demir, 2006: 22)

For resident individuals, after 01.01.2006, withholding tax rate is 0%, if the transactions occur in Turkish Futures Exchange. Other transactions occur under the intermediation of banks and financial institutions will be taxed at the rate of 10%. *Withholding is the only taxation for this type of transactions, annual declaration is not necessary. For the foreign taxpayers all type of future transactions taxed at the rate of 0%.* (Erol, 2010: 273)

2.7 Taxation of the Other Securities

Taxation of securities and other capital market instruments that are not mentioned above is summarized in the following table:

Table 2.1: Taxation of Other Capital Market Instruments

	For Domestic Individual Taxpayers	For Foreign Individual Taxpayer
Deposit Interests (ITC Art. No:75/2-7)	<ul style="list-style-type: none"> - Withholding tax rate will be 15% for the interest earnings generated by the intermediation of banks and institutions. (ITC, T.A.No:67/4) - These earnings are not included in the annual declaration. (T.A.No:67/7) 	<ul style="list-style-type: none"> -15% rate of withholding taxation. - No declaration
Dividends paid to the creditors lending without interest, to the PLSC and paid by the private financial institutions in response to the profit or loss participation accounts. (ITC Art. No:75/2-12)	<ul style="list-style-type: none"> - Withholding tax rate will be 15% for the interest earnings generated by the intermediation of banks and institutions. (ITC, T.A.No:67/4) - These earnings are not included in the annual declaration. (T.A.No:67/7) 	<ul style="list-style-type: none"> -15% rate of withholding taxation. - No declaration
Income from Repurchase Agreements (ITC Art. No:75/2-14)	<ul style="list-style-type: none"> - Withholding tax rate will be 15% for the interest earnings generated by the intermediation of banks and institutions. (ITC, T.A.No:67/4) - These earnings are not included in the annual declaration. (T.A.No:67/7) 	<ul style="list-style-type: none"> -15% rate of withholding taxation. - No declaration
Eurobond Interests	-Withholding tax rate will be 0%.(ITC Art.No:94/7-a	-0% rate of withholding taxation.

	-Included in the annual declaration if the gross amount is higher than the exception limit. (17.900,00 TL for 2010)	- No declaration
Eurobond Trading Income	-Not under the extent of withholding. -Considered as income from capital gain (ITC Art.No:80/1) -Income calculated after indexation will be declared.	-Not under the extent of withholding taxation. -No declaration.

CHAPTER 3: EMPIRICAL STUDY

In this part of the thesis, we try to examine the effects of taxes on ISE-30 stocks empirically. First, the aim and the scope of our research will be discussed then the previous studies on this issue are summarized. Following the data and methodology, the empirical results are given.

3.1 The Aim and the Scope of the Study

In the global financial world there has been an ongoing debate among the academics and policy makers on the benefits and costs of imposing a transaction tax on securities. In general terms, the proponents of securities transaction tax such as Tobin(1984), Stiglitz(1989) and Summers and Summers(1989) argue that tax would generate revenue for the government and reduce excess volatility by discouraging speculative trading and thus increase the efficiency of stock markets. On the other hand opponents of securities transaction tax such as Ross(1989), Amihud and Mendelson(1992), Schwert and Seguin(1993), Stulz(1994), Kupiec(1996) argue that it would increase the cost of capital, reduce prices and market liquidity by decreasing trading volume and increase expected returns. Hakkio(1994) criticized reducing the volatility argument because of the lack of sufficient evidence. He argued that, since the tax would also suppress rational trading based on market fundamentals, the damage to the market would outweigh the benefit to it. Most of the international papers on this subject tried to test empirically the impact of transaction taxes on the investor's behavior and financial markets. However in Turkey we do not observe a study which examines the impact of taxes on financial markets.

Turkish government made the biggest amendment in the taxation of the securities and other capital market instruments at the beginning of the 2006. By this new system the taxation of the financial instruments has been omitted from the self assessment system and simplified the procedure significantly. With the new system the taxes levied on the transactions of financial instruments, are based on the realization basis rather than accrual like in many other countries. Initially, 15%

withholding tax have been imposed on all kinds of instruments regardless of the type of the investors. However during 2006 withholding tax rate has been reduced to 10% on some instruments for domestic taxpayer and abolished for the foreign investors. At the end of 2008 a new amendment made on the tax rate and it was abolished for all investors regardless of their nationality.

The change in the taxation of the securities transaction is a new issue, so despite its importance to both academics and policy makers, there has been limited empirical work examining the effects of these amendments on the capital markets. In this study, we try to investigate empirically the effects of these institutional changes in tax policy on the stock market. Our data consist of the returns and volumes of the stocks listed in ISE 30 index. Event study analysis is used as the statistical model. Detailed information about the empirical study is given in the following sections of this thesis.

3.2 Literature Review

This section reviews some previous studies investigating the effects of the securities transaction taxes on the financial markets empirically. Most of the studies try to detect these effects by using abnormal return and volume methodology and event studies. Some of them test the effects of changes in the taxation policies on the markets or some investor groups or portfolios with different return structure.

The earliest study on this subject was conducted by Epps (1976). He examined the daily data of 20 common stocks listed on the U.S. Stock Exchange for 90 days before fee liberalization date of 1968 in USA. In his study, he uses the transaction taxes, bid-ask spread and broker commissions as the components of transaction cost, and examines the relationship between the transaction cost and estimated elasticity of trading volume with respect to transaction costs. In his work he tries to drive a theoretical model of the demand function for brokerage service and uses it to estimate the transaction volume. But the function becomes very complex and nonlinear, needs some restrictive assumptions.

One of the earliest studies about the effects of transaction taxes on the stock market is performed by Dyl (1977). He finds that the year end investment decisions for the owner's of appreciated stock are influenced by capital gains tax considerations. And also he argues that, due to capital gains being taxed only upon realization, investors continue to hold securities that they would otherwise sell, in order to postpone the realization.

According to the traditional approach, capital gains taxes have great effect on the investor's behavior in the way of realization of the capital losses and deferring the realization of capital gains. In his article Dyl (1977) examines the validity of this assumption. To understand the effect of tax considerations over the year end behavior of the investors, Dyl (1977) analyzes the year end trends of the trading volumes of common stock that represents capital gains or losses in their owner's portfolio. The basic assumption in the study is that, because the investors tend to realize capital losses to take the advantage of tax incentive at the end of the year, there will be abnormally high trading volume in stocks that represents unrealized capital losses in investor's portfolios. Similarly, the disincentive to realize capital gains during the current tax period suggest that toward the end of the year, there will be abnormally low trading volume in stocks that represents unrealized capital gains in investor's portfolios.

He uses a random sample of 100 common stocks selected which have continuous data available from 1948 through 1970. Monthly volume data for each of these stocks obtained. At first to observe the abnormal trading volume in a given stock, the measures of the extent that which stock represents an unrealized gain or loss toward the end of the each year is computed. Then the author regress the relative monthly volume in a given stock on relative monthly market volume for each stock in the sample to estimate the normal volume.

The abnormal volume which is the abnormal component of the trading volume in a given stock and month, is computed by the difference between the actual

trading volume of that stock and expected volume computed from the estimation of the trading volume in the same stock.

As a result the findings in the article support the hypothesis that capital gains taxes affect the year-end investment behavior, and these behaviors are observed mostly in the trading volume changes of common stocks in December. *In particular, findings indicate that there is a significant abnormal trading volume in December in common stocks that have undergone a substantial price change during the preceding year. The data reveal an abnormally low volume for stocks that have appreciated during the year, presumably reflecting the year-end capital gains tax lock-in effect, and abnormally high volume for stocks that have declined in price during the year, presumably reflecting year end tax loss selling.* (Dyl, 1977: 174)

Further, the author also examines the relationship between the return and the year-end abnormal trading volume. The existing data were grouped into deciles according to the return. The Spearman coefficient of rank correlation between return and abnormal volume is -0.8632 , which indicates a significant relationship between the two variables. Although the pattern of mean abnormal volume in December is approximately as expected, the Mean abnormal volume in January is uniformly insignificant and appears to have no relationship to mean return.

Givoly and Ovaida (1983) examine the two phenomena; tax induced sales and seasonality jointly, and determine the extent to which tax induced sales of stocks during different months and particularly during December, can explain the existence of seasonality in the stock market. They provide more evidence on the differential effect of tax induced trading on the performance of small and large firms.

To test for the possibility of capital gain tax induced seasonality, a portfolio of securities consisting of stocks which are believed to be likely candidates for tax-induced sales is constructed for each month. The returns of these portfolios are examined and compared to those of a portfolio of the remaining stocks. The seasonal behavior of the entire market and the portfolio are compared each month, and the

impact of tax-induced sales on the seasonal pattern in the market is analyzed. To evaluate the differential impact of tax induced sales on firms of different sizes, the above analysis is conducted separately for five size-groups of firms. Their sample used in the study consists of all New York Stock Exchange (NYSE) securities. Four portfolios were constructed in each month from January 1945 to December 1979. The market rate of return was represented by the equally-weighted NYSE index.

For each of the four portfolios constructed, rate of return and abnormal return was computed. The parameters of the regression were estimated for each month using data for the 60 months preceding the 12 or 24 months interval over which the price comparison was made. Abnormal return was defined as the difference between the realized and the estimated return of the security. The abnormal return for the portfolios was computed as the simple average of the abnormal return of the securities in the portfolio.

The findings of the study suggests that, because of the tax induced sales, the price of many stocks over the last 35 years was temporarily decreased in December but started to increase in the following January. This trend in the price is the major contributor to the high returns observed in January. From the firm size point of view, the study suggests that the tax effect is present in firms of all sizes but much more pronounced for small firms. The study also indicates that a more precise identification of the tax switch candidates may prove that the tax induced sales are in fact the sole contributor to the high January's return.

The basic assumption of Lakonishok and Smidt (1986) is that, tax related responses are connecting past prices to the current volume, so in general this situation suggest a negative correlation between past price changes and current volume. They use past price patterns as a proxy to measure the incentives to sell or avoid selling a stock and observes trading volumes to estimate the extent to which investors respond to these incentives.

To achieve this objective first the authors try to identify the relationship between abnormal volume and past prices. Each month cross sectional regressions are run with abnormal volume as the independent variable and indicators of past price changes are dependent variable.

There are three basic hypotheses in their study which investigates the effects of stock prices on volume and the volume differences between the winner stocks and loser stocks. The main data used in the study are monthly price and stock volumes listed on the NYSE and American Stock Exchange (ASE). The analysis performed on the period 1968-1982.

The procedure for computing abnormal turnover for one year was as follows: they first computed monthly turnover for all companies throughout the four years. They computed turnovers for two market portfolios, one consisting of all NYSE companies and the second of all ASE companies. The market portfolio turnover is a simple average of the turnovers of companies included in the portfolio. The data for the first three years was used to find coefficients of the turnover market model by running a regression. The next step involves finding monthly abnormal turnovers in the fourth year by using the estimates of the first three year.

In this study the authors attempt to measure the extent of tax induced trading. The study is based on the idea that, the response of the investors to capital gains taxes creates a relationship between trading volume in a given month and price changes in previous months. This means that capital gains taxes affect investors to realize their losses, and in some circumstance defer realizing gains. This should create negative cross sectional correlations between past price changes and current volume. The results of the study indicate that past prices affect current incentives to trade through both tax and non tax motives. The major finding is that winners tend to have higher abnormal volume than losers. In summary, they find clear evidence that tax incentives influence trading volume although they are not the main influence.

Bolster, Lindsey and Mitsuri (1989) investigate the short run investor reaction to the increase in capital gains tax rate which became effective in U.S.A. after September 1986. The basic concern of this study is to determine the temporary effects of the change in capital gains tax rate that occurred in 1986.

Abnormal volume is determined for every month using the methodology established by Dyl (1977) which requires a three step procedure. First for each firm a relative volume measure is established for a period of 48 following months. Second, by estimating an ordinary least square (OLS) model the expected and normal volume of the trading is created. Estimates of the coefficients are derived using 36 months of relative volume data for each firm and the market. These estimates are then used to estimate relative volume for the subsequent twelve month period. In the third step the measurement of the abnormal volume is produced by subtracting the normal trading volume from the expected one. Once the abnormal volume measure has been determined for a number of firms, the various capital gains measures are used to rank and segment the sample. This procedure allows the examination of unusual trading behavior for securities with different performance measures.

Findings of the study can be summarized as follows; for the long term winners the holding period of securities was reduced. In normal conditions these type of investors exhibit abnormally low trading volumes. However in 1986, when the tax rate changed, this pattern is reversed. But on the other hand the opposite result did not occur for long term losers. Little change in the pattern of trading of long term losers is indicated. The usual reinforcing pattern of short term and long term effects is eliminated in December 1986. Finally the performance of stock market volume in January 1987 supports the conclusion that tax induced effects are significant.

Henderson (1990) examines the relationship between changes in capital gains tax rates and the aggregate stock market volume. She investigates whether stock market volume is expanded following the cuts in capital gains tax rates and contracted following the recent increase in capital gains tax rate. The basic

assumption of the study is that the securities transaction taxes tend to reduce stock market volume since they create transaction cost.

The first variable in theory is the capital gain tax. Without a capital gain tax investors would trade shares on which they have accrued a gain if the expected future rate of return on alternative stock exceeds the expected future rate of return on their existing holdings. With a capital gain tax, the expected rate of return on their alternative investment must be higher, in order to offset the tax paid on the appreciation in the existing shares when they are sold. However for stocks with accumulated losses, the capital gain tax provides an incentive to sell shares so that these losses may be used currently to lower taxable income. As the individuals pay capital gains taxes only as they declare annual returns, tax policy also influences the timing of gains and losses throughout the year.

The theory of stock market volume basically centers on the role of information. The theory suggests that heterogeneity among the investors is necessary for trade to take place. If one investor has information that makes him/her willing to trade at current prices, others will be unwilling to trade because they will assume that others have superior information.

The methodology of the article based on the study of Slemrod (1982) who found very large responses to the Revenue Act of 1978 in the U.S. Slemrod (1982) estimate monthly time series regressions for the NYSE, ASE and OTC through May 1981. He hypothesizes that, in the absence of the 1978 tax reform, trading volume would depend on changes in information about the state of economy, since this would cause owners to revise their optimal portfolios. In this article Henderson(1990) revises the Slemrod's equation with longer sample period. The revisions include adjustments for the number of shares outstanding and for institutional activity, respecification of the economic surprise variables, new tests of the role of difference of opinion and turn of the year tax effects, a dummy for the October 1987 stock market crash, and correction for serial correlation. The adjusted equations use the turnover rate as the dependent variable.

The data used in the article are the average daily volume data for the stocks listed in NYSE, ASE and OTC. The time period was chosen as between 1978 to June 1990.

In the specifications in which the turnover rate taken as the dependent variable, the tax cuts in 1978 and 1981 are found to increase trading volume on the NYSE. Results for the other exchanges are found as positive when volume is used as a dependent variable, but not in the turnover rate specification. No specification indicated a decrease in volume due to the increase in the capital gains tax rate in 1987. Volume was abnormally high in January if stocks have appreciated in value.

Umlauf (1993) investigates the effects of transaction taxes on the behavior of Swedish equity returns during the 1980-1987 periods. His objective is to create a single data point for the transaction tax debate by studying the example of Sweden. The data used in the study consists of continuously compounded daily and weekly Swedish All Share equity index returns from 1980-1987 sampling period provided by the Stockholm School of Economics. Results of the study indicate that volatility does not decrease during the high tax regimes, index levels declines dramatically in response to transaction tax increase. Weekly to daily returns variance ratios decline during high tax regimes, suggesting that taxes induce greater negative autocorrelation in returns. Also when the tax rate increased from 1% to 2% in 1986, 60% of the trading volume of some of the most actively traded Swedish share classes migrated to London to avoid taxes. These results suggest that taxes increase volatility.

Bremer and Kato (1996) examine the trading volume in Tokyo Stock Exchange at the end of the fiscal year. Basic assumption of the article is that if Japanese corporate investors follow tax minimizing strategies they expect the winner stocks should have lower volume than loser stocks at any given point in time and winner volume should be especially low at the end of the fiscal year while loser volume should be higher.

They identify the relation of the abnormal component of stock trading volume to fiscal timing, winner/loser categorization and the actual gain or loss on each security. Abnormal volume is estimated using residual to out of sample market model regression coefficient procedure. First individual stock volume time series are transformed into monthly turnover form by dividing the number of shares traded in a given month by number of shares outstanding. Market volume is calculated as a simple average of all the individual stock turnovers. Abnormal volume is estimated in four years block. Data covering the first three years of each block are used to estimate coefficients of a turnover market model with the regression between stock turnover and market turnover. The abnormal volume is estimated in the fourth year. The stocks are classified as winner or losers depending on whether price per share has increased or decreased over the previous months. They also examine the link between the magnitudes of the price change and trading volume by estimating a regression model. The time period of the study is between 1975 and 1990. The data used in the study are the all first section Tokyo Stock Exchange (TSE) stock for which monthly volume and price data are available.

They first determine if there is a significant difference between winners and losers turnover. Results indicate that abnormal volume for winners is higher than for losers. In summary their results indicate that winners are sold in almost every period while losers are held. This pattern is more clearly observed in March, when most Japanese firms end their fiscal years. This suggests a fiscal year end effect consistent with non tax related explanations. Finding that winner volume is higher than loser volume suggest that non-tax related explanations of trading behavior are more important than tax related reasons.

Another study examining the effects of the taxes on the securities market was conducted by William Reese (1998). He examines two sample of IPOs, one is issued prior to the Tax Reform Act (TRA) of 1986, and the other issued after TRA'86, to document the distinctions between long-term and short-term classifications of tax rates which can affect share prices and trading volume. The hypothesis of the study is that taxpaying investors will delay the sale of the appreciated stock until after the

qualification date but will accelerate the sale of the depreciated stock prior to the qualification date. Qualification date is the date when a stock becomes long-term.

According to the findings of the study; during the week after qualification, the appreciated group of the pre-TRA'86 sample shows a significant increase in volume along with a significant decrease in returns. There is a significant negative relationship between price appreciation and returns during that week and a significant positive relationship between price appreciation and volume. On the other hand in the post-TRA'86 sample there are not any similar relations. During the week prior to qualification, the depreciated group of the pre- TRA'86 sample shows a significant increase in volume as well as a significant decrease in returns. There is a significant positive relationship between price appreciation and returns during the week and a significant negative relationship between price appreciation and volume. None of these results in the post-TRA'86 sample is consistent with the fact that the incentive weakened after the TRA'86 which actually narrowed the distinction between long-term and short-term tax rates. But in his study as he was using an unique setting changed with the TRA'86, the approach could not be generalized for the non-IPO firms.

Similar to Bremer and Kato, Hu (1998) examines the Japanese market and add three other Asian markets in his study. He analyze whether there is a statistically significant difference in turnover before and after tax changes, by using a test of equality in population means. The basic assumption is that the stock price should fall with the announcement of a transaction tax increase because investors will require a higher expected gross return. He examines the effects of the tax increase on the return of the stock, volatility and turnover. Because of that there are three null hypotheses.

The first null hypothesis is $H_0: r_t = 0$ Where r_t is the return at the announcement day. The second null hypothesis tested is $H_0: \sigma_H = \sigma_L$ Where σ_H is the standard deviation during the period with high tax rate and the other is the low tax rate. Although there are opposing predictions regarding how volatility will change,

everyone agrees that turnover should be smaller following a tax rate increase. The third hypothesis is $H_0: \mu_H = \mu_L$ Where μ_H is the expected value of turnover during the high tax period, μ_L is low tax period. Standard errors used to test the announcement effect, are calculated using 120 daily returns starting from 120 days before the announcement. The standard t test is used to test the difference between σ_H and σ_L for each tax rate change.

For each tax change the author measure the volatility and turnover over a 40 week period before and after the announcement of the tax change becomes affective.

Findings of the study suggest that overall there is no statistically meaningful effect of tax changes on turnover. For Japan in particular, he find that while the 1981 tax increase reduces trading volume significantly, the movement is statistically significant in the opposite direction for the 1978 tax increase. However it only covers the period before the major changes enacted. Hu (1998) uses simple test of equality in his study but the findings conclude that this test does not exclude the possibility of other factors affecting turnover.

Waldenström (2002) examines in his article, how a securities transaction tax affect the Stockholm Stock Exchange during the pre-World War II period. He uses a linear regression of the trading volume as a function of transaction taxes and commission fees, and test for the tax effects on asset prices in terms of level and volatility.

In Sweden the securities transaction tax first introduced in 1909 to raise the revenue of the government and also to curb the speculative behavior on the stock market. The empirical tests indicate that taxes on emerging stock markets impede the trading activities on these markets and asset prices fall immediately after the announcement of the tax rate increase. But further research is needed to capture the entire range of effects from financial market taxation.

According to the traditional approach, individual investors have incentive to defer selling appreciated stocks until it qualifies for tax favored long term capital treatment. The article written by the Blouin, Raedy and Shackelford (2000) provides empirical support for the theory that these tax incentives affect equity trading by examining the price increases and equity constructions around announcements of quarterly earnings and additions to the S&P500 index. The authors find that with deferring the sale of appreciated stocks to save taxes, the stock returns will increase and trading volume decrease, but the price changes are temporarily.

The purpose of the article is to examine the effects of capital gain tax incentives on equity trading. Individual investors have the incentive to hold the appreciated stocks until they became long term because, long-term, which means more than one year, capital gains tax rates are low. In this article authors attempt to determine whether these price and volume movements can be detected empirically.

To provide a sufficiently powerful setting to detect the impact of capital gains taxes on trading, they investigate equity trading around two unrelated public disclosure, which can cause the individual investors to rebalance their portfolios. For each disclosure they regress both abnormal returns and abnormal trading volume on a tax measure.

The findings of the study are consistent with individual investor's deferring sales of appreciated stocks until they qualify for long-term capital gains treatment. The withdrawal of appreciated securities constraints the supply of equity and temporarily boosts equity prices. They find no evidence that individuals sell depreciated shares around the disclosure to ensure short term capital loss treatment. They conclude that holding period incentives induce price pressure in the equity markets.

After 2000, the most ambitious studies about the effects of the taxes are conducted by two Japanese authors, Ono and Hayashida (2005 and 2009). Their first article was written in 2005 in which they attempt to answer the following three

questions, first whether transaction costs, including Stock Transaction Tax (STT), have affected trading volume significantly; if so, second, to what extent; and third whether there is any temporal trend in the magnitude of its effect.

To achieve these objectives, various tests are conducted with data from TSE. They first statistically compared, with a non-parametric method, the appropriate parameters in the cross-section regressions with individual stock data before and after the institutional changes took place. They then proceed to richer, more detailed time-series investigations on an aggregate, market-level data, including a specific transaction costs variable within the reform period. In addition to the usual least square analysis, they resort to forecast and use of the Bayesian-type, variable parameter model.

For the preliminary test they pick 30 stocks constituting the NIKKEI price index in such a way that they represent all the major industrial categories. A series of reforms were implemented, and thus the transaction costs were believed to have continuously declined, between April 1996 and October 1999; so the authors select this period as the “reform period,” which divide Period I and II. For each period, daily trading volumes and end-of-day prices are taken for each of the stocks in the study.

The results of the analyses are summarized as follows; first, transaction costs have been negatively affecting stock trading volume significantly in the Japanese market, as in other countries. Second, the magnitude of its effect seems to have increased over time, as the institutional changes, and the consequent reduction in the transaction costs, were brought to the stock market. Third, however, such an effect can be still smaller than in European markets many years ago, indicating that the Japanese investors are not as sensitive to the transaction costs they face.

Another study about the Asian Markets is conducted by Chou and Wang (2005). The Taiwan government reduced the tax levied on futures transactions from 5 to 2.5 basis point in May 2000. In their study they test empirically the effects of

this tax reduction on trading volume, bid-ask spreads and price volatility. Daily time series data from May 1999 to April 2001 are used in three equations.

Findings of the study show that the transaction taxes have a negative effect on trading volume and bid-ask spread, means that trading volume has increased and bid-ask spread has decreased in the post transactions tax reduction period. But there is no support for the argument that transaction taxes reduce price volatility. And also transaction tax revenues after the reduction in the tax rates are declined by 15% compared to the pre-tax period.

Baltagi and Qi Li (2006) investigate the effects of the stamp tax rate increase over the stock exchange market by using the data from two exchange market in China. The Chinese government increased the tax rate on financial transactions from 0.3% to 0.5% in May 1997. This study examines the effects of the tax increase empirically before and after the event. Specifically, they investigate the effects of this tax change on trading volume, market return volatility and market efficiency. They used the Shanghai A Share Index and Shenzhen A Share Index and data period consists of one calendar year centering around the event date of May 10, 1997 which contains 230 daily observations.

The empirical results show that the trading volume decreases by one third on average even the tax rate is increased from 0.3% to 0.5%. In addition, they find that the market volatility increases after the tax rate changes.

Hanlon and Pinder (2007) test whether investor's trading habits are affected by a desire to minimize taxes payable on capital gains. They use an initial sample of all firms listed on the Australian Stock Exchange during the period of September 21, 1999 and April 9, 2001. The basic hypothesis of the study is that the investors will delay realization of capital gain until it qualifies for discounted tax treatment. They approach this problem by testing for any evidence of abnormal trading volumes and price pressure affects. The paper considers whether the application of a discounted

tax rate to assets held for 12 months or more is sufficient to induce individual IPO's subscribers to sell their holdings in the immediate post qualification period.

Their examination of 152 IPO's reveal that there is an incremental increase in abnormal trading volume for those IPO's that have experienced a significant increase in price since listing over those IPO's that have increased only marginally. They provide only limited evidence to suggest that this increase in trading volume accompanied by a decrease in returns.

According to Ono and Hayashida (2009) the past academic studies on the effects of the turnover tax on the stock market are not clear. So they try to fill this gap and examine the effects of the Securities Transaction Tax on the Japanese Stock Market. Japanese authorities eliminated the turnover tax on stock trading through the end of the 90's to revitalize its ailing stock market by reducing the overall transaction cost for trading. Ono and Hayashida (2009) empirically examine the effect of this exogenous, institutional change in tax policy on stock trading volume in Japanese market. The study examines whether or not the reduction in the stock transaction tax enacted during the 1990's increased the trading volume in the stock market significantly.

The study compares the trading volumes of the stocks both in Japanese and the U.S. markets around the dates of the tax changes. If the tax changes in the Japanese market had any impact on the trading volume of the stocks, one should be able to observe a significant change in the Japanese market but not in the U.S. markets because such institutional changes did not take place in the latter.

In this comparison, the tax reform is not the only source of changes in trading volume and therefore, it is needed to control for other possible determinants. To exploit this authors use a well documented asymmetric V-shape relationship between the trading volume and price change in daily data used by Karpoff (1987). They regress trading volume on returns and their absolute values in panel data regressions.

The testing strategy is to identify the significant change in structural breaks or shifts of the V-shape relationship before and after the tax change.

There are three specifications in the model. The first Specification is the general model. In this model, the authors interest in whether intercept for Japan is significantly greater than zero while intercept for the U.S. is not, and/or, whether the slope shifts for Japan represented by β_{2J} and β_{3J} are positive in absolute terms while those for the U.S. represented by β_{2US} and β_{3US} are not. In the regression specification they regress daily turnover rates on price returns, their absolute values, dummies for the Japanese and the U.S. markets for the date of the tax changes and their products with the price returns and their absolute values.

The return data of 26 stocks traded both in the U.S. markets and TSE taken in the periods relevant to the two dates of the tax change 1996 and 1999. Time period was 120 weekdays before and after the tax change of April 1, 1999 and April 1996.

The return is calculated based on the closing price of the day and it is calculated as the logarithm of the closing price of the day minus that of the previous day. And also the absolute value of the return is calculated. The turnover rate is defined as the number of shares divided by the number of shares listed is used in the model in order to control for any changes in the number of shares listed.

The lack of clear tendency in the results makes the authors to consider restricted models for the three specifications. The results of the restricted models are basically consistent with each other. They indicate that the tax abolition on April 1, 1999 contributes to the increase in trading volume. The estimated results indicate a clear positive shift in all cases for Japan, but not for the U.S. Therefore, it is concluded that the tax abolition indeed help to increase trading volume.

Again the results for the tax deduction in 1996 do not give exact tendency for the assumptions so a more restricted model is used. The results fail to indicate that the tax rate reduction in April, 1996 help to increase trading volume significantly.

Their study only examines the effect of the stock transaction tax reduction on trading volume. However, the stock transaction tax is only a part of the transaction cost. During periods in which these tax reductions were implemented, commission fees were also deregulated. In the present analytical setup, they carefully select the estimation periods, hereby avoiding the possible influence of the fee deregulation. However, it will offer richer policy implications if it includes other costs and investigates the relationship between stock trading and transaction cost in a broader perspective.

3.3 Data

In this study, we try to examine the effects of taxation on both volume and the price of stocks traded in ISE. For the analysis, the ISE-30 index stocks are chosen since this index consists of the stocks which are mostly traded and can reflect the reactions of different sectors to the tax amendments. We use daily volume and price indexes of the stocks indexed on ISE-30 index continuously during the period of 01.01.2004 to 26.05.2009. Therefore, our sample consists of 23 stocks. These stocks are listed in the Table 3.1.

Table 3.1: Stocks in the Sample

ISE-30 STOCK		
Akbank (AKBNK)	İş Bankası C(ISCTR)	Türk Ekonomi Bankası (TEBNK)
Arçelik (ARCLK)	Kardemir (KRDMA)	Türk Hava Yolları (THYAO)
Doğan Holding (DOHOL)	Koç Holding (KCHOL)	Tofaş Oto (TOASO)
Doğan Yayın Holding (DYHOL)	Koza Kağıt (KOZAA)	Tüpraş (TUPRS)
Eczacıbaşı İlaç (ECILC)	Petkim (PETKM)	Turkcell (TCELL)
Enka İnşaat (ENKAI)	Sabancı Holding (SAHOL)	Vestel (VESTL)
Ereğli Demir Çelik(EREGL)	Şişecam (SISE)	Yapı Kredi (YKBNK)
Garanti Bankası (GARAN)	Şekerbank (SKBNK)	

Stocks daily closing prices and volume data are taken from the İş Yatırım A.Ş. web site. Continuously compounded daily return series are calculated by taking difference of natural logarithm of price indices. Log-return of price series is calculated as follows:

$$R_t = \ln (P_t / P_{t-1})$$

Where R_t is the return of the stock at the date of t , P_t is the closing price of the stock at the t day and P_{t-1} is the closing price of the $t-1$ day. Similar to previous studies (see for example Mandacı (2005), Mutan and Topçu (2009), Koçyiğit and Kılıç (2008)) ISE-100 index is chosen as the market index. The closing value of the ISE-100 index was obtained from the ISE official web site. The daily return of the market calculated by using the same formula applied to the stock return.

The tax changes take place at the dates of 01.01.2006, 23.07.2006 and 14.11.2008 which are taken from the Income Tax legislation. The event period has been chosen as the 15 days before and after the event dates. The cumulative abnormal returns will be calculated 60 days before and after the events dates.

3.4 Methodology and Hypothesis

The majority of previous studies examining the effects of the taxes on the financial markets applied event study methodology to measure the short-term stock price and volume reactions to these changes. So in this thesis, we examine whether there happens an abnormal and cumulative abnormal price and volume movements around the days of the tax rate changes in ISE. The tax rate amendments are became effective after the dates of 01.01.2006, 23.07.2006 and 14.11.2008 respectively.

Event studies have been used to measure the quantitative impact of an event on the value of a firm.(Cuthbertson and Nitzsche, 2005: 206) An event study would quantify the relationship between the particular event and stock price. This event can be firm specific like mergers and acquisitions, earnings announcements or issue of new debt or equity. Or it can be economy-wide event like announcement of macroeconomic variables or changes in the regulatory environment. *The general strategy in event studies is to estimate the abnormal return around the date that new information about a stock is released to the market and attribute the abnormal stock performance to the new information.* (Bodie, Kane, Marcus, 2005: 382)

In practice, there are two main reasons why event studies have been employed. Firstly, in order to investigate the effect of some particular events on the wealth of the firm's stockholders under the maintained hypothesis of market efficiency, at least with respect to publicly available information. Secondly, in order to test the null hypothesis that the market efficiently incorporates information. (Gümüő, 2008: 4)

This methodology involves using a cumulative abnormal returns methodology based on an index model of stock returns. An index model states that security returns are determined by a market factor and a unique company factor. A beta coefficient captures the sensitivity of the firm's return to the market's return. This means that after finding what the company's return should have been, the remaining portion of the actual return is an abnormal return representing the impact of a particular event. (Jones, 1991: 473) The cumulative abnormal return is the sum of all abnormal returns over the time period of interest. The cumulative abnormal return thus captures the total firm-specific stock movement for an entire period when the market might be responding to new information. (Bodie, Kane, Marcus, 2005: 383)

In this study it is tested that the tax rate changes on financial transactions around the amendment dates would have a negative effect on stock returns and volumes. According to this:

H_0 : The average abnormal returns and abnormal volume around the dates of tax amendments will be equal to 0.

$$AAR = 0$$

$$AAV = 0$$

H_1 : The average abnormal returns and abnormal volume around the dates of tax amendments will be different than 0.

$AAR \neq 0$

$AAV \neq 0$

To measure the effects of the tax rate changes on the stock market a standard event study methodology is applied in this thesis. The event study consists of some stages. First the event of interest and the period over which the related security prices will be determined. Second, the selection criteria for the inclusion of a given firm in the study has been selected, like availability of data, membership in a specific industry and etc. Then normal and abnormal returns are measured, later parameters of the normal performance are estimated using the estimation window. In a daily data the estimation sample period is typically 120, 250 or 360 days and the event period is not included. The testing procedure conducted, a statistically significant abnormal return indicates a response of the event on returns. Usually a version of t-test is employed.

3.4.1 Abnormal Return

First of all the events are determined due to the date of the effective day of the tax rate changes. As mentioned in the second section of the thesis, the first amendment was became effective after the date of 01.01.2006, the withholding rate on the stocks held less than one year is 15%. The tax rate changed took place after the date of 23.07.2006 and the new withholding tax rate after this date was 10%. This rate was totally abolished after the date of 14.11.2008. The event window has been chosen as the time period that consists of 15 days before and after these dates.

Second, the normal and abnormal returns are calculated with the chosen statistics. In an event study we wish to calculate the abnormal performance associated with an event. To do so, we need a model for the calculation of the normal returns. The abnormal return is the ex-post return of the security over the event window minus the normal return of the firm, which is the return that would be expected if the event did not take place. In practice two kinds of models are used to measure the normal performance. The mean adjusted return and the market adjusted

return. The mean adjusted return model was introduced by Brown and Warner (1980 and 1985) This model assumes that the expected returns are not different from the mean of the past returns, which means that the expected return would be equal to the mean of the past returns. This model often yields results similar to those of more sophisticated. The other method is the market adjusted return, which is simply the Capital Asset Pricing Model (CAPM). According to this model the expected return of a single stock depends on the market factor.

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$

In this equation, R_{it} is the return of the stock i in date t , R_{mt} is the return of the market in date t and ε_{it} is the error term. α_i is the value of alpha and β_i is the beta value of the stocks, which are the intercept and slope respectively. For the estimation of the parameters of the market model (which is alpha and beta) estimation period has been determined as the pre-effective period which is 15 to 360 day before (-15,-360) the amendment dates. Table 3.2 shows the dates of event windows and estimation period for all three amendments.

Table 3.2: Event Date, Event Window and the Estimation Period

Event Date	Event Window (30 days)	Estimation Period(345 Days)
01.01.2006	12.12.2005 – 27.01.2006	23.07.2004 – 09.12.2005
23.07.2006	04.07.2006 – 14.08.2006	17.02.2005 – 30.06.2006
14.11.2008	23.10.2008 – 05.12.2008	08.06.2007 – 22.10.2008

The estimated values of alpha and beta are used to determine the expected returns of the stocks within the event window. According to this the abnormal returns of a stock is calculated by the difference between the realized return and expected return of the stock in time t . The formula used is as follows:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t})$$

Where, AR_{it} shows the abnormal return on the t day of the stock i , and R_{it} is the normal index return of the stock i at the t day. R_{mt} is the market return within the

event period. After calculating the abnormal returns of each 23 stock within the event windows, the average abnormal returns are calculated as the arithmetic average of the abnormal returns:

$$AAR_t = 1/N \left(\sum_{i=1}^N AR_{i,t} \right)$$

In testing the H_0 the following formula has been used to the t values:

$$t(AAR_t) = \left[1 / \sqrt{N} \right] \sum_{i=1}^n \frac{AR_{i,t}}{\sigma_i}$$

In this study the cumulative average abnormal returns are also calculated for different time periods to evaluate the long-run performance of stock returns before and after the tax rate amendments. The cumulative average abnormal return from date T_1 to day T_2 is defined by using the following formula for each stock:

$$CAAR = (1/N) \sum_{t=T_1}^{T_2} AAR_{i,t}$$

The t values on the above formula consists of (-1,+1), (-10,+10), (-15,+15), (30,+30), (-60,+60), (-10,0), (-15,0), (-30,0), (-60,0), (0,+10), (0,+15), (0,+30), (0,+60) periods. In testing the significance of cumulative average abnormal returns the t test has been used. The t values are calculated as follows:

$$t(CAAR) = \sqrt{\left[\frac{1}{N.k} \right]} \sum_{t=T_1}^{T_2} \sum_{i=1}^n \frac{AR_{i,t}}{\sigma_i}$$

Where k is the number of days observed in the cumulative average abnormal return calculation.

3.4.2 Abnormal Volume

In addition to the stock return data, trading volume of the stocks surrounding the tax rate amendments can also provide evidence for the market efficiency. In the market microstructure literature, high trading volumes are associated with the release and reception of information.

For investigating the abnormal volume of the stocks listed in ISE-30 index around the tax amendment dates, similar procedure used in measuring the abnormal returns is employed. The event window and the estimation period is the same used in abnormal return. As explained in the previous section, there are two kinds of models used in measuring the normal performance of the stocks. The mean adjusted and the market adjusted return. Different from the abnormal return analysis, in measuring the normal volume of the stocks the mean adjusted model, which was first introduced by Brown and Warner (1980 and 1985), is used.

To calculate the abnormal volume the following formula has been employed:

$$AV_{i,t} = V_{i,t} - V_i$$

Where, $V_{i,t}$ is the volume of the stock i at the date of t . V_i is the mean volume of the stock i within the estimation period. After calculating the abnormal volume of each 23 stock within the event windows, the average abnormal volumes are calculated with the following formula:

$$AAV_t = 1/N \left(\sum_{i=1}^N AV_{i,t} \right)$$

In testing the H_0 the following formula has been used and the t values are calculated:

$$t(AAV_t) = \left[1/\sqrt{N} \right] \sum_{i=1}^n \frac{AV_{i,t}}{\sigma_i}$$

In this study the cumulative average abnormal volumes are also calculated for different time periods. The cumulative average abnormal volume from day T_1 to day T_2 is calculated by using the following formula for each stock:

$$CAAV = (1/N) \sum_{t=T_1}^{T_2} AAV_{i,t}$$

The t values on the above formula consists of (-1,+1), (-10,+10), (-15,+15), (30,+30), (-60,+60), (-10,0), (-15,0), (-30,0), (-60,0), (0,+10), (0,+15), (0,+30), (0,+60) periods. In testing the significance of cumulative average abnormal volumes the t test has been used. The t values are calculated as follows:

$$t(CAAV) = \sqrt{\left[\frac{1}{N.k} \right]} \sum_{t=T_1}^{T_2} \sum_{i=1}^n \frac{AAV_{i,t}}{\sigma_i}$$

Where k is the number of days observed in the cumulative average abnormal volume calculation.

3.5 Empirical Results

The results of the study for the abnormal return and abnormal volume calculations are shown in the following tables. In Table 3.3 the average abnormal returns for the event window and their t values are summarized.

As presented in the table, in the first days of the tax rate amendments, which was became effective in 01.01.2006, there is positive abnormal return on the last day before the amendments and negative abnormal returns for the ISE-30 index stocks, however, none of these findings is statistically significant. Only the abnormal return of 15th day is significant at 10% level.

In the second amendment, which has became effective after 23.07.2006, both the pre-event and post-event period returns are positive and again they are not

statistically significant. Finally for the last amendment, by which the tax rate for the stock transactions abolished, contrary to the expectation positive abnormal returns observed at the two days before the amendment and negative abnormal return just after the amendment. 10th day before the amendment is statistically significant at 10% level, 6th and the 7th days after the amendment were also statistically significant at 5% and 1% levels respectively.

Table 3.3: Average Abnormal Returns

Event Days	01.01.2006 (AAR)	t -TEST	23.07.2006 (AAR)	t-TEST	14.11.2008 (AAR)	t-TEST
-15	0,0074	0,96032	0,0003	0,14650	-0,0098	-1,39505
-14	-0,0026	-0,13478	-0,0059	-0,71248	-0,0041	-0,61576
-13	0,0026	0,30290	0,0012	0,07145	0,0050	0,13872
-12	0,0027	0,43574	0,0053	0,78709	0,0116	1,63537
-11	0,0027	0,68944	0,0017	0,61394	0,0070	0,87089
-10	0,0008	-0,18488	-0,0015	-0,32163	0,0144	2,02853*
-9	-0,0032	-0,67111	0,0007	0,18620	0,0061	0,98639
-8	0,0022	0,32797	0,0017	0,18714	0,0029	0,36375
-7	0,0036	0,93767	-0,0062	-0,88521	0,0057	1,00357
-6	0,0018	-0,07862	0,0016	0,18987	-0,0095	-1,28995
-5	0,0033	0,23987	0,0017	0,40838	-0,0077	-1,14474
-4	0,0012	-0,07021	0,0037	0,50710	-0,0038	-0,19382
-3	-0,0014	-0,45436	0,0109	1,45720	-0,0077	-1,21488
-2	-0,0076	-1,09857	0,0030	0,55241	0,0021	-0,06854
-1	0,0020	-0,07196	0,0024	0,28357	0,0016	-0,21989
0	-	-	-	-	0,0035	-0,10809
1	-0,0018	-0,20294	0,0054	0,57460	-0,0026	-0,20272
2	-0,0024	-0,47617	0,0052	0,88532	0,0027	0,08656
3	0,0010	0,06034	0,0020	0,20334	-0,0094	-1,29245
4	0,0020	0,13456	0,0076	0,95572	-0,0063	-0,40703
5	0,0029	0,39062	0,0018	0,20587	0,0051	0,55788
6	-0,0033	-0,81576	-0,0014	-0,11136	0,0139	2,22759**
7	-0,0043	-0,78101	-0,0003	-0,07683	-0,0185	-2,73331***
8	0,0048	0,50682	0,0049	0,55169	-0,0076	-0,92919
9	0,0013	0,50545	0,0075	1,13052	0,0084	1,00835
10	0,0002	-0,36529	0,0036	0,57138	-0,0007	-0,43322
11	0,0066	1,38889	0,0010	-0,13332	-0,0055	-0,78548
12	-0,0022	0,09728	-0,0001	-0,01413	0,0026	0,32204
13	0,0044	0,88309	-0,0024	-0,33800	-0,0009	-0,43860
14	0,0067	1,53936	0,0001	-0,10936	0,0058	0,78871
15	0,0102	1,84871*	-0,0020	-0,30698	0,0049	0,57973

*, **, *** shows the statistical significance levels for respectively 10%, 5%, and 1%.

In Table 3.4 cumulative average abnormal returns and their t-values for different event windows are given. As shown in the table none of the findings are statistically significant. These results suggest that, there is no significant effect of tax rate amendments on stock returns of the firms listed in ISE 30 index. For the first amendment date, all event windows show positive cumulative abnormal returns. For the second amendment date all cumulative abnormal returns except for the (0,+60) day period show the similar results with the introduction of the taxation in the stock market. On the third tax rate change, where the tax rate abolished, negative cumulative abnormal returns are observed within the 60 days of the pre-event period and 15 days of the post-event period. But as mentioned before none of these findings is statistically significant.

Table 3.4: Cumulative Average Abnormal Returns

Event Windows	01.01.2006		23.07.2006		14.11.2008	
	CAAR	t-TEST	CAAR	t-TEST	CAAR	t-TEST
CAAR(-1,1)	0,00020	-0,194385	0,00782	0,606818	0,00259	-0,306403
CAAR(-10,+10)	0,00301	-0,484689	0,05443	1,667046	-0,00745	-0,431026
CAAR(-15,+15)	0,04154	1,066848	0,05372	1,361994	0,00907	-0,157086
CAAR(-30,+30)	0,07589	1,278818	0,05908	1,187690	0,01303	-0,188024
CAAR(-60,+60)	0,11797	1,345398	0,06540	0,904950	0,01483	-0,299191
CAAR(-10,0)	0,00263	-0,355507	0,01800	0,811130	0,00762	0,042914
CAAR(-15,0)	0,01548	0,291615	0,02060	0,896341	0,01727	0,194127
CAAR(-30,0)	0,02901	0,377431	0,02610	1,074913	-0,02023	-0,990306
CAAR(-60,0)	0,03625	0,313717	-0,02000	-0,156156	-0,05787	-1,324574
CAAR(0,+10)	0,00038	-0,329947	0,03643	1,546429	-0,01155	-0,671052
CAAR(0,+15)	0,02606	1,217136	0,03312	1,029810	-0,00468	-0,439804
CAAR(0,+30)	0,04689	1,431090	0,03298	0,604733	0,03679	0,707139
CAAR(0,+60)	0,08172	1,588962	0,08540	1,435948	0,07622	0,889353

For the empirical analysis of abnormal volume of the stocks listed in ISE-30 index, in Table 3.5 the average abnormal volume and their *t* values are presented. As shown on the table for the first amendment, one can observe low or negative abnormal volume in the pre-event period. 6th and the 1st day in the pre-event period are statistically significant at 5% and 1% level respectively. During the post event period, on the first four days the abnormal volumes are negative but they are not statistically significant. For the post-event period only 12th, 13th and 14th days' volumes are statistically significant at 1% level.

For the second amendment, during the post-event period there observed high abnormal volumes which are statistically significant at 1%, 5% and 10% levels. But for the cumulative abnormal returns calculated for the last amendment, in which the tax rate for the transaction of the stocks abolished (or decreased to 0%), most of the abnormal volumes are statistically significant mostly at 1% levels. The abnormal volume measures for the post-event period are very high when we compare them with the pre-event period and previous event windows.

Table 3.5 Average Abnormal Volume

Event Days	01.01.2006 (AAV)	t-TEST	23.07.2006 (AAV)	t-TEST	14.11.2008 (AAV)	t-TEST
-15	-426.746	0,24358	-878.917	-1,46232	11.419.395	4,4490***
-14	-201.996	0,27293	29.871	0,54772	4.671.455	2,30164**
-13	124.247	0,29114	1.855.583	0,99640	6.338.427	4,76150***
-12	-606.899	-1,54769	1.687.850	1,86605*	-4.948.486	-5,58071***
-11	-1.231.738	-1,31235	1.454.392	2,39529**	8.443.085	6,11834***
-10	-657.570	-1,59320	-934.965	-1,77211*	9.603.460	10,42423***
-9	-850.822	-0,83220	-1.250.871	-1,98363	48.999	2,71596***
-8	-676.238	-0,94014	-1.363	-0,26394	5.866.658	8,57685***
-7	-768.165	-0,35511	-53.863	-0,54952	1.998.929	3,44699***
-6	-742.228	-2,07149**	-13.187	-0,27895	6.037.137	3,47216***
-5	-756.768	-1,66090	33.771	-0,44693	1.856.346	2,93842***
-4	404.017	-1,67914	737.210	0,38444	-1.124.715	-0,16168
-3	-1.084.840	-1,59896	-149.023	-0,61128	189.570	1,84640*
-2	-1.272.310	-0,50133	2.681.950	3,16119***	2.162.895	3,14802***
-1	202.709	-3,10363***	-424.241	-0,72313	4.319.454	3,72130***
0	-	-	-	-	3.380.775	2,22179**
1	-913.135	-0,31638	-509.209	-1,69255	5.209.347	3,63929***
2	-389.838	0,34757	666.522	0,66840	5.649.296	5,17476***
3	-422.315	-1,44604	1.371.346	2,30413**	6.670.850	4,84717***
4	-924.780	0,41461	1.707.780	3,59832***	6.880.759	7,64715***
5	44.105	1,55244	870.765	-0,14845	6.630.666	13,05086***
6	619.731	0,17802	-918.121	-2,03057*	8.775.712	11,86263***
7	145.011	-0,76635	246.398	0,02525	12.769.748	16,95988***
8	-521.557	0,70038	-484.987	-1,05707	3.090.327	4,59566***
9	-234.053	1,40039	-58.048	-1,38079	4.459.113	10,53848***
10	603.953	-0,60358	2.040.762	2,13714**	3.033.619	6,32913***
11	-750.322	1,64956	-534.479	-1,89829	-361.235	1,05808
12	673.614	6,22683***	492.531	0,39029	5.055.082	6,80246***
13	1.816.281	4,84248***	3.169.878	4,07365***	1.398.181	1,48720
14	851.939	4,59772***	173.493	-0,06091	4.487.874	5,55947***
15	1.811.220	-0,55584	315.101	-0,47532	583.811	2,08928

*, **, *** shows the statistical significance levels for respectively 10%, 5%, and 1%.

Lastly Table 3.6 presents the cumulative average abnormal volumes and their t-values for different event windows. Most of the cumulative average abnormal volumes calculated for the different event windows are highly statistically significant. All findings except for the three findings for the first amendment are statistically significant mostly at 1% level and negative cumulative abnormal volume is observed for the event windows. In the second amendment the cumulative abnormal volume has positive direction almost for every event window and all of them are statistically significant at 1% level. For the last amendment the cumulative abnormal volumes are positive for all the event windows, the volume results are very high with respect to the other event dates and all of the results are highly significant at 1% level.

Table 3.6 Cumulative Average Abnormal Volume

EVENT WINDOW	CAAV (01.01.2006)	t-TEST	CAAV (23.07.2006)	t-TEST	CAAV (14.11.2008)	t-TEST
CAR(-1,1)	-710.426	-2,5491	-933.450	-1,7081	12.909.576	5,5324***
CAR(-10,+10)	-8.195.094	-3,0374***	5.558.627	-0,1476	97.508.944	27,7127***
CAR(-15,+15)	-6.135.495	0,4188	13.323.930	1,0430	134.596.533	28,0259***
CAR(-30,+30)	-2.395.059	3,4015***	36.151.435	2,9104***	196.421.353	32,5224***
CAR(-60,+60)	7.974.446	3,9537***	59.576.561	3,4855***	292.851.037	39,1110***
CAR(-10,0)	-6.202.216	-3,9670***	625.420	-0,9752	34.339.506	12,7691***
CAR(-15,0)	-8.545.348	-3,4547***	4.774.199	0,3251	60.263.382	13,6001***
CAR(-30,0)	-2.343.120	1,9243*	33.920.408	6,6202***	126.865.185	17,4756***
CAR(-60,0)	-2.405.698	2,7250***	65.366.224	6,3149***	147.817.187	15,5446***
CAR(0,+10)	-1.992.879	-0,3286	4.933.208	0,7665	66.550.213	26,1913***
CAR(0,+15)	2.409.853	4,0470***	8.549.732	1,1498	77.713.926	25,9658***
CAR(0,+30)	-51.939	2,8861***	2.231.028	-2,5043***	72.936.944	28,5447***
CAR(0,+60)	10.380.144	2,8664***	-5.789.663	-1,3857	148.414.625	39,8241***

*, **, *** shows the statistical significance levels for respectively 10%, 5%, and 1%.

3.6 Conclusion for Empirical Analysis

In the previous sections of the empirical study, the abnormal return and volume data have been calculated for the 23 stocks listed in the ISE-30 index, to measure the effects of the taxation on the stock exchange market. Cumulative abnormal returns and volumes also calculated for the different event periods to understand the effects of the taxation on the market more accurately.

Empirical results for the return analysis basically show that, for both pre-event and post-event period one can not observe any abnormal return, which is statistically significant. So we accept the H_0 hypothesis which means that the average abnormal return around the dates of tax amendments will be equal to zero.

The reasons for the insignificant abnormal return measurements can be various. First of all, the changes in the taxation policies have some adjustment periods. The first tax amendment became effective after the date of 01.01.2006 as mentioned before. But this tax change published in the Official Gazette at the date of 31.12.2004. This means that the investors of the stock market have more than one year to adjust their return expectations before the taxation becomes the part of the transaction costs.

In the efficient market hypothesis, all available information (private or public) relevant to the pricing of the securities must be rapidly reflected in the prices of the securities. The semi-strong form of market efficiency asserts that the current market prices fully reflect all public information and announcements. Our results also suggest that the changes in the taxation policy for the stocks immediately reflected in the stock price, providing evidence for the semi-strong form of the efficient market hypothesis.

On the other hand, there exists strong evidence that points toward the unusual volume behavior before and after transaction tax changes on stocks, which are statistically significant. Especially at the third amendment date, in which the tax rate on the stock transaction abolished, there exists high cumulative abnormal volume mostly within the post-event period.

When we consider the return and the volume results together, we can say that, investors in the stock market has adjusted their return expectations to the tax rate changes within the period between publication and the effective date of the provisions, so that one can not observe abnormal returns around the effective dates.

However, stock volume is more sensitive to the taxation of the transactions. The abnormal volume can also be explained by the differential taxation of the financial instruments. As the tax rate abolished for the stock transactions, investors trading other instrument that are subject to the taxation can prefer to enter the stock market, which can explain the increases on abnormal volume around the dates of tax rate amendments. We do not observe big price changes although there are high volume changes. This is the main character of a “deep market”. Therefore, we can say that ISE-30 stocks are traded in a “deep market”.

CONCLUSION

When we compare ISE with the developed stock markets, we can see that the Turkish Stock Market has not completed its formation yet. Instead of the regulations implemented by the CMB, fiscal and legal regulations are also needed for providing the efficiency of the market. Taxation of the financial instruments is not seriously taken into the consideration by government authorities till the beginning of the 2005. With the regulations implemented on the Income Tax Code and Corporate Tax Code, more simple regulations on the taxation of the income from capital investments become necessary. Therefore, the tax policy for investment instruments was changed by the authorities, become effective after the beginning of 2006 and simplified significantly. These changes are included specification on both the determination of the tax base and taxation technique.

The primary objective of this thesis is to examine the efficiency of the ISE market by investigating the abnormal return and volume performances around the period of the changes in the taxation policy of the stock transactions.

First part of the thesis presents extensively the main themes of the financial markets, classification of the market, and specifically the financial market instruments. Since our goal is to investigate the stock market efficiency, detailed information about the efficient market hypothesis has been given. In the second part of the thesis, new taxation policies about the investment instruments are presented under the scope of the tax legislation in Turkey. In the third part, the objective and the scope of the study are described, previous studies of this issue are summarized, the methodology and the hypothesis of the study are given and lastly our findings and concluding remarks are presented.

The previous empirical studies try to find both the benefits and costs of imposing a transaction tax on securities. Some of these studies argue that transaction taxes can reduce the excess volatility in the market by discouraging the speculative trading, and thus increase the efficiency of the market. On the other hand, opponents

of the securities transaction taxes argue that, taxes increase the cost of capital, reduce price and market volume and increase expected returns.

To find out the effects of the transaction taxes on Turkish stock market, the return and volume data of the 23 stocks listed in ISE-30 index are used. The market model is estimated by regression, using the data from 345 trading day estimation period ending 15 trading day before the amendment dates for the return analysis. Mean adjusted volume is used for the volume analysis within the same estimation periods. The event period is defined as 15 days preceding and following the amendment dates. With the market and mean adjusted model, the abnormal returns and volume have been calculated for the event periods. Average abnormal returns/volumes and cumulative average abnormal returns/volumes are calculated and *t* test is implemented to test the significance of the results.

We find a very little, nearly none, unusual price behavior for the ISE-30 stocks, however, there exists strong evidence that points toward the unusual volume behaviors before and after the taxation amendments, which are statistically significant. Our results show that the tax rate changes on securities does not provide abnormal returns for the investors; these regulations are fully reflected to the stock prices. Therefore, we can say that the ISE is efficient in the semi-strong form when we consider returns. However, we observe abnormal volume before and after the changes in taxation of the transactions. After the abolishment of the tax rate on stock the average abnormal volume of the stocks listed in ISE-30 index is increased dramatically and the results are highly significant. Our empirical findings support the hypothesis that the taxation of the stock transactions effect the investment decisions, and these decisions are, in turn reflected in the trading volume of the common stocks rather than their returns. Therefore we can say that the market is not efficient in semi-strong form when we consider volumes. In addition, our results indicates that the ISE-30 stocks are traded in a “deep market” since there exists no big price changes although there are high volume changes.

The limitation of this study is that, tax rate changes is a minor component of the transaction costs, which also a minor component of the price-return analysis. Although the finance authorities try to simplify and equalize the implementation of the taxation on financial instruments, exemptions of the regulations distorts these policies. Investors diversify their portfolios by using the investment tools that are not under the scope of the withholding taxation.

Further research should investigate the role of non-tax cost factors influencing the capital gains realizations. And also further research should examine the relationship between taxation of the transactions and the market volatility, as the major argument about the capital gains taxes is that, they prevent the speculative trading and decrease the excess volatility.

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