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An Assessment For the Near Future of the Turkish Securities Firms Industry
Yener Coşkun

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Empirical Evidence From ISE
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INTERNAL DETERMINANTS OF PROFITABILITY IN TURKISH BANKING SECTOR

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Abstract
The aim of this study is to identify the internal determinants of profitability of Turkish banks in the period of 2002-2009. The importance of the study derives from the fact that finding out the mentioned determinants is a necessity for both the managers of Turkish banks who successfully operates -even in times of financial crisis-, and existing (and potential) national and international investors. Findings of the study indicate that capital efficiency and size affect profitability positively, while liquidity and operating costs negatively.

I. Introduction

November 2000 (also known as interest crisis) and February 2001 (referred as exchange rate crisis) crises have affected Turkish Banking Sector very negatively and large sums of losses have been observed in banks' financial statements. Eventually, in May 2001 a "program for transition to strong economy" ("Program") was announced in order to -in brief- restructure the banking sector.

Main components of the Program can be summarized as (1) strengthening of the financial structure of the financial sector, mainly the state-owned banks; (2) figuring out the problems related with the banks under the Deposit Insurance Fund; (3) re-financing (mostly, self-financing) privately-owned banks and (4) realizing the basic structural regulations that will ensure efficiency, flexibility and transparency in all economic units (Bumin, 2009).

Turkish economy has experienced a rapid deceleration in 2008, following the stable and high-growth performance recorded since 2002. Gross domestic product

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in real terms -which had continued to grow starting from the last quarter of 2001-, has contracted abruptly in the last quarter of 2008. Other important developments in economy in 2008 may be summarized as fluctuation in inflation and interest rates; high savings deficit stemming from both public and private sectors; expansion in budget deficit; decline in net capital inflows; short-term maturity of domestic savings; depreciation of Turkish Lira in the last quarter; deterioration of expectations and the increase in risks, notably in loans (Banks in Turkey, 2008).

The underlying reason of this slowdown in economic activities can be associated with the phenomenon that instability and the downward move that started in the money and capital markets of the United States of America (USA) towards the end of 2007 assumed a global character in 2008 by having contagion effects on the world economy, and having particularly negative effects on countries with close economic relations with the USA, as well as on European Union, and other developed and developing countries.

Even in 2009, the global economy has remained under severe stress, as the crisis has broadened in both developed and developing economies. Moreover, this protracted period of the deep and destructive impacts on all economies of the countries has been considered as a "global crisis" by many economists (Banks in Turkey, 2009). As a matter of fact, during this period, the world output and trade volume has declined at the highest rate ever seen since the last 40 years, also with high rate of decline in wealth. Eventually, the financial sector had not been able to perform its intermediary functions and the markets had become inefficient in many countries.

Global crisis has also affected the financial sector substantially in Turkey. However, besides sound balance sheets, successful risk diversification and risk management by banks, due to measures taken by relevant authorities and the effective public supervision, the Turkish Banking Sector has stayed safe and sound in 2009, without creating any burden on the public. It has continued to support the financing of economic activities. So to say, told repeatedly both domestically and abroad in 2009, the banking sector has been "the best story of Turkey". Total market value of financial institutions has risen by 133% to $96 billion as of December 2009, as compared the end of 2008. Also, the return on equity fact of financial institutions has risen by 2.8% points to %18.3; while net profit margin of the same period has increased by 52% and reached to $19.5 billion (Banks in Turkey, 2009).

The aim of this study is to identify the internal determinants[1] of profitability of state-owned and privately-owned banks -among the deposit banks- operating in Turkey for the period of 2002-2009. The identification of such determinants is vital for the bank managers operating successfully -even in times of crises-, and existing (and potential) national & international investors. After the Introduction of this totally five-parted study, Literature Review is presented. Data set, sample and model are given in the Methodology. After the 4th part about Empirical Findings, in the 5th -that is, the last- part of the study, a brief Conclusion is made according to the empirical findings.

[1] The concept of "internal determinant" is explained in "Literature Review" of the study.

II. Literature Review

The related literature about the determinants of bank profitability consists of one group of studies (for example, Berger et. al., 1987; Berger, 1995; Neely and Wheelock, 1997; Barajas et. al., 1999; Guru et. al., 2000; Atanasieff et. al., 2002; Mamatzakis and Remoundos, 2003; Kosmidou et. al., 2005; Kosmidou, 2008) focusing on understanding of bank profitability in a particular country; and another group of studies (for example, Haslem, 1968; Short, 1979; Bourke, 1989; Molyneux and Thorton, 1992; Demirgüç-Kunt and Huizingha, 1999; Demirgüç-Kunt and Huizingha, 2000; Abreu and Mendes, 2001; Bikker and Hu, 2002; Bashir, 2003; Staikouras and Wood, 2003; Goddard, 2004) concentrating their analyses on a panel of countries. Nonetheless, common point of these studies is that bank profitability is undertaken by financial ratios such as return on assets (ROA) and/or return on equity (ROE) (Sufian and Chong, 2008).

However, it may be more appropriate to classify the related literature according to internal and external determinants of bank profitability used in the studies rather than according to studies applied on a particular country or on a panel of countries. Internal determinants that originate from banks' financial statements can be considered as micro or bank-specific determinants of bank profitability. The external determinants are variables that are not related to bank management but reflect the economic and legal environment that affects the operation and performance of financial institutions (Athanasoglou et. al., 2008). As the aim of the study is -as expressed in Introduction- to determine the internal determinants of bank profitability, the Literature Review consists of studies related with only the internal determinants.

The internal determinants that are directly affected from bank management's decisions are mostly determined by using financial information gathered from banks' balance sheets and/or income statements. A bank's balance sheet is a reflection of its management policies and decisions. So, ratios derived from balance sheet can be considered as determinants of earning power and cost structure of a bank. Ratios derived from banks' income statements are used to evaluate operating performance and also are indicators of bank's management efficiency. Seen from this aspect, it is possible to mention that studies regarding with internal determinants of bank profitability are mostly related with balance sheet (for example, Bourke, 1989; Sinkey, 1992; Berger, 1995; Anghazo, 1997; Abreu and Mendes, 2001; Bashir and Hassan, 2003; Staikouras and Wood, 2003) and income statement (for example, Bourke, 1989; Molyneux and Thorton, 1992; Guru et. al., 2000; Gischer and Juttner, 2001; Ben Naceur, 2003; Jiang et. al., 2003) items. In summary, these determinants are related with size (bank size), risk management, liquidity, management efficiency (cost management) and capital adequacy (capital structure) and etc.

Size, generally expressed in terms of total assets, shareholders' equity or total deposits, is introduced to account for existing economies or diseconomies of scale in the market (Athanasoglou et. al., 2008). In one of the pioneering studies made

by Short (1979), size is considered as an important factor for the capital adequacy of a bank, as relatively large banks tend to raise less expensive capital and, hence, seem to be more profitable. In several studies of Smirlock (1985), Boyd and Runkle (1993), Akhavein et. al., (1997), Bikker and Hu (2002), and Molyneux and Wilson (2004), a significant positive relationship between size and profitability has been observed. However, some other researchers suggest that little cost savings can be achieved by increasing the size of a banking firm (Berger et. al., 1987), which suggests that eventually large banks could face scale inefficiencies.

Risk management is another important field of study in banking sector. Poor asset quality and low levels of liquidity are the two main causes of bank failures. Especially during periods of increased uncertainty, financial institutions may decide to diversify their portfolios and/or increase their liquid holdings to reduce risk. So, it is possible to divide risk as credit risk and liquidity risk. Empirical findings of studies dealing with the relationship between the level of liquidity and profitability in banks are mixed. While Molyneux and Thorton (1992) find a negative and significant relationship between the level of liquidity and profitability, Bourke (1989)'s and Eichengreen and Gibson (2001)'s findings are contrary. According to Eichengreen and Gibson (2001), decrease in invested funds on liquid assets increases profitability. Another related finding is that the effect of credit risk on profitability is negative (Duca and McLaughlin, 1990; Miller and Noulas, 1997). This finding may be due to the fact that the more financial institutions are exposed to high-risk loans, the higher is the accumulation of unpaid loans, implying that these loan losses have produced lower returns to many commercial banks.

In respect of management efficiency, another important determinant of bank profitability is expenses. The argument that lowering expenses in financial institutions increases firstly efficiency, then -depending on this- profitability is supported by empirical findings of many studies such as Bourke (1990)'s. However, the finding of Molyneux and Thorton (1992) is contrary to Bourke (1990)'s. High profitable banks invest relatively more on human capital. In this scope, according to them, it is possible to mention that high-cost, but qualified staff is about to accord advantages for such banks.

Though capital structure (adequacy) is an important determinant of performance in financial institutions, its effect on bank profitability is ambiguous. It is possible to mention that leverage should have negative effects on profitability, as relatively low capital ratios will cause riskiness to increase (Berger, 1995). However, profitability may also be increased by reducing cost of capital via increasing the amount of shareholders' equity (Molyneux, 1993). Also, increase in amount of equity may also reduce costs related to financial distress and eventually increase expected returns (Berger, 1995).

III. Methodology

In Methodology, firstly information regarding with data set, sample selection, dependent and independent variables is given. Then, the model of the study with the mentioned variables is presented.

3.1. Data and Sample Selection

In accordance with the -above mentioned- aim of the study, a sample of state-owned and privately-owned banks -among the deposit banks- operating in Turkey for the period of 2002-2009 is analyzed. Financial data is gathered from Banks in Turkey almanacs published by The Banks Association of Turkey.

3.2. Variables

One dependent and five independent variables of the model are given below.

3.2.1. Dependent Variable

The dependent variable of the model is return on assets (ROA) similar as used in the studies of Abbasoğlu et. al. (2007), Ben Naceur and Goaied (2008), and Kosmidou (2008). ROA is the basic indicator of a bank manager's capability to make profit form bank's financial and real assets (Golin, 2001; Hassan and Bashir, 2003). According to Rivard and Thomas (1997), ROA is the most robust variable implying bank profitability, as it is not influenced from high equity multipliers and evaluates the return-generating capacity of entire assets of a bank. In the model, return on assets is denoted as ROA and calculated as below:

ROA = Net Profit (Loss)/Total Assets (1)

3.2.2. Independent Variables

Similar to the variables discussed in Literature Review, the independent variables included in the model are related with size (bank size), (credit) risk management, liquidity, (cost) management efficiency and capital structure (adequacy).

Bank size variable (denoted as SIZE) is calculated by taking the natural logarithm of total assets:

SIZE = Natural Logarithm of Total Assets = $\ln_{\text{Total Assets}}$ (2)

Credit risk management variable (denoted as RISK) is calculated as:

RISK = Total Loans and Receivables/Total Assets (3)

Liquidity variable (denoted as LIQ) is calculated as:

LIQ = Liquid Assets/Total Assets (4)

Cost management efficiency variable (denoted as EFF) is calculated as:

EFF = Operating Expenses/Total Assets (5)

Finally, capital adequacy variable (denoted as CAP) is calculated as:

CAP = Shareholders' Equity/Total Assets (6)

3.3. The Model

The model including the dependent and independent variables mentioned above is given below:

$$ROA_i = \alpha_i + \beta_{i1}(SIZE)_i + \beta_{i2}(RISK)_i + \beta_{i3}(LIQ)_i + \beta_{i4}(EFF)_i + \beta_{i5}(CAP)_i + \varepsilon_i \quad (7)$$

Where;

ROA_i = Ratio of Net Profit (Loss) to Total Assets for Bank i,
$SIZE_i$ = Natural Logarithm of Total Assets for Bank i,
$RISK_i$ = Ratio of Total Loans and Receivables to Total Assets for Bank i,
LIQ_i = Ratio of Liquid Assets to Total Assets for Bank i,
EFF_i = Ratio of Operating Expenses to Total Assets for Bank i,
CAP_i = Ratio of Shareholders' Equity to Total Assets for Bank i,
α_i = Constant,
$\beta_{i1\text{-}5}$ = Coefficients of Variables 1 thru 6, and
ε_i = Residual Term.

IV. Empirical Findings

Descriptive statistics are presented in Table 1. As seen, the observation number is 112 and for the period of 2002-2009, average return on assets for banks included in the sample is 1.950%.

Table 1: Descriptive Statistics

Variables	*Mean*	*Standard Deviation*	*N*
ROA	1.950	0.921	112
CAP	16.922	9.012	112
RISK	46.892	18.782	112
LIQ	37.783	21.670	112
EFF	3.557	1.694	112
SIZE	12.770	3.957	112

Some empirical results are given in Table 2 and Table 3, respectively.

Table 2: Empirical Results of the ROA Model

Model	*R^2*	*Adjusted R^2*	*Standard Error of Estimation*	*F*	*Sig.*	*Durbin-Watson Statistics*
ROA	0.386	0.357	0.738	13.300	0.000[a]	2.213

a – Explanatory Variables: (constant), SIZE, RISK, LIQ, EFF, CAP
b – Dependent Variable: ROA

Table 3: Coefficients[a]

Model ROA	*Unstandardized Coefficients*		*Standardized Coefficients*	*t*	*Sig.*	*Multicollinearity Statistics*	
	B	*Standard Error*	*β*			***Tolerance***	***VIF***
(constant)	2.749	0.647		4.248	0.000		
CAP	0.066	0.009	***1.368***	7.049	***0.000****	0.154	6.498
RISK	-0.008	0.008	-0.159	-0.990	0.324	0.224	4.471
LIQ	-0.028	0.007	***-0.655***	-4.070	***0.000****	0.224	4.470
EFF	-0.385	0.077	***-0.708***	-5.008	***0.000****	0.290	3.445
SIZE	0.068	0.020	***0.291***	3.361	***0.001****	0.772	1.296

a – Dependent Variable: ROA
* Significant at 0.01 level.

In a mathematical equation, the result of the multiple regression model is as below:

$$ROA_i = \alpha_i + (0.291)(SIZE)_i + (-0.159)(RISK)_i + (-0.655)(LIQ)_i + (-0.708)(EFF)_i + (1.368)(CAP)_i + \varepsilon_i \quad (8)$$

Empirical findings indicate that CAP, LIQ, EFF and SIZE have statistically significant effects of the dependent variable, ROA. However, between ROA and the other independent variable regarding credit risk management (RISK), there does not exist a statistically significant relationship.

While the relationships between CAP and ROA (β=1.368; sig.=0.000); and SIZE and ROA (β=0.291; sig.=0.001) are statistically positive; the relationships between EFF and ROA (β=-0.708; sig.=0.000); and LIQ and ROA (β=-0.655; sig.=0.000) are statistically negative. That is, while the weighting of shareholders' equity in total sources of a bank increases; and while the total assets of a bank increase, its profitability increases, too. If to be expressed more clearly, any increase in bank's capital adequacy and size cause its profitability to increase. However, in cases where a bank has excessive liquid assets, and where its operating expenses increase; its profitability decreases.

To test first-order autocorrelation among the error terms, Durbin-Watson statistics is used. Durbin-Watson value of 2.213 indicates that error terms are serially independent. Multicollinearity is tested by Variance Inflation Factor (VIF). VIF values for CAP, RISK, LIQ, EFF and SIZE are 6.498; 4.471; 4.470; 3.445 and 1.296, respectively. These figures indicate low levels of multicollinearity among the independent variables, as the acceptable limit of VIF is 10 (See, Hair et. al., 1998).

V. Conclusion

The existence of a healthy and financially solid banking system is one of the fundamentals of sustainable economic growth. Today, it is possible to mention that Turkish Banking Sector shows a successful performance in spite of the global financial crisis affecting the worldwide economies and also banking systems since 2008. So, it has become a necessity to identify the determinants of profitability of Turkish banks in order to minimize the negative effects of the crisis and to ensure sustainability of financial stability. This necessity also shapes the aim of the study. In this scope, the determinants of bank profitability has been identified in a multiple regression model by using a sample consisting of state-owned and privately-owned banks -among the deposit banks- operating in Turkey in the period of 2002-2009.

One empirical finding is that capital adequacy affects the profitability of Turkish banks positively. As the variable regarding capital adequacy in the model is "the ratio of shareholders' equity to total assets", it can be concluded that banks financed by relatively high amounts of equity, *that is*, banks with relatively low leverage ratios tend to be more profitable. In inefficient markets, as banks with solid financial structures may finance their assets with lower levels of debt, it is not surprising that the funding costs of these banks are relatively low due to decrease in expected bankruptcy costs.

Another variable affecting the profitability of Turkish banks positively is size. This finding may be explained in two different ways. Firstly, banks having relatively large amounts of assets mostly dominate a larger portion of the market and so they seem more reliable. This reliability enables such banks to raise less expensive capital and causes their profitability to increase. Other explanation is related with economies of scale (*See*, Hauner, 2005; Pasiouras and Kosmidou, 2007; Staikouras et. al., 2008). According to this, as the unit costs of large scale banks tend to be relatively low, their profitability ratios are expected to be higher.

"Increase in operating expenses causes decrease in profitability of Turkish banks" is another empirical finding of the study. From this point of view, it may be assumed that Turkish banks are not able to manage and/or control their expenses efficiently. The underlying reason may be associated with the fact that Turkish financial system has not matured yet.

Another variable negatively affecting profitability is liquidity. Increase in liquidity, *that is*, increase in the amount of liquid assets reduces bank's liquidity risk. Banks reduce credit interest margins, and so profitability decreases. Another point about liquidity is that liquidity-profitability relationship of banks may be seasonal. Though, it is possible to make a comment that banks' will to invest in liquid assets is a rationale behavior in times of uncertainty, to invest in such assets in times of certainty cannot be considered as rationale (Kaya, 2002).

Another independent variable in the model regarding with credit risk is referred as *RISK* and is calculated by dividing total loans and receivables to total assets. However, there does not exist any statistically significant relationship between this

variable and profitability.

Consequently, in order to increase their profitability, Turkish banks should attempt to strengthen their capital structures and grow. As these attempts will increase trust between banks and current (and also potential) investors, banks will have opportunity to raise less expensive capital. Empirical findings also indicate that other ways to increase profitability are to decrease operating expenses and lessen investments in liquid assets. However, it should never be forgotten that these conclusions may be considered to be valid only through the empirical findings of this study.

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WHY TURKISH SECURITIES FIRMS HAVE NOT TRANSFORMED TO FULL SERVICE INVESTMENT BANKS?: AN ASSESSMENT FOR THE NEAR FUTURE OF THE TURKISH SECURITIES FIRMS INDUSTRY

Yener COŞKUN*

Abstract

The initiation of securities related activities in Turkey goes back to as early as 1980s. The regulation philosophy regarding securities firms is based on the creation of a new investment banking category expected to enhance economic efficiency. Although Turkish securities market experienced a boom in early 1990s, the markets were not able to improve the products and services diversity as well as the income range. Specifically, the sector, focusing on brokerage activities, stayed underdeveloped. In this article the author is questioning the reasons why Turkish securities firms have not been able to improve the range of its activities and at least some of the securities firms did not transform to full service investment banks. It is concluded that less developed economic and financial infrastructure, cash outflow to gold and real estate markets and some intra-industry conditions are the essential elements for the less development of the sector. In realistic terms, public policies or private initiatives expecting to change of this picture have decisive limitations at least in the short term.

I. Introduction

Investment banks make contributions to the growth (and development) of countries through; financing private and public sectors, performing investment banking services, providing efficient allocation and use of resources and liquidity in financial systems, increasing the efficiency of risk management procedures, developing new products and enhancing financial engineering etc.

The initiation of securities related activities in Turkey goes back to as early as 1980s. Turkish capital market regulations, including the regulations regarding securities firms, became effective after the 1982 Banking Crisis (so called the

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Banker Scandal). One of the important aspects of securities firms' regulation philosophy is the creation of an environment that helps to develop investment banking activities. Although Turkish securities markets experienced a boom period in early 1990s, the markets were not able to improve the products and services diversity as well as the income range in time.

With the studies represented by this paper, using literature review and data analysis, the author examines why Turkish securities firms have not transformed into full service investment banks helping directly and continually to the development of the financial system and the real sector.

The paper is organized in four further sections. In section 2, the concept of investment banking is analyzed. The scope of the activities of investment banking is discussed in section 3. Section 4 gives an analysis on the development conditions of investment banking activities. On the other hand, section 5 deals with the question why Turkish securities firms industry is less developed and could not develop investment banking activities in a widespread and permanent way.

II. The Concept of Investment Banking

Investment banks allow the funds to flow between economic units having surplus and/or deficit. The most important distinction between investment and commercial banks is that the investment banks are not conceptually allowed to act as deposit-taking institutions.

The term investment banking was coined in the United States to distinguish the newly spun-off securities operations (underwriting and securities sales) from their former parents' commercial banking operations (taking deposits and providing loans) following the passage of the Glass Steagal Act in 1933 (Gart, 1994).

Investment banking may be defined either broadly or strictly. The more specific definition is that investment banking cover underwriting services related to public offerings of equities or fixed income securities. Thus, underwriting is both a major field of activity and raison d'etre for the securities firms.

It is observed that commercial banking, insurance and investment banking are gradually converging in the context of financial intermediation and the products used. Traditional investment banking activities cover research, investment advisory, underwriting, corporate finance, private equity, M&As etc. As a result of the convergence, it is that investment banking may also cover marketing of insurance and commercial banking products that are atypical in traditional investment banking.

Investment banks offer several financial services to different investor categories. Providing investor protection and effective capital markets are the primary purposes of the regulatory bodies due to their statutory objectives. Comparing banking and insurance firms, the balance sheet of securities firms generally tend to have short-term, liquid and equity based financing structure. Furthermore some securities firms may use leverage in their operations intensively according to their tendency to take risk.

It also becomes critical to analyze the unique features of the securities firms' activities as well as their impact on financial statements taking into account the structure of the securities industry. In this analysis, we will particularly take into account of the structure of the Turkish securities firms industry.

Equity Financing in Balance Sheet; Unlike banks, asset side financing of the securities firms does not depend on the short-term deposit financing. The unique feature of securities firms' balance sheets allows them to minimize the risks arising from maturity mismatching and re-investment due to their independence from short-term deposit financing. Absence of deposit as a [balance sheet] financing tool makes capital and long-term debts more crucial. It may be observed in the Turkish securities firm industry that essential tools for the finance of the activities are based on equity and short-term debt financing. On the other hand, increasing income level arising from corporate finance activities may also increase the level of long-term debt financing. But it is important to note that the level of short-term debt financing may increase securities firms' focus on more risky activities and margin financing.

Limits on Risks Arising From The Withdrawal Liabilities and Run; Securities firms do not have permission to collect funds in the form of deposit. As discussed below, it is assumed that the problem of maturity mismatching has limited negative impacts on securities firms. Investment account in securities firms have two important features. First, customer accounts are held separately from the own accounts of securities firms. Secondly, these accounts should not be used as a source of credit mechanism by the firms. In these circumstances, unlike banks, if investors would prefer sudden withdrawals from their assets with short notice, one may not expect negative impact on securities firms' liquidity. These transactions may imply that if a securities firm does business properly, confidence crisis may cause limited vulnerabilities on the activities. But global financial crisis raised questions regarding the validity of the above arguments. In the crisis period, it was observed that [some] securities firms' customers attempted to withdraw their assets in a panic. This observation brought the attention to withdrawal risks of the assets under custody.

Short Term/Liquid Balance Sheet and Limited Valuation Problems; Securities firms have fairly short term strategies compared to banking and insurance firms. Thus, their balance sheets are relatively short-term and more liquid. Credit portfolio, that has the largest share in the banks' balance sheets, is accepted as one of the reasons of the banking failures due to the problems like asymmetric information, illiquidity, lack of collateral and valuation. On the contrary, securities firms' credit portfolio has sufficient collateral and liquidity. Most of the securities firm assets have active secondary market. Therefore there is a broader use of mark-to-market accounting. This structure may cause less valuation and risk management problems in securities firms. [These views are accepted valid for Turkish securities firms.]

But, it was observed in the process of global financial crisis that structured products may cause important valuation problems in the [financial failures of] investment banks.

The Capacity of Respond to Financial Shocks; Because of the elasticity of the having liquid balance sheet, securities firm' strength against the financial shocks is rising. It is important to note that this tendency may not represent a strict rule. Specifically in the case of investing shares of private company and less liquid subsidiaries portfolio, some securities firms may not minimize their balance sheet during the liquidity squeeze. However if the risks arising from the customer accounts would increase, by bearing fire sale losses, securities firms may minimize the potential risks by liquidating the customer accounts, even in a trading day.

Market and Liquidity Risks as Primary Risks for Securities Firms; Market risk arising from trading activities is one of the major risks for securities firms. On the other hand, losses arising from proprietary accounts and credit/liquidity risks arising from the customers' margin transactions and settlement responsibilities may result in additional need for finance (and perhaps negative outcome) for the securities firms. As observed during the global financial crisis, derivatives transactions became an important risk category for all financial intermediaries.

Investor Protection and Market Efficiency Measures; It is important to note that the regulations that aim to improve investor protection and market efficiency are more intense in the official discipline framework of securities firms, which cover regulation, supervision and enforcement tools. On the other hand, during the global financial crisis some of the investment banks were financially supported by the States due to systemic concerns. Therefore it is important to note that protection of the system from the systemic risks may become an important regulatory rationale in capital markets that have sophisticated and large-scale investment banks.

Other important characteristics of investment banking activities may be; openness to rapid change and innovation, becoming financial supermarkets by directly/indirectly selling other financial sectors' products/services, high level of risk-taking tendency, active competition in the market, sophisticated labor supply and the use of intensive advanced technology.

III. Investment Banking Activities

In the countries, having sophisticated capital markets, investment banks are observed to perform their activities in an organizational model that satisfies broadly the public and private sectors financing needs and individuals' asset management needs. Railways and canal construction financing in the 19 th century, dot com

companies' financing in the late 20 th century and various exchange and trading activities may be some of the good examples of the activities of investment banks. Another example can be the financing of space programs in the 21th century. Fund management services to high net worth individuals, art banking,[1] philanthropy services,[2] ethical investments and socially responsible investments[3] etc. are in the field of investment banking in a broader sense.

The core business of broker-dealers has been brokerage, dealing and underwriting (Dombalagian, 2009). The traditional investment banking functions are securities underwriting and corporate advisory services. In response to the internationalisation of capital markets, regulatory changes and client forces, many investment banks in recent decades have supplemented these traditional functions with myriad otherfinancial products and services. These include securities and derivatives trading on behalf of clients, investment research,financing, asset management, equities and derivatives trading on thefirm's own account (also known as proprietary trading) and principal investments (such as private equity operations) (Tuch, 2006).

As the leading financial intermediaries, banks, development and investment banks and securities firms perform investment banking in Turkey. As a result of having underdeveloped capital markets, it would be more appropriate to examine the concept of investment banking by analysing relevant products and services in their broadest meanings.

3.1. Investment Banking Activities

In this section, analysing the subjects in "The Banker's Investment Banking Awards is a good starting point in order to define the scope of investment banking activities.

1 The importance of investment management services in the field of art is increasing due to rising investment potentials of art and increasing the number of collectors. In the context of art banking, leading banks offer services including valuation, trading, lease, custody etc.

2 High net worth individuals spent $ 285 billion for the philantrophic activities in 2006 (UBS, 2008: 7).

3 Socially responsible investment involves an investment approach towards companies, funds, projects and joint ventures. It has a common approach to reach both financial and social goals simultaneously. This invesment understanding becomes an important part of the business strategy. In this context, environment sensitive financial products, carbon trade, micro finance, environment sensitive technology investments and water resources managament would be accepted as part of this approach (BAT, 2009: 51).

Table1: The Subjects of "The Banker'sInvestment Banking Awards

The Subjects of "The Banker's Investment Banking Awards
IPO/Equity Trading/Bonds Trading/FX Trading
Investment grade bond
High Yield Bond
Securitization
Covered bond
Convertibles[4]
M&A
Equity Derivatives/Credit Derivatives/Interest Rate Derivatives
Leveraged Finance
Hybrid Capital[5]
Risk Advisory
Financial Institutions Group Capital Raising[6]
Financial Institutions Group Asset Liability Management[7]
Trade&Project Finance/Real Estate Finance
Commodities Trading[8]
Islamic Investment Banking/Emissions Trading[9]
Loan House
Prime Brokerage

Source: The Banker (2007).

4 A convertible security is a security - usually a bond or a preferred stock - that can be converted into a different security - typically shares of the company's common stock (Available at: http://www.sec.gov/answers /convertibles.htm, 06.06.2009).

5 Hybrid capital is a form of debt that has been substituted for equity (i.e. preference shares). This type of capital has both debt and equity features (Available at: http://lexicon.ft.com/term.asp?t=hybrid-capital, 03.08.2010).

6 According to explanations regarding to JP Morgan, 2007 award winner in the category of Financial Institutions Group Capital Raising, this category is related to offer services from IPO to secondary market transactions to emerging market institutions (see, The Banker, 2007).

7 According to explanations regarding to Societe Generale, 2007 award winner in the category of Financial Institutions Group Asset Liability Management, it is concluded that this activity covers sophisticated asset liability management services using mathematical models (see, The Banker, 2007).

8 According to explanations regarding to Deutsche Bank, 2007 award winner in the category of commodities trading, it is concluded that this activity covers products/services related to corporate finance, commodity indexes, commodity ETF and other derivative instruments based on the commodities (see, The Banker, 2007).

9 According to explanations regarding to Barclays Capital, 2007 award winner in the category of emissions trading, it is concluded that this activity is related to intermediation of the buying and selling activities of, nominally 7 billion valued, carbon credits in accordance to Emmission Trading Scheme issued by the EU in 2005 (see, The Banker, 2007).

As seen in the above table, global investment banking perform her activities in a broad range from Islamic financial products to commodities trading.

3.2. Investment Banking Activities in The U.S.

Investment banks have broad authority in their activities in the U.S. Therefore, in the second place, financial instruments and field of activities of the U.S.investment banking sector areanalyzing below.

As seen in the below table, essential field of activity of the investment banks operating in the U.S. includes underwriting, private placement, venture capital investments, asset based-financing, investment management, sales and trading (brokerage), merchant banking, research, derivative transactions and advisory services. In addition to these activities, investment banks may also perform the following activities; cash management transactions such as issuance of debit card/ marketing of insurance products, open saving account in commercial banks and real estate financing etc.

Table 2: Essential Services Provided Investment Banks in the U.S.

The Name of the Service	Definition of the Service
Underwriting	In this role, investment banks are financial intermediaries in securities offerings. They verify financial data and business claims, facilitate pricing, and perform due diligence.
Private Placement	Investment banks intermediate place securities privately.
Venture Capital	In this service, investment banks provide strategic guidance and may manage venture-capital pools.
Asset-Based Financing	Investment banks help clients obtain financing using existing assets and assist with asset securitizations. This category of services also includes LBO by using own capital, underwriting in M&As, advice for corporate finance and process management.
Investment Management	Investment management operations include managing mutual funds, hedge funds, unit investment trusts, leveraged buyout funds, and private equity funds. This service also covers sales and trading (brokerage) activities.
Prime Brokerage Services	This service involves stock lending and financing, clearing and settlement services for hedge funds.
Merchant Banking	Merchant banking commits the investment bank's own capital to facilitate a client transaction such as a bridge (or temporary) loan.
Research	Research analysts at the investment banks analyze public companies and make investment recommendations about the securities of those companies to investors.
Advice for Corporates	In this category, investment banks give advice for corporates regarding to strategic investment decisions such as M&As, re-organizations, complicated finance techniques, credit products etc.
Other Transactions	-Derivative transactions -FX dealings -Insurance and annuity dealings -Real estate brokerage (finance) -Cash management services such as issuance of cheque and debit card. -Marketing of saving accounts of commercial banks. -Wealth management services for high net worth individuals[10]

Source: Kidwell, Peterson and Blackwell (1993: 624-628), Gart (1994: 266-270), GAO (2003: 8), Augar (2006: 33, 109) and IFSL (2006: 9-10).

[10] The institution of wealth management is based on fiduciary obligation. A wealth manager, own and manage of the client assets, has a (fiduciary) duty to act exclusively for the benefit of those they represent. Wealth management is both ownership category and a asset management regime. It covers triparty relations among settlor/truster, trustee and beneficiary (Pedük, 2009: 132-133).

In sum, as seen in the above table, investment banks are performing their activities in a broader context and may sell other financial sub-sectors products in the U.S. To better assessment for the Turkish securities firms industry, it would be better to examine moreto U.S. investment banking sector accepted as successful just before the global financial crisis.

3.3. Short History of Investment Banking in the U.S.

3.3.1. 1929 Crisis and Anti-Commercial-Bank Bias

The first investment banking house in the United States established in 1764, in Philadelphia. Although America's need for capital lured representatives of European houses like the Rothchilds, the Barings, the Speeyers, a number of German-Jewish immigrants with commercial backgrounds, such as the Lehmans, Marcus Goldman, Abraham Kahn, and Solomon Loeb, moved from mercantile activities into private banking. [After 1929 crisis], the Congress created a protected industry for the investment bankers, an industry that was effectively safe from any challenge by commercial banks. 1950s was a period of prosperity for U.S. securities firms, which emerged as the principal counselors to the U.S. corporate sectors (Gart, 1994).

The demand for investment banking services relating to the restructuring of the U.S. economy in the successive waves of mergers and amalgamations that began in the last two decades of the 19 th century has reinforced the momentum behind the growth of investment banking. The U.S. Glass-Steagall Legislation and the Great Depression, while reducing the demand for underwriting, added to the demand for restructuring. The post-World War II period was accompanied by the emergence of institutional investment, especially by pension funds, in addition to the continued expansion of underwriting and corporate restructuring. On the other hand, regulatory framework in the U.S. has always had a marked *anti-commercial-bank bias* while there is neutral regulatory framework in the United Kingdom. In Germany the main factor affecting the development of investment banking has been the anti-capital-market character of the regulatory framework (Rybczynski, 1995).

3.3.2. After 1980's and Big Investment Banks

Fund raisings from capital marketshave always been important for the U.S. corporates and federal/local governments. The activities of leading investment banks increased after 1980s, another period in which global capital markets boomed.

Capital market-based financial service providers in the U.S. may be classified as; investment advisory firms, brokerage firms and dually registered firms. In

addition to these companies, financial advisors/financial consultants and financial planners are also giving services to financial markets and their participants (Hung et all., 2007).

The number of investment advisers and broker-dealers were 10.484 and 5.068 respectively in 2006. On the other hand, the number of new dually registered firms were 500 and 550 in each year. However top ten brokerage firms accounted for 45 percent of commission revenues as of 2004 in the U.S.(Hung etall., 2007).

Before global financial crisis, first twenty full service investment banks in the U.S. were the leading companies in the sector. First ten of these companies are known as bulge brackets (Augar, 2006). The name of bulge bracket is derived from the roles of investment banks in underwriting process. The names of the lead underwriters appear first in the advertisement material related to securities issuance in the U.S. Gilpin (1987) underlines that "The choicest position in any tombstone, the one firm's battle for, is the upper far left. That spot is reserved for the lead underwriter, which not only takes on the largest portion of the issue to sell, thus assuming the biggest risk, but also manages the underwriting, or runs the books". The author also indicates that other investment banks' names also appear on the advertisement material in an order determined by the risks resulting from their underwriting activities.

Table 3: Global Investment Banking Revenues (07.18.2006 and 07.18. 2007)

07.18.2007	07.18.2006	The Name of the Bank	Net Revenue (Million Dollar)	Market Share (%)
1	2	JP Morgan	3,759	7,6
2	3	Citigroup	3,370	6,8
3	1	Goldman Sachs	3,202	6,5
4	8	UBS	2,956	6,0
5	4	Morgan Stanley	2,917	5,9
6	5	Merrill Lynch	2,864	5,8
7	6	Credit Suisse	2,721	5,5
8	7	Deutsche Bank	2,541	5,1
9	9	Lehman Brothers	1,927	3,9
10	10	Bank of America	1,516	3,1
11	15	ABN Amro	986	2,0
12	12	Barclays Capital	975	2,0
13	11	Royal Bank of Scotland	975	2,0
14	14	BNP Paribas	884	1,8
15	-	Wachiova	886	1,7
Total *			32.429	65,6
General Total**			49.410	100
* The revenues of first 15 investment banks. ** The revenues of all investment banks.				

Source: Euroweek (2007).

To get more market share from the revenue of the global investment banking market is one of the important criteria for being accepted as a leading full service investment bank. Above table, for the years 2006 and 2007, demonstrates that the U.S. investment banks acquired considerable share in the global investment banking revenues as of 07.18.2007, the selected peak date before the global financial crisis. On this date, the net revenues of leading 15 investment banks was 32.4 bn USD and this amount constituted 65 % of the net revenues of global investment banking market (49.4 bn USD).

Underwriting is one of the most profitable activities in investment banking. It is important that leading underwriter has experience, strong capital base and distribution channels (branch network) to be successful in managing the underwriting processes. Augar (2006) underlines that full service investment banks also use their own money for proprietary trading and providing sales, research, brokerage, underwriting, advisory, asset management services. But they still need more to

get Leviathan[11] status. According to the Author, those institutions also need three "must have" products; advice for corporates/financial institutions/governments on debt and equity share issues, M&As, and financial restructuring and services (i.e. equity/equity derivatives research, sales and trading) for institutional investors including hedge funds.

Large investment banks have substantial reputation in both U.S. and global capital markets. However it is important to note that this reputationmay rapidly erode due to greed and higher propensity to take risk, on the part of the white-collars who perform the business. This risk showed itself in the global financial crisis emerging from the U.S. subprime mortgage sector and caused severe financial failures in the U.S. investment banking sector.In this context, Bear Stearns was acquired by JP Morgan with the support of governmental organizations, Lehman Brothers went bankrupt and Merrill Lynch was acquired by Bank of America.[12]

3.4. Investment Banking Activities in Turkey

Securities firms in Turkey may essentially engage in; underwriting, brokerage services, derivative transactions, repo-reverse repo, investment advisory, portfolio management and margin transactions. In addition to these activities securities firms may also perform research, M&As advisory, restructuring, privatization management, advisory for public sector, asset and investment management, FX dealing[13] etc. However it is important to note that if EU regulations are fully adopted in Turkish capital markets [in the process of EU full membership], securities firms may benefit from a larger field of activities.

Turkish securities firms' activities are restricted to the capital market and capital market based instruments when compared with EU countries and the U.S. In other words, activities and financial instruments of Turkish securities firms seem to have an isolated structure and do not involve banking and insurance products/ services despite the global trends.Although investment banks in the U.S. have

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[11] Leviathan is the sea monster represents the evil in both old and new Testaments. Thomas Hobbes' book commonly called Leviathan brings the concept to the political literature. Hobbes argues that this term describes a State having power and tyranny in time. Augar uses this concept to explain the biggest U.S. investment banks.

[12] Global financial crisis triggered to re-regulation of the U.S. financial markets. In this context, as indicated in the relevant important report of the The Department of The Treasury (2009: 21) that "The sudden failures of large U.S.-based investment banks and of American International Group (AIG) were among the most destabilizing events of the financial crisis. These companies were large, highly leveraged, and had significant financial connections to the other major players in our financial system, yet they were ineffectively supervised and regulated." Although it is out of the scope of this paper, new regulations for the investment banking activities are currently on the agenda in the context of development of a new regulatory framework for the U.S. financial markets.

[13] Securities firms permission of foreign exchange dealings is limited by two conditions. First, FX transactions should be ralated to capital markets. Second, customers dealing to FX transactions have to open an account in a securities firm. But,Decree No. 32 (on The Protection of the Value of Turkish Currency) of the Central Bank of the Republic of Turkey (CBRT), changed CBRT's and Undersecreteriat of Treasury's relevant regulations (I-M, 91-32/5 and 2008/4 circulars) and permitted to FX trading based on international market data.

the opportunity to deal with commodities, money market instruments, insurance products and real estate, Turkish securities firms deal with first level financial instruments such as government bonds, repo-reverse repo, mutual funds etc. This situation practically seems thatsecurities firms' activities have circumscribed virtually to brokerage intermediation, based on government bonds and equities. The reasons behind this fact can be; high and chronic nature of public sector borrowing requirement (PSBR), less developed (shallow) financial system and limited demand for capital market instruments by the relatively low income saving account owners.

IV. Development Conditions of Investment Banking

Rybczynski (1995) lists the conditions to enhance investment banking activities in a market as:

- The development of capital and allied financial markets,
- Increasing the demand for investment banks' products/instruments through increasing per capita income/wealth and technological advances,[14]
- Strengthening investment banking activities over traditional commercial banking via rising institutional or financial capitalism,
- Spreading the property rights among a wider range of market participants,[15]
- Designing regulatory framework in favor of capital markets and investment banks.

Capital markets and investment banks in the U.S. have fulfilled an important function to finance private sector from second half of the 19 th century to today. [As indicated above,] there was anti-commercial-bank bias (see, Rybczynski, 1995) in the U.S. in 1930s. Unlike U.S., there have been no systematically governed anti-commercial-bank bias in Turkey. As a matter of fact, it does not seem realistic to expect the application of such an approach by a country which was not able to change its underdeveloped/less developed/developing/ emerging etc. country status.

The establishment of the Istanbul Stock Exchange (ISE) in 1986 represented a new era for investment banking in Turkey, after a period of irregularity that ended with the 1982 Banking Crisis. The new era came with expectations like rapid growth in investment banking business (with simultaneous growth of capital markets) and transformation of securities firms into full service investment banks in time like other developed countries. Unfortunately it is hard to say that these

[14] Financial development in a country with a stable growth pattern may help to the developments of the capital market based financial intermediaries and instruments. In this context, increasing the share of equities and private sector bonds in the financial assets will also help to increase the importance of investment banking. The increasing the level of institutional investment funds (particularly pension funds and insurance funds) in capital markets also play an important role to the development of the capital markets and investment

[15] Financial property rights become widespread in time. This development had increased M&As activities and hegemony wars through capital markets. This process also means a new profit center for investment banks.banks.

expectations be fulfilled considering the current state of the industry.

The industry specific contraction looks striking in addition to the underdevelopment of the financial scale and the insufficient financial products diversity (see, 5.2.1). It would be interesting to note that the number of securities firms were close and even higher in a year than the number of publicly owned companies in the early 1990s. In this context, while the number of securities firms in the year 1991 and 1992 were respectively 137 and 142, the number of publicly owned companies were 134 and 145 (see, Yeloğlu, 2007; ISE, 2008). But at the end of 2008, the number of total securities firms reduced to 98, to which 67 of them were independent securities firms and the rest of the 31 securities firms were a bank subsidy (ACMIIT, 2009).

From a macro perspective, the development of investment banking activities in Turkey may be connected to;the existence of an economic environment (i.e. specifically at lower interest rates) that helps improve demand/supply sides of stock exchange, increase in relative importance of the resources provided by the public offerings, the strengthening of the supply side of the stock exchange, enhancement on the demand side of the stock exchange through voluntarily/ obligatorily increasing the demand for investment banking services/products and improvements on the competitive advantages of investment banking against commercial and participation banks.

Our assessmentson the structural and secondary issues as to why securities firms industry is underdeveloped are discussed in the section that follow.

V. Issues Regarding the Underdevelopment of Turkish Securities Firms Industry

The main issues that had effect on the underdevelopment of the Turkish securities firms industry are structural issues and related sector-specific issues.

Structural issues that might have effect on the underdevelopment of the industry, can be; the underdeveloped/unsophisticated economic and financial infrastructure, investment culture and investment outflows to other financial sub-sectors. The sector specific reasons related to structural side also negatively influenced the development of the industry. According to our view those reasons are; the lack of capital, having too much emphasis on brokerage (and trading) oriented activities, difficulties in establishing long-term relationships with companies and investors and the lack of entrepreneurial spirit for non-brokerage activities.

5.1. Economic and Financial Infrastructure

The secondary position of capital market financing as a source of finance for Turkish private business in the context of country's unstable and foreign-dependent development process, public finance focus of the underdeveloped financial markets,the investment outflow to other sectors, underdeveloped stock exchange in terms of both supply and demand are the main structural issues that effected

the underdevelopment of the Turkish securities firms industry. Those factors are analyzing below.

1) Instabilities in the Growth/Development Process and Low Savings Rate;Unstable and foreign-dependent features of the country's development process have prevented the formation of a stable infrastructure that is critical for sustainable economic growth and the financial system. On the other hand, low savings rate led to a reduction in the demand for financial assets in general and specifically in capital market instruments.
2) Impacts of Financial Architecture; Istanbul Stock Exchange(ISE) has gradually transformed into a secondary government bonds market as a result of high level of PSBR/inflation/interest rates arising from the economic conceptionof post '80s. This period was characterized both by the restrictions on financing alternatives of the private sector and the movement away from creativity by the financial system [in terms of providing new financial products to the market]. It seems in this process that a negative approach to capital market [transactions/ products/institutions] has emerged. The reasons behind this understanding are related to downward movements in the stock prices in the financial crisis/ pressure periods and financial failures occurred in capital markets oriented financial intermediaries after 90's.
3) Investment Outflow to Other Sectors;
    a. Savings in the Form of Non-Financial Assets;Strong domestic demand for gold and real estate and their limited integration with the financial sector had negative effects on the creation/development of both financial instruments/ intermediaries as well as the capital markets.
    b. Saving Stream Out of Capital Markets; Saving stream out of the capital markets, specifically for banking products, may decrease the attractiveness of the products provided by the capital markets. On the other hand, the level of cash inflow into financial markets and hence capital markets may also decline due to the tendency of having cash under the mattress.
    c. Informal Economy/Unregulated or Less Regulated Financial Products;Demand for productsrelated to unauthorized capital market activities (i.e. financial products sold in the unauthorized public offerings) and less regulated products(i.e.spot FX transactions) may also have a negative impact on the attractiveness of the capital markets instruments.
    d. Demand for International Financial Assets; Turkish investorshave strong demand for international financial assets due to economic instability, lack of investor confidence and the negative impacts of informal and/or illegal economic activities etc. The demand for formal financial assets moved in the opposite direction of the demand for international financial assets although it is difficult to quantify the exact figures.
4) Supply-Related Issues in the Stock Exchange; Capital market financing is less preferred than its alternatives such as bank loans, foreign financial

sources, internal financing etc. In this context, capital market based financial intermediation remains underdeveloped due to the limited size of resources from public offerings.

5) Demand Related Issues in the Stock Exchange;
   a. Retail Demand; The unfavorable position of Turkish stock market among its alternatives along with the lack of investor confidence and saving traditions, favouring non-securities instruments,caused less than expected retail demand.
   b. Institutional Demand;The contributions of institutional demand to the Turkish stock market has been limited due to; the dependency on fundamentally public based social security system that shows a deficit, voluntary participation and small scale characteristics of private pension system and limited financing capability of investment funds, private equity funds, insurance companies, universities and the government agencies etc.

On the other hand, it is necessary to note that the quality of economic institutions is the most important difference between rich and poor countries (Kay, 2004). Therefore, in addition to the current problems of capital markets arising from doing business structure, savings pattern and the investment culture, institutional deficiencies in both public and private sector of the securities business might have negative effects on the underdevelopment of the financial system.

5.2. Fund Flows to Other Sectors

Capital markets compete with banking, insurance and other financial sub-sectors, non-financial sectors and the informal sector to attract the funds of retail and/or institutional investors. In this context, the increases in the flow of funds to these sectors reduces the flows to the capital markets and thereby to the brokerage industry. Thus fund flows to other sectors may have a negative impact on the growth of the capital markets.

In addition to the competition between financial and non-financial sectors on the domestic fund flows, international financial centers also compete with the local markets for corporate financing. At this point, it is important to note that the increases in the volume of fundings from the foreign banking/capital markets, slows down the growth of both capital markets and securities firms.

Fund flows to the main competitors of the capital markets, namely, banking sector, non-financial sectors (real estate and gold sectors), cash under the mattress, foreign financial assets and unregulated/less regulated/illegal sectors, will be evaluated in general in the sub-sections that follow.

5.2.1. Turkish Banking Sector and Bank-Based Financial System

Established in 1845, Istanbul Bank (Banque de Constantinople) was the first bank in Turkey. The purpose of this bank was to prevent the declines in the value of paper money. Several new banks were also established to finance the Ottoman Empire's budget deficits.

Banking has been the leadingfinancial intermediary of the Turkish financial system due to the late development of the concept of privately owned company/ private sector initiative and the development process that depended on the government initiatives in the Republic era. Therefore historically, banking is the major financial intermediation category directing of the Turkish financial system.

Additionally, because consumers of financial products/services mostly prefer bank-based financial products, banks, as the exclusively authorized in their field of activity, have become leading financial intermediaries in the Turkish financial system.

While the asset size of Turkish financial sector was 310 bn TL in 2002, it reached approximately 1.075 bn TL in 2009 [indicated in the table below]. In the same year, 79,6 % of the asset size belonged to the banking sector whereas 3,2 % and 2,8 %of the asset size were held by the insurance companies and mutual funds respectively.

Table 4: Asset Size of Turkish Finance Sector (2002-2009)

TL, Billion	2002	2003	2004	2005	2006	2007	2008	2009	Share (%, 2009)
CBRT	74,1	76,5	74,7	90,1	104,4	106,6	113,5	110,0	10,5
Banks	212,7	249,7	306,4	406,9	499,7	581,6	732,5	834,0	79,6
Financial Leasing	3,8	5,0	6,7	6,1	10,0	13,7	17,1	14,6	1,4
Factoring	2,1	2,9	4,1	5,3	6,3	7,4	7,8	10,4	1,0
Consumer Financing	0,5	0,8	1,5	2,5	3,4	3,9	4,7	4,5	0,4
Asset Management Companies	n.a.	n.a.	n.a.	n.a.	n.a.	0,2	0,4	0,4	0,0
Insurance Companies	5,4	7,5	9,8	14,4	17,4	22,1	26,5	33,3	3,2
Pension Companies	0	3,3	4,2	5,7	7,2	9,5	12,2	15,7	-
Securities Intermediary Companies*	1	1,3	1,0	2,6	2,7	3,8	4,2	5,2	0,5
Securities Investment Trust	0,1	0,2	0,3	0,5	0,5	0,7	0,6	0,7	0,1
Securities Investment Funds	9,3	19,9	24,4	29,4	22,0	26,4	24,0	29,6	2,8
Real Estate Inv. Trust	1,1	1,2	1,4	2,2	2,5	4,1	4,3	4,7	0,4
Enterprise Capital Inv. Trust	0,0	0,0	0,1	0,1	0,1	0,2	0,1	0,2	0,0
Total	310,1	365,0	430,4	560,1	669,0	770,8	935,6	1.074,6	100,0
n.a.: Not available. *September 2009 data.									

Source: BRSA (2010: 32).

The table below demonstrates the fact that a large portion of the household financial assets was composed of banking oriented financial instruments. The ratio of TL and FX deposits to total financial assets was 68.4%, in 2005.This rate increased to73.1% by March, 2010. On the other hand, the pattern of inflows to capital markets has been changing. Although the inflows to mutual and pension funds increased, inflows to equity investments declined between 2005 and March, 2010.

Table 5: Composition of Turkish Household Financial Assets (2005, 2008, 2010/March)(Billion TL, %)

	2005		*2008*		*2010/March*	
	Billion YTL	% Share	Billion YTL	% Share	Billion TL	% Share
TL Deposits*	90,4	41,2	188,7	51,2	220,3	51,2
FX Deposits*	59,8	27,2	89,0	24,2	94,1	21,9
FX Deposits (Billion USD)	44,5	-	59,1	-	61,7	-
Currency in Circulation	18,3	8,3	30,6	8,3	36,6	8,5
GDDS+Eurobond	32,6	14,9	19,7	5,3	12,5	2,9
Mutual Fund	-	-	20,8	5,6	26,4	6,1
Stocks	15,7	7,2	10,6	2,9	27,3	6,4
Private Pension Funds	1,2	0,5	6,4	1,7	9,7	2,3
Repos	1,5	0,7	2,2	0,6	1,8	0,4
Precious Metal Deposits	n.a.	n.a.	0,3	0,1	1,2	0,3
Total Assets	219,5	100,0	368,3	100,0	429,9	100,0
n.a.: Not available. * TL and FX deposits include participation funds.						

Source: CBRT (2008: 24 and 2010: 30).

Hence, it can be argued that the Turkish households tend to prefer bank-related financial assets over capital market instruments when compared to countries that have capital market oriented financial systems like U.S. and U.K.

5.2.2. Competitors Preventing the Growth of the Formal Financial System

While the lack of attractive capital market investment opportunities, limited development of non-bank financial institutions, and the crowding-out effect of excess government borrowing have all contributed to mobilization of formal savings into bank deposits and sovereign debt securities, the main causes for generating informal savings have been fear of continued high inflation and the onerous taxation system.The distortions caused by the interactions between

inflation and the tax system, and difficulties in the market anticipating inflation given its high variability, have driven savings into inflation hedges and tax shelters such as real estate, foreign exchange-denominated assets, and gold (World Bank, 2003). In addition to the above components; cash under the mattress, investments in foreign assets, informaleconomy and illegal activities also have negative effects on the efficiency of both Turkish financial system and capital market intermediation.

In addition to the other reasons, growth of informal savings sector, due to failure to offer positive real return on deposits in a continuous basis with sufficient market confidence, led the Turkish financial markets to stay comparatively underdeveloped. In this context, real estate became one of the alternative sectors that grew. Therefore, investors preferred to invest in real estate in order to protect the time value of their savings and the growth of the less financialized real estate sector exacerbated the growth rate of the financial sector. But it would be interesting to note that real estate sector growth may not reflect the same amount of growth in finance sector in Turkey. In this context, it would be arguable that the growth of real estate sector may cause smaller positive or negative growth in the finance system. In this process, to increase the level of non-institutional finance in the housing finance system may cause a decline in the fund flows to and (a contraction) in the financial system. So, the impacts of real estate financing through bank credits has contributions to the development of banking and insurance sectors only to a certain extent due to the lack of securization in the real estate market. Therefore, housing loans to GNP ratioshows that the housing sector oriented growth in financial sector is limited.

Another investment opportunity lies in the precious metals market that has significant impact on the direction of fund flows in the economy. This impact becomes more important for the underdeveloped and unstable economies. Gold is the important saving instrument in Turkey due to socio-economic reasons. Turkey gold market is one of the largest markets in the world in terms of both estimated gold volume in circulation and also gold import/export data. There is an ineffective integration between gold/jewelry industry and financial system similar to the one between the real estate industry and the financial system. Therefore, a positive growth in the gold/jewelry industry may cause a negative growth in the financial system in terms of reducing the size of financial assets.

On the other hand, foreign asset investments of domestic investors and cash under the mattress are also the leading factors of the underdeveloped domestic financial system.

Informal economic activities in money and capital markets increase when the financial system is unable to fulfill its functions to some extent and/or when there exists unauthorized deposit taking, illegal money lending, unauthorized bond sales, unauthorized repo transactions and unauthorized IPO activities in the markets. Although the scientific studies analyzing the level of informal economy in Turkey do not generally present estimations on the size of the demand/supply of informal funds in money and capital markets,the mentioned fund flows are believed to

lead to an underdeveloped financial system while deteriorating the benefits of the investors.

5.3. The Industry Trends

Some deficiencies of the Turkish securities firms industry such as lack of capital, brokerage (and trading) oriented activities, problems of establishing long-term relationship with the companies and investors and lack of entrepreneurial spirit have affected the success of the industry in satisfying the expectations for development.

5.3.1. Lack of Capital

Capital adequacy regulations in securities firms are based on the regulations and principles issued by Capital Markets Board of Turkey (CMB). The primary regulation is Serial:V, No:34 Communiqué on Principles Regarding Capital and Capital Adequacy of Brokerage Houses (Communiqué), published in the Official Gazette dated 06/26/1998 numbered 23384. The Communiqué aims that securities firms should have sufficient capital according to risks arising from transactions. However, it has observed since the date of become effective of Communiqué that [risky] securities firms' capital raising were essentially based on the values of licence certificates [monetary values of these certificates were specified by CMB on a yearly basis]. Hence, capital raising model of Turkish securities firms has not based on the risks taken but the criterion of "minimum equity capital" of the related activity licence.Therefore, in practice,the current capital raising system implies that the capital raising model of Turkish securities firms are based on thepre-Communiqué practices.

The capital requirements for the Turkish securities firms are comparable to the requirements in the U.S. and EU countries. Although the specification of minimum equity capital requirements, defined by a regulation(or simply by an administrative decision),seems sufficient enough, it does not necessarily mean that the overall industry has sufficient capital [for establishing new/extensive/sophisticated business lines.]

Capital base of the Turkish securities firms looks weaker when compared to Turkish banks. It is also important to note that in a typical securities firm credit lines are restricted only to finance customers' margin transactions. Therefore, from the perspective of asset/liability management, the industry is incapable of resisting the competition from the banking sector by using of capital and credit mechanisms. Even under these circumstances, it is possible to argue that there is no contradiction between the level of capital and the vision of the industry taking into account the industry's focus on brokerage activities which require relatively less capital as the main source of income.

5.3.2. Distribution Channels

NASD's nearly 5,200 registered firms operate more than 104,000 branch offices with more than 660,000 registered representatives in the U.S. in 2005.[16]

The number of securities firms field offices, involving [securities firm]branches and contact [representative] offices, declined in Turkey. It has also observed that the industry has extensive distribution channels through growing use of agency based field offices [bank branches] and internet trading.

The number of total branch network of the industry was 4.824 of which 234 securities firms branches, 69 contact offices and 4.406 bank branches in 2006. In 2008, securities firm branches were 185, contact offices were 44, bank branches were 5.664 and the total branch unit was 5.893.In 2009,the numbers were 157 securities firm branches, 39 contact offices, 5.846 bank branches and the total 6.042 branch unit.On the other handalternative distribution channels have showed improvement between 2006 and 2009.Specifically the share of internet trading and call center based transactions in the total trade volume of ISE were 7 % and 0,5% respectively in 2006. Mentioned percentages became 9,3 % and % 0,4 in 2008 and 14,3 % and 0,5% in 2009 (ACMIIT, 2007; 2009, 2010).

5.3.3. Brokerage and Trade Oriented Activities

The size of investment banking industry except for the volumes of IPOs becomes uncertain due to the unwillingness of securities firms in disclosing relevant information (ACMIIT, 2009).

Below table demonstrates that net commission revenues arising from the securities trading makes up a considerable portion of total industry income. Indeed, in the 2005-2009 period, the revenues from the relevant item constitutes more than half of total revenue. Other revenues from main activities is the second most important revenue item for the industry (ACMIIT, 2007, 2008, 2009).

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[16] Available at: http://www.finra.org/PressRoom/NewsReleases/2005NewsReleases/P015125 (21.02.2008).

Table 6: Structure of Revenues and Expenses of Turkish Securities Firm Industry (2005-2009)

Breakdown of Securities Firms' Revenues	**31.12.2005**		**31.12.2006**		**31.12.2007**		**31.12.2008**		**31.12.2009**	
Net Brokerage Commissions (%)	52,6		59,8		55,8		63,3		64,8	
Other Revenues From Main Activities (%)*	36,7		35,7		37,6		35,6		29,4	
Proprietary Trading Profit/Loss (%)	10,8		4,5		6,6		1,1		5,8	
Total	100,0		100,0		100,0		100,0		100,0	
	31.12.2005		**31.12.2006**		**31.12.2007**		**31.12.2008**		**31.12.2009**	
Breakdown of Net Brokerage Commissions	Th, NTL	(%)	Th, NTL	(%)	Mn, TL	(%)	Th, NTL	(%)	Th, NTL	(%)
Equity Trading Commissions	956.550	98,7	596.143	95,6	520.3	86.0	358.802	76,5	461.925	80,0
Fixed Income Trading Commissions	11.654	1,2	12.489	2,0	70.1	11.6	10.421	2,2	12.408	2,1
Derivative Trading Commissions	913	0,1	11.718	1,9	14.6	2.4	99.758	21,3	102.320	17,7
Trading Commissions From Other Securities **	263	0,0	3.236	0,5	0.0	0.0	14	0,0	636	0,1
Gross Commission Revenues	969.381	100	623.587	100	-	100	-	-	-	-
Commission Rebate to Consumers	430.501	-44,4	-63.656	-10,2	-	-	-	-	-	-
Revenue Sharing with the Sales gents	-48.696	-5,0	-40,996	-6,6	-	-	-	-	-	-
Net Commission Revenues	490.184	50,6	518.934	83,2	605.0	-	468.995	100	577.288	100
Breakdown of Other Main Activities' Revenues* **	Th, NTL	(%)	Th, NTL	(%)	mn TL	(%)	Th, NTL	(%)	Th, NTL	(%)
Asset Management Fees	159.984	46,8	103.336	33,9	158.1	38.8	54.479	42,4	69.221	46,6
Interest Received in Margin Trading	72.952	21,3	99.528	32,7	114.3	28.1	-	-	-	-
Corporate Finance Fees	26.553	7,8	56.678	18,6	76.9	18.9	49.042	38,2	30.679	20,6
Other Commissions	27.273	8,0	23.193	7,6	32.5	8.0	24.960	19,4	48.750	32,8
Other Revenues	55.140	16,1	21.754	7,1	25.5	6.3	-	-	-	-
Total	341.904	100	304.490	100	407.2	100	128.481	100	148.650	100
Breakdown ofProprietary Trading Profit/Loss	Th, NTL	(%)	Th, NTL	(%)	Mn, TL	(%)	Th, NTL	(%)	Th, NTL	(%)
Fixed Income Securities ****	58.216	58,0	27.313	71,6	128.2		29.042		33.842	
Equities	39.900	39,8	10.057	23,3	28.9		-54.610		-2.109	
Other	2.215	2,2	801	5,1	-85,9		33.828		15.951	
Total	100.331	100	38.171	100	71.2		8.261		51.902	
Operating Expenses***	Th, NTL	(%)	Th, NTL	(%)	Mn, TL	(%)	Th, NTL	(%)	Th, NTL	(%)
Employee Compensation	294.922	47,6	352.053	51,4	421.9	54.1	403.276	53,1	384.706	52,1
Administrative Expenses	174.125	28,1	172.082	25,1	189.8	24.3	-	-	-	-
Marketing/Sales Expenses	30.172	4,9	44.641	6,5	42.7	5.5	43.180	5,7	39.461	5,3
Trading Fees, Custody Services	26.252	4,2	29.018	4,2	33.3	4.3	36.640	4,8	42.386	5,8
Other Official Expenses	62.365	10,1	62.371	9,1	68.1	8.7	253.295	33,4	249.443	33,8
Amortizations	31.805	5,1	24.384	3,6	23.9	3.1	22.861	3,0	22.093	3,0
Total Operating Expenses	619.844	100	684.553	100	779.7	100	759.252	100	738.089	100

(1) Th: Thousand; Mn: Million; TL: Turkish Lira; NTL: New Turkish Lira (2) Rows of the table, not containing data, has been consciously left blank. * To provide data set consistent with previous years, "other revenues from main activities" item in the dates 31.12.2008 and 31.12.2009 covers the sum of "revenues from services" and "other revenues" indicated in the ACMIIT (2010: 129) data. ** In the dates 31.12.2008 and 31.12.2009,ACMIIT (2010: 130) data do not cover the data of the items of trading commissions from other securities and net commission revenues from foreign securities.*** In the ACMIIT (2010: 131) involving 31.12.2008 and 31.12.2009 data, the name of trading commissions from other securities title was "revenues from services". In this data set, there is no place for the items "interest received in margin trading" and "other revenues". The data of "other commissions and trading" in the report of ACMIIT is renamed in the Table as the "other commissions".[17]**** In the original data set, there is no percentage data about the net loss items.***** Instead of "operating expenses" as the main title of this section, the name of main title of this section was "marketing, R&D and general administrative" expenses in the dates 31.12.2008 and 31.12.2009. Therefore, while marketing/sales expenses item in this section also cover R&D expenses, 2008 and 2009 data is reflected to other sub-sections in the Table.

Source: ACMIIT (2007: 118 ff.; 2008: 116 ff.; 2010: 119 ff.).

[17] It is indicated in the ACMIIT (2010: 133) that "interests received from customers" is the sub-title of "other revenues from main activities" and also covers "interest received in margin trading" data in the year 2008 and 2009.In the relevant years, interests received from customers item were consecutively 92 mn TL ve 61,7 mn TL.It is indicated in the above report of ACMIIT, 90% of the interests received from customers account consist of interest received in margin trading revenues in the year 2009.

According to ACMIIT (2009 and 2010), completed corporate finance activities and capital raising/dividend payment services in corporate finance activities provided by brokerage firms were consecutively 263 and 124, in 2007. Those numbers were 126 and 37 in 2008, and 207 and 148, in 2009. The number of completed initial and secondary public offerings were 11, 3, 3; the number of buy and sell side completed M&A consultancy were 42, 34, 10; the number of buy and sell side privatization consultancy projects were 6, 5, 1; the number of financial partnership contract (using to find financial investors such as mutual funds,venture capital firms etc.) was only 1 in the period 2007-2009.

According to the above data, it is possible to argue that high inflation, socio-economic instabilities, decreasing economic visibility were directed securities firm industry to brokerage and trading based income structure. In other words, such economic environment have prevented to the development of the activities such as research, underwriting, M&As, financial engineering etc. helping to create more developed/sophisticated industry.

5.3.4. Difficulties in the Establishment of Long Term Relationship With the Companies and Investors

Investment banking is a relationship-based rather than transaction-based business. (Huang, Shangguan and Zhang, 2008). However only a few of the Turkish securities firms, mostly bank subsidiaries, were able to establish long term relationships with the investors and companies in the industry.

The primary factor affecting the establishment of long term and strong relationship with the corporate sector is related to relatively less importance of capital market knowledge/transactions from the corporate view. In this context, we may argue in the case of Turkey that capital market intermediary / advisory services has low value added/importance. This relative importance may increase in certain periods (such as IPO period) but only to a limited extent. As a result of less importance of capital market financing and capital market based financial intermediation, there is almost no investment advisory services for corporate sector. In this context, the importance of some activities, such as portfolio management and IPO, may increase periodically and limited manner.

Investment banks develop relationships with investors through their repeat dealings in brokerage services, analyst research coverage, and securities offerings. The resulting networks

of investors assist investment banks in performing a networking function in which the investment banks certify, market, and distribute securities to investors (Huang, Shangguan and Zhang, 2008).On the other hand, experienced failures such as investor receivables in the bankrupted securities firms, stock liquidation problems in delisted companies and some IPO failures have caused negative outcomes in the process of market growth. These cases made ordinary investors

stay away from the capital markets and invest in the short-term instruments.

5.3.5. Lack of Risk Taking and Entrepreneurship

Securities firms industry avoids taking long-term risk. Therefore the industry essentially prefers to perform brokerage activities rather than higher value added activities such as M&As consultancy or strategic investments. In fact, not only securities firms, but also rest of the financial intermediaries are in the similar situation. For example, the capital base and credit facilities of development and investment banks are not sufficient enough to provide long term and large-scale financing and commercial banks prefer to give loans to the government. Another example lies in the fact that participation banks do not effectively meet their potential investors demand who may have different [socio-economic] priorities considering the size of funds raised from unauthorized public offerings.

Turkish securities firms industry has historically focused on secondary market operations and short-term investments/finance. This fact may be related to both short-term nature of securities business when compared to banking and insurance sectors and the qualitative features of the securities firms balance sheets (see, section 2). The above factors implies that securities firms are the shortest-term financial intermediary. This fact gets stronger with the current structure of Turkish economy which also shows short term in nature and involvesmacroeconomic instabilities. However, investment banking should theoretically cover intermediations such as domestic/international corporate finance activities, extensive individual/institutional investment advisory/portfolio management services, consulting/financing services to real sector projects, venture capital investments, international operations and financial engineering applications along with commission brokerage.

There is no simple formula to develop the Turkish securities firms industry. So, efficiency of the [developer] role of regulators will be lower,unless to develop a strategy to create an anti-commercial-bank bias like in the [30's of] U.S.or to providea mechanism directly produce additional incometo securities firms' such as creating demand for private pension plans through tax incentives or mandatory practices. In this context, in early 90s securities firms were permitted to perform derivative transactions to increase the diversity of the activities (By Law no 3794, dated 4/29/1992, article 20, see, Inceoğlu, 2004). But derivatives transactions could not become a common and an important revenue source for brokerage firms despite this regulatory initiative. Another attempt was the permission to perform financial activities outside the capital markets given to the securities firms. With the necessary permissions from other government institutions, this permission was granted with the 4/A article of the Serial V, No: 46 Communiqué (based on the Serial V, No: 83 Communiqué, see 04.9.2005 date and 25926 number of the Official Gazette). This regulation was also unsuccessful in helping expand the scope of securities firms' activities. Thanks to booming the volume the future and

forward transactions in the recent years, it seems that there is a new brokerage field increasing diversity of income and innovations in the industry. However, this trend cannot be accepted as a source of structural transformation.

Current macro-economic structure and the structural problems of the industry have resulted in lack of risk taking and entrepreneurial spirit for non-brokerage activities in the securities firms industry. However the industry shall; perform both non-brokerage capital market activities and also banking and insurance activities to the extent permitted by relevant legislations and maintain creativity in its brokerage activities even at times of declining purchasing power of investors and/or public attention for the stock market transactions.Turkish brokerage industry also has a certain level of creativity that demonstrates itself in the diversity of funds (hedge funds, capital guarantee funds, commodity funds, environmental funds, etc.), ethical investment services and investment banking services specifically offered by the large securities firms.

The suggestions that follow can help develop the securities firms industry. The industry may offer for the lower-income customers an automatic / a monthly investment plan that grows gradually with small but regular payments. The savings in this category can be invested on financial asset classes including mutual funds and/or pension funds etc. The industry may offer private banking services including domestic/international products and services to higher income segment. And also it may improve the quality of current services and generate an additional income from consultancy services to corporate and state sectors.

But, there is no doubt that the key factor in maintaining continuous and sustainable improvements in the industry income is to increase the income stream from the institutional [corporate] services and investment banking operations. Following section analyzes the possible effects of the regulations, the culture of stock market investments, institutionalization and foreign-owned brokerage houses to the development of Turkish brokerage industry.

5.4. The Effects of Regulations on the Development of Turkish Securities Firms Industry

Regulatory framework shall be analyzed from a critical point of view to understand the industry's perspectives on risk taking and market development.

Securities firms have regulatory constraintsin the context of active side management of the balance sheet. Some of those constraints would be classified as below. First, securities firms cannot issue documents consisting of their own financial commitments either on the capital market instruments they sell and buy with the purpose of intermediation or independent from them, except for capital market instruments that are debt securities. Second, securities firms also cannot issue depositary receipts representing their own shares. Third, they can not engage in real estate trading with commercial purposes. Fourth, securities firms can not involvemoney lending, except for the situations allowed by the legislation

with regard to margin trading operations. On the other hand, CMB rules [policy decisions] for securities firms make difficult to raise funds through public offerings. Based on the relevant regulation, CMB allows public offering application only to a group of securities firms having certain level of capital.[18] The background of this policy was based on the negative experiencesand may be objectively right in some perspectives. But the outcome is limited access to capital market financing for the securities firms, paradoxically the most closest and neediest financial intermediary of the capital market financing.

The most striking obstacles of the securities firms' freedom of initiative is constraints on the field of activities, as partially mentioned on the above. In the U.S. and UK, securities business has interwined to investment banking services (see, Augar, 2006). Unlike this financial intermediation model, Turkish securities firms have stuck to capital markets which offer limited opportunities in terms of products/services diversity and domestic demand. In this context, unlike U.S. originated investment banks, Turkish securities firms cannot offer the following products/services; credit business for non-securities transactions, issuanceof credit card, real estate finance, insurance products, precious metals etc. With the reservation of sufficiently entrepreneurial sector will overcome all the constraints, we should underline that constraints on the field of activitiesare the essential reason of the less developed securities firms industry. In other words, these constraints have prevented the development of the products/services diversity and more importantly transformation of securities firms into full service investment banks.

Compliance (and transaction) costs in securities firms are fairly high.[19] Some collateral types (i.e. particularly transaction collaterals [in the ISE and ISE Settlement and Custody Bank Inc.–Takasbank-] and deposited blockage/other guarantees related to securities business) and over collateral based transactions, generally observed in the several margin transactions, increase the cost of transactions. But it is also important to emphasize that these practices make positive contributions to the confidence in the market.

The above structurereflects both various constraints arising from the different

[18] Securities firms and other companies operating in the financial markets, aiming at going public and to be a registered company [for the purpose of public offerings], should have 32.7 million TL minimum registered capital according to CMB Rule No. 38/1170, dated 30.12.2009, effective from 01.01.2010. It is important to note that prescribed minimum capital amount defined by the CMB Rule is well above the average capital of securities firms.

[19] The compliance cost, with the standard cost model, of 104 securities firms operating in Turkish capital markets is calculated approximately 181 million YTL (135 million USD) as of 2007. According to the relevant research, securities firms should perform 257 different activities to comply with the number of 39 informational and reporting requirements defined by the relevant regulations.Regarding to these activities firms have 255 different compliance costs. As of 31.12.2006, the industry's ratios related to total compliance costs are the following. Total compliance costs/total assets ratio is 6.6%; total compliance costs/equity ratio is % 12; total compliance costs/gross operating income ratio is 22%; total compliance costs/operating expenses ratio is 26%. On the other hand, bearing compliance cost is changing based on the scale of the securities firm. Therefore, while large-scale securities firms bear 4.3 times more costs than those with medium-sized firms, mid-sized securities firms bear 2.7 times more costs than those small-scale firms (Kılıç, 2007: 254-255, 266, 268).

regulatory frameworks and also traditional regulatory sense formed after the 1982 Banking Crisis. While there is no doubt that the above conservative asset/liability management structure decreases initiatives in the Turkish securities firms, U.S. securities firms, having more freedom of initiative, upgraded their position to the point of full service investment bank.However it does not seem the good idea to conclude that regulatory structure (or regulation understanding/vision of regulatory authorities) is the main reason of the underdevelopment of the Turkish securities firms industry. In our opinion, the underdevelopmentis primarily related to the lack of risk taking and entrepreneurial spirit in areas outside the brokerage. In this context, Gart (1994) underlines that public issuance of stock on behalf of securities firms broke the prohibition of New York Stock Exchange that barred member firms from being publicly owned.According to the data of ISE (2008), publicly owned financial firm categories and the number of publicly owned financial firms in each category in Turkey are below; banks and participation banks is 17, insurance company is 7, financial leasing and factoring company is 8, holding and investment company is 18 and securities firm is only 1.[20] We think that such data summarize the place of the industry in terms of scale, institutional structure and vision.

Despite its rigidity, Turkish regulatory framework may offer opportunities to the sector. But market participants have not been able to exploit them sufficiently. In this context, it is important to note that 4/A article of Serial V, No: 46 Communiqué and liberalizing commission rates/blockage rules represent an understanding evolving from rigidity to greater freedom in the securities firm business.

5.5. The Culture of Stock Market Investments and Securities Firms

Limited scope of the institutional and household demand for the capital market instruments is one of the main factors that has effect on the underdevelopment of financial intermediation performed by securities firms. Capital market based financial instruments and intermediation do not get sufficient credibility in Turkey due to lower income levels in the country, disappointments in the stock market investments, perception of intensive manipulative character in most of the trades and insufficient investor protection in the stock exchange transactions etc.

Investor habits and economic conditions may direct the investment patterns of the society. This can be the reason why investors in Turkey prefer gold and real estate on top of other financial instruments. Investors traditionally invest in the alternatives in which they believe they understand/know more. Therefore, they prefer to invest on gold, real estate, treasury bills/bonds or deposit rather than "risky" stock markets.Therefore, from the perspective of investment pattern, stock market investment seems "new kid on the block" comparing traditional instruments in Turkey.

Individual/systemic financial failures in the capital markets in Turkey can be caused by; insufficient financial literacy especially of individual investors and insufficient attention to basic risk management principles in the financial

[20] According to ISE (2010) data, two additional securities firms have public offering application to the CMB.

asset investments. Above facts also reflected themselves in 1982 Banking Crisis, bankruptcy of Imar Bank (see, Coskun, 2008) and illegal/unauthorized fund-raising of some companies in Anatolia in violation of relevant securities legislations (see, Coskun, 2010). Despite its different characteristics, uncontrolled growth of Forex trading in Turkey may also lead to similar failures in the future.

Therefore, it seems better to start the analysis of the question of why securities firms not being able to grow enough with the analysis of the conditions resulting less developed capital market financing and stock exchange investment culture.

5.6. Institutionalisation, Foreign Capital and Securities Firm Industry

Institutionalisation is of great importance in the growth of the companies.Although most of the companies including the securities firms have some professional staff, their ownership structure is family based in Turkey.

In his study on the public disclosure platform forms [of ISE], dated 12/31/2005, Sağlam (2006) mentioned his findings on 99 securities firms.

- 26 securities firms out of 99 are the bank subsidiaries. The 50 of the remaining securities firms are directly owned by families and 23 securities firms are subsidiaries of financial holding companies.
- Although family owned securities firms'share in the industry in asset size, the number of customers and trading volume are; 14 %; 11 % and 23 % respectively, their impacts are significant.
- There are family ties between the board members' of 42 securities firms and between board members and the CEOs in 28 securities firms out of 50 family owned ones. There is no distinction between the chairman of the board of directors and CEO in 15 securities firms whereas the roles of CEO and the chairman of board of directors are performed by the same person in 15 securities firms out of 50.
- There are family ties only in the board members' of 4 securities firms and in between the board members' and CEO of one securities firm out of 23 securities firms that are subsidiaries of financial holding companies. There is a distinction between chairman of board of directors and CEO in all of these securities firms. However the CEOs are also members of the board of directors in 14 securities firms out of 23.
- There is no family relation within the board and between the board members and the CEO of 26 securities firms that are bank subsidiaries. But, the CEOs, are also the members of the board of directors in 7 securities firms out of 26.

Brokerage industry does not have continuous and balanced sectoral growth opportunities in Turkey. Particularly in securities firms having no relation with banks and foreign-owned firms, the management of equity capital depends on the motive of security [and confidence]. This business pattern is one of the important factors affecting the growth of family business in Turkish securities firms industry. Existing structure is due both to the unique nature of the family business and the perception of insufficient supply of trustworthy/experienced senior professionals

in the industry. But it would be interesting to note that there are long-established and successful family owned companies in Turkey despite small in number and operating in different sectors.Although it is hard to make a generalization on the efficiency of family owned securities firms in Turkey, they may demonstrate conservative behaviours in some areas such as institutionalization, adoption of innovation, entrepreneurship etc. As the consequence of the above factors, those firms have limited access to the vast resources.

M&As activities are not widespread in the Turkish securities firms industrydue to the income volatility in the industry, insufficient support for M&As from relevant legislations[21] and the conservative nature of the family business.

The number of family owned small securities firms has declined in recent years due to the rapid increase in the number of foreign owned securities firms in the industry. So, the arguments in Sağlam (2006) might have become less important. At this point, it is necessary to ask the following questions: How would securities firm industry and capital markets be effected from the policies specified by CMB with the purpose of increasing both the effectiveness of the corporate governance structure of the securities firms and the number of foreign-owned securities firms in expense for family-owned ones.

Firstly, Turkish securities firms industry suffered from lack of institutionalization, insufficient capital, excess competition, unsophisticated investment culture, inabilities in diversifying income sources, failures in stock markets, regulatory costs etc. for a long time. These issues of the securities firms industry are among the essential reasons of the increase in the number of foreign-owned securities firms.Consequently the number of securities firms having no ownership relation with either banks or foreign investors decreased. However trying to explain this phenomenon only by natural selection and/or market economy can be misleading.

Increasing the number of foreign-owned securities firms can develop institutionalization and overseas marketing opportunities in the brokerage sector. Although it might seem dubious under the conditions of the global financial crisis, we can assume that parent companies [of the foreign owned securities firms] will perform as the lender of last resort for their subsidiaries. Therefore, we may expect that bankruptcy risk in the Turkish securities firms industry may decrease with the increase in the number of foreign owned securities firms. However, it can be unrealistic to expect growth/remodeling of the brokerage sector, if foreign owned securities firms prefer a business model involving [mostly] commission brokerage and lack of sufficient entrepreneurship (instead of doing investment banking by taking advantage of parent companies' financing facilities and knowledge).

[21] If we put aside the tax laws, merger/acquisition process of the securities firms are defined the sector-specific regulation of the CMB's Rule No. 57/1621, dated 07.12.2001. On the other hand, there are some exemptions [from the obligations] for the newly established securities firms through mergers and also securities firms taking over one or more securities firms in the article 11 of the Serial:V, No:34 Communique on Principles Regarding Capital and Capital Adequacy of Brokerage Houses. Although it is the subject of a separate research, it is important to note that above regulations could not provide adequate encouragement to the M&As activities in the industry, so far.

Additionally, increasing the volume of foreign direct investment to the Turkish securities firms industry may cause limited positive impacts to the development of the industry due to the facts that there are important infrastructure and cultural dilemmas for the development of the stock exchange.

VI. Conclusion

The initiation of securities related activities in Turkey goes back to as early as 1980s. Turkish capital market regulations, including the regulations regarding securities firms, became effective after the 1982 Banking Crisis. One of the important aspects of securities firms' regulation philosophy is the creation of an environment that helps to develop investment banking activities. Although Turkish securities markets experienced a boom period in early 1990s, the markets were not able to improve the products and services diversity as well as the income range in time.

With the studies represented by this paper, using literature review and data analysis, the author examines why Turkish securities firms have not transformed into full service investment banks helping directly and continually to the development of the financial system and the real sector.

Structural issues that might have effect on the underdevelopment of the industry, can be; the underdeveloped/unsophisticated economic and financial infrastructure, investment culture and investment outflows to other financial sub-sectors. The sector specific reasons related to structural side also negatively influenced the development of the industry. According to our view those reasons are; the lack of capital, having too much emphasis on brokerage (and trading) oriented activities, difficulties in establishing long-term relationships with companies and investors and the lack of entrepreneurial spirit for non-brokerage activities.

Turkish financial system essentially depends on the banking sector. The characteristics of the individual and institutional fund inflows to domestic capital markets are short-term and limited in scope. As a result of the conditions reducing the credibility of Turkish capital markets, securities firms may not be able to demonstrate rapid development in the near future. Primary reasons that effect the credibility of the capital markets can be; the short-term nature of the balance sheet of securities firms, constraints on the activities of the securities firms, insufficient utilization of capital market financing by companies and the perceptions regarding the stock exchange as having an intensive manipulative character.On the other hand, fluctuations arising from the economics of short term capital movements would likely can make the industry even more difficult to operate for the securities firms.

Capital Markets Board of Turkey (CMB) has various initiatives to develop the securities firm industry in recent years. Recent changes in the regulations allowed securities firms to perform their business in financial services/products outside the scope of capital markets with the approval of related institutions including

CMB.On the other hand liberalized commission rates are expected to strengthen the industry's competitiveness; the developments in the futures and derivatives trading are expected to contribute to the diversification of income structure and the liberalization of blockage practices are expected to increase profitability. However it is not feasible to argue that aforementioned sectoral developments caused structural change in the industry development.

There are two critical conditions for the development of Turkish securities firms industry. In a stable growth/development process, these conditions are to increase the importance of capital markets and hence capital market based financial intermediation and to perform full service investment banking services by the industry with an entrepreneurial spirit. It does not sound bad to increase periodically of the industry's profitability by the emergence of a new product or rising commission incomes in the boom period of the stock market.However the shift of dominant activity from brokerage (and trading) to investment banking can be difficult for the securities firms unless sectoral trends integrate with industry's mission and economic/cultural background that can help develop investment banking is formed.

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INVESTIGATING EXCHANGE RATE EXPOSURE OF BANK SHARES: EMPIRICAL EVIDENCE FROM ISE

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Abstract
In this study, exchange rate exposure of Turkish banks and the reasons of this exposure are investigated. In this manner, data of 11 banks whose shares are traded in Istanbul Stock Exchange for the time period that spans from July of 1999 to June of 2009 are used. Regression models that are developed by adding Exchange rate factor to capital asset pricing model and Fama-French Three Factor Model are employed. Analysis results suggest that exchange rate risk is significant for two banks. On the other hand, exchange rate risk seems to impact Turkish banks at different levels. The two banks that are found to be affected by exchange rate risk appear to be smaller and tend to use fewer derivatives when they are compared with other banks.

I. Introduction

Variations in exchange rates impact expected cash flows and thus values of firms. Furthermore, changes in exchange rates may alter firms' value by affecting their systematic risks (Choi, 1986). This exchange rate impact is more pronounced for firms that use foreign exchange in their operations. For example, cash flows and firm value may become function of exchange rate in exporting and importing companies (Bartram, 2008). Thus, shifts in exchange rates become a significant source of risk and impact financial decisions of firms. At this point, it is important to distinguish the terms of exchange rate risk and exchange rate exposure. Exchange rate risk arises from potential movements in the values of foreign currencies (Jorion, 2009). Exchange rate exposure is defined as the relationship between share returns and variations in exchange rates (Dominguez and Tesar, 2006).

Exchange rate risk impacts banks through two channels: Direct and indirect. Direct impact of exchange rate on banks arises from the impact of exchange rate variations on foreign exchange balance sheet items and off-balance sheet

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transactions. Thus, cash flows of the bank alter (Martin and Mauer, 2003). On the other hand, shifts in exchange rates may indirectly impact banks by affecting cash flows of bank clients and fund suppliers of the bank (Chamberlain, et al., 1997).

There are two basic methods for hedging exchange rate risk. These methods are financial hedging and operational hedging. Operational hedging strategies mainly depend on geographic diversification of firm operations (Allayannis, et al., 2001; Pantzalis, et al., 2001; Kim, et al., 2009). Financial hedging is related with using derivatives. Using derivatives positively impact firm performance and value by mitigating risk (Allayannis and Weston, 2001). Empirical findings indicate that derivatives are significant tools in managing exchange rate risk. Grant and Marshall (1997) state that big British companies pervasively use derivatives in exchange rate and interest rate risk management. Brown (2001) finds that a multinational US company extensively employs currency derivatives in managing exchange rate risk. Allayannis and Ofek (2001) report a pervasive usage of currency derivatives among nonfinancial Standard & Poor's 500 companies in hedging exchange rate risk. Schiozer and Saito (2009) demonstrate that companies in four Latin American Countries whose shares are traded as ADR largely use derivatives in managing exchange rate risk. Bartram, et al. (2010) examine 1150 firms from 16 countries and conclude that as large as 40 percent of exchange rate risk is hedged by employing derivatives. Choi and Elyasiani (1997) find that 59 big-sized US banks extensively use derivatives in managing exchange rate risk. Likewise, Chamberlain et al. (1997) demonstrate that USA and Japan banks tend to hedge exchange rate risk by employing derivatives. On the other hand, Mun and Morgan (2003) maintain that banks would obtain better results when they hedge interest rate and exchange rate risks together.

There is a debate about the relationship between financial and operational hedging. First opinion supports a complementary relationship between operational and financial hedging (Wong, 2007; Kim et al., 2009). Second opinion favors financial hedging. In this manner, merely employing operational hedging strategies would not mitigate exchange rate risk sufficiently. Nevertheless, a financial hedging strategy that is supported by operational hedging strategy would positively impact firm value (Allayannis, et al., 2001).

Another instrument that may be employed by banks in exchange rate risk management is to match foreign currency assets and foreign currency finance sources. In order to apply this strategy, banks should balance their foreign currency liabilities by foreign currency assets. Thus, it is expected that income that is generated by assets would meet expenses to be required by liabilities. This strategy may mitigate the level of exchange rate risk while rendering debt with favorable interest rates (Horcher, 2005).

Aim of this study is to investigate exchange rate exposure of Turkish banks and the reasons of this exposure. In this manner, data of 11 banks whose shares are traded in Istanbul Stock Exchange for the time period that spans from July of 1999

to June of 2009 are used. Moreover, additional data required by regression models are also employed. Thus, sample of the study covers all companies listed in ISE for the time period that spans from July of 1999 to June of 2009. There are two basic regression models used in the analysis. The first model is developed by adding shifts in exchange rates as explanatory variable to capital asset pricing model (CAPM). Second model requires the addition of shifts in exchange rate to Fama-French Three Factor Model (FFM) that was originally developed by Fama and French (1992) and Fama and French (1993). Latter model is rarely used for examining exchange rate exposure of companies. Furthermore, up to our knowledge, this model is not used to investigate exchange rate exposure of either banks or Turkish companies. Finally, in order to analyze the variations in the levels of exchange rate exposure of banks, sizes and derivative usages of banks are examined.

The study consists of five sections. The next section summarizes the literature. Third section presents methodology and data. Empirical results are reported in fourth section. The last section concludes the paper.

II. Literature Review

We observe that the studies that investigate exchange rate exposure of companies examine different countries and different industries. However, we notice that empirical studies mostly focus on developed markets and nonfinancial industries. In this section, findings of empirical studies are summarized.

Doukas et al. (2003) examine exchange rate exposures of 1079 Japanese companies by GMM model. Sample of the study consists of 25 industries and the time period between 1975 and 1995. Findings reveal that there is a significant relationship between stock returns and changes in exchange rates. This relationship is more pronounced for companies that are multinational and whose exports are at high levels. Kıymaz (2003) investigates exchange rate exposure of ISE companies on an industrial basis. Empirical findings suggest that companies in textile, machinery, chemical, and financial industries are highly exposed to exchange rate risk. Moreover, exporting and importing firms are reported to have the highest exposure to exchange rate risk. Solakoglu (2005) examines the factors that affect exchange rate exposure of 137 internationally active ISE companies. Findings indicate that big-sized and internationally active companies seem to have less exposure to exchange rate risk. Jong et al. (2006) investigate exchange rate exposure 117 nonfinancial Dutch companies. The data collected by survey demonstrate that half of the Dutch companies are exposed to exchange rate risk. Entorf and Jamin (2007) examine exchange rate exposure of German companies for the time period between 1977 and 1995. Sample of the study covers 28 companies whose shares are traded in DAX. Some macroeconomic variables are used as control variables. Findings reveal that German companies are impacted by changes in exchange rates. Muller and Verschoor (2007) analyze the impact of exchange rate risk on stock returns of 3634 companies that operate in 7 Asian countries and are engaged

with foreign trade. Sample period of the study spans from 1993 to 2003. Findings suggest that Asian companies seem to be negatively affected by exchange rate risk. Hsin et al. (2007) investigate exchange rate exposure of nonfinancial US companies whose assets exceed 500 million USD. The study covers the time period between the years 1992 and 2002. Analysis results demonstrate that stock returns of US companies response shifts in exchange rates negatively and with a delay. Moreover, companies that are less internationally active, with big size and have diversified operations tend to have less exchange rate exposure. Salifu et al. (2007) focus on Exchange rate exposure of Ghanaian companies. Exposure to US dollar, UK pound and Euro are tested besides the market risk. According to findings, majority of Ghanaian companies are exposed to exchange rate risk. Moreover, exposure to US dollar appears to be at a higher level and industrial discrepancies are observed. As manufacturing and retail industries exhibit exchange rate exposure, financial sector companies do not seem to be exposed to exchange rate risk. Jayasinghe and Tsui (2008), examine the impact of exchange rate risk on the returns of 16 Japanese manufacturing industries for the time period between 1992 and 2000. Discrepancies are observed among industries. However, the general result implies that industry returns are exposed to exchange rate risk. In addition, volatility of returns is impacted by shifts in exchange rate. Kolari et al. (2008) analyze exchange rate exposure of US companies for the time period that spans from 1973 to 2002. The model used in the study is developed by adding momentum factor and exchange rate risk factor to FFM. Findings reveal the existence of a common negative impact of exchange rate risk on stock returns. Huffman et al. (2010) test exchange rate exposure of 185 multinational companies by using CAPM and FFM. Results indicate that the number of exposed firms is higher when FFM is employed. Furthermore, small firms and firms that do not employ any hedging strategies are more exposed to exchange rate risk.

The studies summarized above focus on nonfinancial companies. However, there are several studies that directly focus on exchange rate exposure of banks. Chamberlain et al. (1997) analyze exchange rate exposure of US and Japanese banks for the time period between 1986 and 1993. A regression model that is derived by adding shifts in exchange rate to the market model is used in the study. Analysis results suggest that US banks are more exposed to exchange rate risk than Japanese banks. Choi and Elyasiani (1997) examine exchange rate and interest rate exposures of 59 US banks for the 1975-1992 time period. US banks seem to be more exposed to exchange rate risk than they are exposed to interest rate risk. Exchange rate variations appear to impact stock returns negatively in most cases. On the other hand, exchange rate and interest rate risks are significantly affected by derivatives usage. Martin and Mauer (2003) test exchange rate exposure of US banks to five different currencies. Sample of the study consists of 105 banks and the sample period extends from 1988 to 1998. Findings reveal that exchange rate risk appears to impact operational income of most of the banks. Moreover, locally

operating banks seem to be more exposed to exchange rate risk than internationally active banks. Finally, long-term exchange rate exposure is more pronounced than short-term exchange rate exposure. Hahm (2004) analyzes exposure of Korean banks to exchange rates and interest rates. The study employs regression models and covers the time period between 1990 and 1997. Analysis results suggest that stock returns of Korean banks are negatively affected by interest rate and exchange rate risks. Besides, profitability of Korean banks is also negatively affected by interest rate and exchange rate risks. Wong et al. (2009) test exchange rate exposure of 14 Chinese banks for the time period between 2005 and 2008. According to test results, Chinese banks appear to be impacted by exchange rate risk. Moreover, big-sized banks are more exposed to exchange rate risk.

There are some studies that focus on exchange rate exposure of other financial institutions. Martin (2000) examines exchange rate exposure of the biggest 26 financial institutions that engage with currency trading. Weekly data is used for the time period that spans from 1994 to 1996. Findings suggest that majority of the financial institutions are impacted by exchange rate risk. Li et al. (2009) analyze exchange rate exposure of US insurance companies for the time period between 1990 and 2003. Exchange rate exposures to currencies of the biggest 7 trade partners of US are examined. Findings show similarity between life and non-life insurance branches operating in the USA. Both branches seem to be similarly affected by exchange rate risk.

Most of the empirical studies maintain that companies are exposed to exchange rate risk. Nevertheless, some studies assert that exchange rate exposure of banks is at a limited level. Saporoschenko (2002) employs a four-factor model to analyze exchange rate exposure of Japanese banks for the time period that extends from 1986 to 1992. In the model, market return, term premium and bond returns are employed besides exchange rate. Analysis results demonstrate that a limited number of Japanese banks are affected by exchange rate risk. Joseph and Vezos (2006) investigate exchange rate and interest rate exposures of US banks. 50 banks are sampled and daily data are used for 1990-2001 time period. Findings imply that although stock returns are impacted by market movements, exchange rate and interest rate seem to have a limited affect on stock returns. Chi et al. (2010) analyze the degree of exchange rate exposure of 9 Australian banks. The study use a regression model that employs exchange rate variation and market return for the time period that extends from 1997 to 2007. Findings reveal that stock returns of Australian banks do not exhibit a significant exposure to exchange rate risk.

III. Methodology and Data

Sample covers 11 banks whose shares are continuously traded in Istanbul Stock Exchange for the time period that spans from July of 1999 to June of 2009. Moreover, additional data required by regression models are also employed. In this manner, sample consists of all companies listed in ISE for the time period

that spans from July of 1999 to June of 2009. Nevertheless, some shares that do not comply with certain criteria are excluded from the sample. Negative-equity firms are not sampled in line with Fama and French (1995). Likewise, in line with Strong and Xu (1997), companies with more than one class of ordinary share are not included in the sample. Monthly return and price data of stocks come from official internet site of ISE (http://www.imkb.gov.tr/Data/StocksData.aspx).

There are two basic regression models used in the analysis. The first model is developed by adding shifts in exchange rates as explanatory variable to CAPM. In its original form, CAPM is a widely used asset pricing model and developed by Sharpe (1964), Lintner (1965) and Mossin (1966):

$$R_i - R_f = \alpha_i + \beta_i(R_m - R_f) + \varepsilon_i \quad (1)$$

α: constant term,
R_i : return of the security i,
R_m : return of the market portfolio,
R_f: risk free rate of return,
ε_i: residual error term.

On the other hand, an often used approach in the exchange rate exposure studies is to add variations in exchange rate to CAPM (Jong, 2006; Entorf and Jamin, 2007; Muller and Verschoor, 2007; Salifu et al., 2007; Chi et al., 2010). This model is referred to as Augmented CAPM (ACAPM) and formulated as below (Jorion, 1991):

$$R_i - R_f = \alpha_i + \beta_i(R_m - R_f) + r_i(USD) + \varepsilon_i \quad (2)$$

USD: changes in USD exchange rate.

The second model used in the study requires the addition of variations in exchange rate to FFM that was originally developed by Fama and French (1992) and Fama and French (1993). In its original form, FFM requires the addition of size and book-to-market (B/M) factors beside market risk:

$$R_i - R_f = \alpha_i + b_i(R_m - R_f) + s_i(SMB) + h_i(HML) + \varepsilon_i \quad (3)$$

SMB: return difference between small and big stock portfolios,
HML: return difference between high B/M and low B/M stock portfolios,
R –R: excess return of the market portfolio.

This model is referred to as Augmented FFM (AFFM) and rarely used to examine exchange rate exposure (Hsin, et al., 2007; Kolari et al., 2008; Huffman, et al., 2010):

$$R_i - R_f = \alpha_i + b_i(R_m - R_f) + s_i(SMB) + h_i(HML) + r_i(USD) + \varepsilon_i \quad (4)$$

Either of the two regression models is estimated for 11 banks in the sample. Thus, the number of estimated regression models is 22. Existence of serial correlation in the regression models is tested by Breusch-Godfrey Langrange Multiplier test (Breusch, 1978; Godfrey, 1978). Heteroscedasticity is tested by White test (White, 1980). Serial correlation is detected in some of the regression models and Newey and West Heteroskedasticity and Autocorrelation Consistent Standard Errors are employed to adjust estimations (Newey and West, 1987). On the other hand, in some of the regression models heteroscedasticity is detected and White Heteroskedasticity Consistent Standard Errors are used to adjust estimations (White, 1980).

Some preliminary studies should be made in order to generate size and B/M factors that are crucial for developing AFFM. These studies are summarized below.

In order to generate SMB and HML factors, firm size and B/M ratio are used as portfolio construction criteria. In portfolio construction, the ordinary operation date of January-December is not used. The declarations of 12 month balance sheets are generally completed in the first six months of the following year (Fama and French, 1992). In this manner, portfolio construction periods begin at the end of June in each year t and ends in June of each year t+1. Financial statement data of the year t-1 is matched with stock return data of the month June in year t. Return calculations depend on the time period between July of each year t and June of each year t+1.

Firm size has been found as a significant factor for stock returns. In portfolio construction, market value is used as the measure of firm size. Market value of each firm included in the sample is calculated by multiplying number of shares outstanding by stock price. Following Fama and French (1995), market value of each stock for each year t are derived by calculating the market value in June of the same year. After the computation of market values of June, the first step requires ranking all of the stocks from small to big according to their market values. At the second step, ranked stocks are sorted into two stock portfolios. Allocation of stocks into two portfolios is based on median value. Stocks with a market value equal to or less than median value are included into small stock portfolio, while stocks with a market value greater than median value are included into big stocks portfolio. Finally, returns of both portfolios are arranged as monthly time series. Monthly portfolio returns are derived by computing value-weighted returns of stocks in each portfolio.

Another factor that is hypothesized to impact stock returns is the B/M ratio. In line with Fama and French (1995), B/M ratio for each firm is computed by dividing book equity of year t-1 by market value of December of year t-1. These B/M ratios are used for constructing portfolios for the period which begin in July of year t and end in June of year t+1. Computing the returns of B/M portfolios require a three-

step process. At the first step, all stocks are ranked from lowest to highest according to their B/M ratios. Second, three stock portfolios are constructed: Lowest 30%, medium 40%, and highest 30%. Finally, returns of the three portfolios are arranged as monthly time series. Monthly portfolio returns are obtained by calculating value-weighted returns of stocks in each portfolio.

Next procedure in portfolio construction is to construct intersection portfolios. Following Fama and French (1995), six intersection portfolios are constructed. Intersection portfolios are constructed annually and they are designed as intersections of two size portfolios and three B/M portfolios. Definition of intersection portfolios is summarized below:

SL= Stocks in this portfolio are small and have the lowest B/M ratios.
SM= Stocks in this portfolio are small and have moderate B/M ratios.
SH= Stocks in this portfolio are small and have the highest B/M ratios.
BL= Stocks in this portfolio are big and have the lowest B/M ratios.
BM= Stocks in this portfolio are big and have moderate B/M ratios.
BH= Stocks in this portfolio are big and have the highest B/M ratios.
BH= Stocks in this portfolio are big and have the highest B/M ratios.

Value-weighted stock returns are used in computing intersection portfolio returns. Returns of the six portfolios are calculated for the time period that spans from July of year t to June of year t+1.

The final procedure required for generating SMB and HML factors is to construct SMB and HML portfolios by using intersection portfolios. SMB portfolio is constructed as follows (Charoenrook and Conrad, 2005):

$$SMB = 1/3(SL + SM + SH) - 1/3(BL + BM + BH)$$

Likewise, construction of HML portfolio may be formulated as follows (Charoenrook and Conrad, 2005):

$$HML = \tfrac{1}{2}(SH + BH) - \tfrac{1}{2}(SL + BL)$$

Monthly ISE-100 index data is among the data used in two regression models and come from stock market database displayed in the official internet site of ISE (http://www.imkb.gov.tr/Data/Consolidated.aspx). Risk free rate of return data used in calculating risk premium is derived by converting Annually Compounded Interest Rates of Treasury Discounted Auctions into monthly values. Interest rate data come from official internet site of Republic of Turkey Prime Ministry Undersecretariat of Treasury (http://www.hazine.gov.tr/irj/portal/anonymous?NavigationTarget=navurl://9112c820afa766dd72d871ec89aba011). Financial statement data that is required to calculate sizes and B/M ratios of firms are obtained

from the official internet site of ISE (http://www.imkb.gov.tr/FinancialTables/companiesfinancialstatements.aspx). The last explanatory variable employed in the AFFM is USD. USD represents monthly changes in the exchange rate and expressed as TL value of 1 US dollar. Exchange rate data come from the official internet site of Central Bank of the Republic of Turkey (http://evds.tcmb.gov.tr/).

IV. Empirical Findings

In this section, exchange rate exposures of banks are investigated by two and four factor models and the findings are reported. Prior to analysis, summary statistics of the data are provided. Table 1 demonstrates number of firms in the sample, average size and average B/M ratio of firms.

Table 1: Summary Statistics of the Sample for 1999–2008 Period

Years	Number of Firms	Average Firm Size (1000 TL)	Average B/M Ratio
1999	185	80.557	0,79
2000	190	211.293	0,37
2001	220	191.762	0,77
2002	212	173.892	0,65
2003	221	206.437	1,00
2004	230	346.234	0,90
2005	245	487.466	1,06
2006	258	666.931	0,73
2007	276	891.556	0,91
2008	287	707.363	0,82
Mean	**232,40**	**396.349**	**0,80**

As can be seen in Table 1, number of firms in the sample increases steadily from 185 to 287 between the years 1999 and 2008. Average firm size reaches its maximum in 2007. 10 year average firm size is about 400.000.000 TL. B/M ratios of firms indicate a dissimilar structure and 10 year average is 0,80. Table 2 depicts returns of intersection portfolios and the market portfolio.

Table 2: Value-Weighted Returns of Intersection and Market Portfolios

	Market Portfolio	SL	SM	SH	BL	BM	BH
Mean Return	2,68	3,52	3,48	4,18	2,68	3,17	3,68
Standard Deviation	14,86	14,32	15,72	15,15	14,26	13,91	15,02

Findings in Table 2 indicate that SH portfolio has the highest monthly return by 4,18 percent for the 120 month period. On the contrary, BL portfolio generates the lowest monthly return by 2,68 percent. The monthly return difference between these highest and lowest return portfolios is 1,5 percent. However, annual figure is 18 percent. In addition, when we compare returns of intersection portfolios with that of market portfolio, we observe that lowest return portfolio BL generates the same return with the market portfolio, whereas other five intersection portfolios outperform the market portfolio.

Table 3: Value-Weighted Returns of Firm Size and B/M Portfolios

	S	B	SMB	H	L	HML
Mean Return	3,73	3,18	0.55	3,93	3,10	0,83
Standard Deviation	14,00	14,50	6,76	14,54	13,42	5,29

When we examine Table 3 in terms of firm size, we observe that small firms outperform big firms. SMB, which represent the difference between the returns of two portfolios is equal to 0,55 percent. Furthermore, both small firms and big firms outperform the market portfolio. The differences are 1.05 percent and 0.50 percent, respectively. According to the findings of B/M ratio, high B/M portfolio outperform low B/M portfolio. HML, which represents the difference between the returns of two portfolios is equal to 0,83 percent monthly. Finally, both of the B/M portfolios outperform the market portfolio by 1,25 percent and 0,42 percent, respectively.

Table 4: Excess Returns of Banks' Shares and Market Portfolio and Returns of SMB and HML Portfolios

	Mean Return	Standard Deviation
RM	0.07	14.93
SMB	0.55	8.37
HML	0.83	9.13
USD	1.24	12.60
BANK 1	3.68	37.50
BANK 2	3.81	40.76
BANK 3	5.22	51.47
BANK 4	4.06	41.88
BANK 5	4.19	42.46
BANK 6	3.24	34.79
BANK 7	3.57	38.83
BANK 8	3.24	35.57
BANK 9	3.76	44.18
BANK 10	4.18	42.18
BANK 11	2.94	33.13

Table 4 demonstrates that risk and return structures of banks are rather different. The highest risk and return figures belong to Bank 3, whereas Bank 11 has the lowest risk and return values. An interesting observation is that although SMB and HML generate more return than the market portfolio, their risks are at lower levels. On the other hand, risk and return of US dollar is higher than that of SMB and HML portfolios. Regression results are reported in Table 5.

Regression analysis findings of the two models are reported in Table 5. The results of ACAPM, which employs market returns and changes in US dollar as explanatory variables, indicate that market is a significant factor for all 11 banks. On the other hand, variations in exchange rate seems to be significant for only 3 banks (Banka 7, Banka 8 and Banka 10). AFFM provides similar findings for market and exchange rate factors. As market factor impacts all stocks, exchange rate risk affects only Bank 7 and Bank 10. Findings related with SMB and HML factors vary among banks. Although these two factors appear to impact some banks, they do not seem to affect some others. On the other hand, R^2 values vary significantly among models. However, AFFM seems to enhance explanatory power of ACAPM. An important finding shared by two models is that statistically significant beta coefficients possess negative values. Thus, the banks that are exposed to exchange risk seem to be negatively influenced by exchange rate risk. This finding is in line with results of empirical studies (Choi and Elyasiani, 1997; Hahm, 2004; Kolari, et al., 2008; Hsin, et al., 2007; Muller and Verschoor, 2007).

Exchange rate exposures of Turkish banks indicate significant discrepancies. As Bank 7 and Bank 10 seem to be exposed to exchange rate risk in both regression models, Bank 8 is only found to be exposed to exchange rate risk in ACAPM. However, exchange rate exposure of Bank 8 ceases to exist in more developed AFFM. At this point, findings of AFFM appear to be valid. In practice, multifactor models are accepted to be superior to single factor models (Conover, 1997). Rest of the banks does not seem to be exposed to exchange rate risk according to both models. The difference among the levels of exchange rate exposure of banks depends on two related concepts. These concepts are bank size and degree of derivative usage. Representing firm size by market value is a conventional practice. However, bank size is proxied by asset size in some empirical studies (Pasiouras and Kosmidou, 2007; Zhao and Moser, 2009; Tregenna, 2009). Thus, bank size is measured by total assets and market value. Table 6 presents average sizes and proportions of currency derivatives to total assets of Turkish banks for the years 1999 and 2008.

Table 5: Regression Analysis Results of ACAPM and AFFM

Panel A: ACAPM: $R_i - R_f = \alpha_i + b_i(R_m - R_f) + u_i(USD) + \varepsilon_i$								
$R_i - R_f$	α	b	u	t(α)	t(b)	t(u)	F - ist	R^2
BANK 1[a]	0,010	1,01	-0,01	1,36	16,13*	-0,07	150,86	0,72
BANK 2	0,015	1,14	-0,32	1,22	13,36*	-1,45	105,65	0,64
BANK 3	0,023	1,03	0,17	1,66	10,66*	0,69	52,25	0,50
BANK 4	0,013	1,11	0,04	1,11	13,65*	0,22	79,58	0,77
BANK 5[b]	0.019	1,10	-0,35	2,61*	6,48*	-1,40	204,85	0,85
BANK 6[b]	0,008	1,17	-0,17	1,16	14,79*	-0,99	329,68	0,85
BANK 7[b]	0,021	0,67	-1,02	1,29	3,02*	-3,00*	32,37	0,35
BANK 8	0,012	0,88	-0,51	0,86	9,17*	-2,05*	54,76	0,48
BANK 9[b]	0,005	1,52	0,45	0,33	3,50*	0,83	83,91	0,58
BANK 10	0,022	0,95	-0,54	2,02*	12,90*	-2,85*	108,04	0,64
BANK 11	0,005	1,14	-0,25	0,59	17,61*	-1,51	180,53	0,75

Panel B: AFFM: $R_i - R_f = \alpha_i + b_i(R_m - R_f) + u_i(USD) + s_i(SMB) + h_i(HML) + \varepsilon_i$												
Ri - Rf	α	b	u	s	h	t(α)	t(b)	t(u)	t(s)	t(h)	F-ist	R^2
BANK 1[a]	0,018	1,00	-0,11	-0,29	-0,65	2,65*	13,92*	-1,07	-2,05	-2,71	93,12	0,76
BANK 2[b]	0,003	1,17	-0,17	0,44	0,93	0,32	11,99*	-0,75	2,98	3,21	68,26	0,69
BANK 3	0,019	1,02	0,23	0,05	0,43	1,30	9,96*	0,92	0,22	1,63	30,99	0,50
BANK 4	0,009	1,14	0,08	0,33	0,14	0,81	13,46*	0,39	1,80	0,63	52,24	0,63
BANK 5[b]	0,018	1,09	-0,33	-0,04	0,14	2,31*	6,25*	-1,35	-0,32	0,98	101,58	0,77
BANK 6[b]	0,007	1,14	-0,16	-0,15	0,15	1,00	12,81*	-1,03	-1,16	0,84	167,70	0,85
BANK 7[b]	0,016	0,69	-0,95	0,22	0,46	0,91	2,98*	-2,83*	0,73	1,40	16,96	0,35
BANK 8	0,003	0,94	-0,41	-0,53	0,49	0,27	9,53*	-1,72	2,55	1,92	31,59	0,51
BANK 9[b]	0,003	1,59	0,45	0,43	-0,11	0,21	3,51*	0,89	1,67	-0,38	42,92	0,58
BANK 10	0,011	1,01	-0,42	0,57	0,71	1,13	14,23*	-2,40*	3,81	3,84	72,77	0,71
BANK 11[b]	0,003	1,07	-0,21	-0,32	0,42	0,36	14,30*	-1,14	-2,09	1,38	101,23	0,77

* * denotes statistical significance at 5% level.

[a] t statistics of coefficients are adjusted by Newey and West Heteroscedasticity and Autocorrelation Consistent Standard Errors.

[b] t statistics of coefficients are adjusted by White Heteroscedasticity Consistent Standard Errors.

Figures in Table 6 reveal that there is a significant difference between Bank 7, Bank 10 and the rest of the banks according to both bank size and derivative usage. When average market values are considered, Bank 7 and Bank 10 appear to be ten times smaller than the average market value of the other banks. Other banks seem to be six times bigger than Bank 7 and Bank 10 according to asset sizes. Moreover, other banks tend to use seven times more derivatives than Bank 7 and Bank 10. In the light of these findings, the reason of higher exchange rate exposure of Bank 7 and Bank 10 may be their smaller sizes and tendencies to use fewer derivatives.

Table 6: Turkish Banks' Average Sizes and Proportions of Currency Derivatives to Total Assets for the Years 1999-2008

Banks	Market Value (1.000 TL)	Total Assets (TA-1.000 TL)	Currency Derivatives (CD-1.000 TL)	CD/TA (%)
BANK 1	8,673,500	39,050,621	764,043	1.96%
BANK 2	194,252	1,608,529	607,393	37.76%
BANK 3	2,554,816	10,563,119	1,722,865	16.31%
BANK 4	795,001	5,974,073	497,805	8.33%
BANK 5	5,349,892	34,681,820	2,106,291	6.07%
BANK 6	8,752,400	44,849,975	2,023,867	4.51%
BANK 9	576,746	583,075	0	0.00%
BANK 11	3,811,617	28,634,112	1,325,824	4.63%
BANK 8	213,492	1,689,343	406,114	24.04%
BANK 7	*369,589*	*3,322,690*	*46,837*	*1.41%*
BANK 10	*265,910*	*2,566,705*	*49,349*	*1.92%*

Empirical studies maintain a direct and positive relationship between size and derivative usage. Moreover, this relationship is not unique to banks. The organization, skills and sources required by exchange rate risk management can only be provided by big companies (Martin and Mauer, 2003). Thus, big corporations tend to use derivatives more intensively in risk management practices (Nance, et al., 1993; Geczy, et al., 1997; Grant and Marshall, 1997; Nguyen and Faff, 2002; Nguyen and Faff, 2003). By using a similar approach, less derivative usage of Bank 7 and Bank 10 may be related with economies of scale. Since, they are the smallest banks in the sample, they seem to employ fewer derivatives in risk management. On the other hand, derivatives are allegedly supposed to increase efficiencies of banks (Rivas, 2006). In this manner, since these two banks tend to use fewer derivatives, they may face efficiency problems.

V. Conclusion

Exchange rate risk is an important factor that impacts expected cash flows and values of firms. Exchange rate risk impacts banks through two channels: Direct and indirect. Direct channel originates from the effects of variations in exchange rates on foreign currency balance sheet items and off-balance sheet transactions. On the other hand, changes in exchange rates may indirectly influence the banks by affecting cash flows of bank clients and fund suppliers of the bank.

In this study, exchange rate exposure of Turkish banks and the reasons of this exposure are investigated. In this manner, data of 11 banks whose shares are traded in Istanbul Stock Exchange for the time period that spans from July of 1999 to June of 2009 are used. Two basic regression models are employed. The first model is developed by adding variations in exchange rates as explanatory variable to CAPM. In the second model, variations in exchange rate are added to original FFM. Finally, sizes and derivative usages of banks are examined to analyze the variations in the degree of exchange rate exposure of banks.

Analysis results suggest that exchange rate risk is a significant risk factor for Bank 7 and Bank 10. In addition, exchange rate risk seems to negatively impact share returns of banks. On the other hand, exchange rate risk appears to impact Turkish banks distinctly. Although Bank 7 and Bank 10 are found to be exposed to exchange rate risk in both models, other banks do not seem to be influenced by exchange rate risk. Diverse levels of exchange rate exposure may be tied to bank size and degree of derivative usage. Bank 7 and Bank 10 are smaller and they tend to use derivates less than the other banks. Nevertheless, when the close relationship between firm size and derivative usage is taken into account, this finding may be acceptable. Empirical studies assert that large companies tend to rely on derivatives in risk management.

This study is expected to make contributions to finance literature. First, this is a pioneering study for examining exchange rate exposure of Turkish banks and the reasons of this exposure. Another contribution of the study is that it exhibits the role of derivatives in risk management systems of banks. Finally, this study has a potential to impact complementary studies. Potential areas of research are examination of exposure of banks to other risk factors and investigation of exchange rate exposure of nonfinancial companies.

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GLOBAL CAPITAL MARKETS

The global economic recovery continued to strengthen during the first half of 2010. Global activity expanded at an annual rate of about 5 ¼ percent, which is about ½ percent higher than anticipated according to the World Economic Outlook Update. The extent of the economic recovery differs importantly across regions, with Asia in the lead. The US and Japan experienced a noticeable slowdown in the second quarter of 2010. However, output is close to precrisis levels. In the Euro area, led by Germany, activity showed significant strength only in the second quarter of this year. Emerging economies expanded by about 8 percent during the first half of the year.

Global financial stability was effected negatively due to the turmoil in sovereign debt markets in the second quarter of 2010. Prices in many Stock exchanges fell, led initially by financial stocks and by European markets. Risk premiums on corporate bonds widened and corporate bond issues slowed down in May. Bond issuance in emerging markets also dropped sharply.

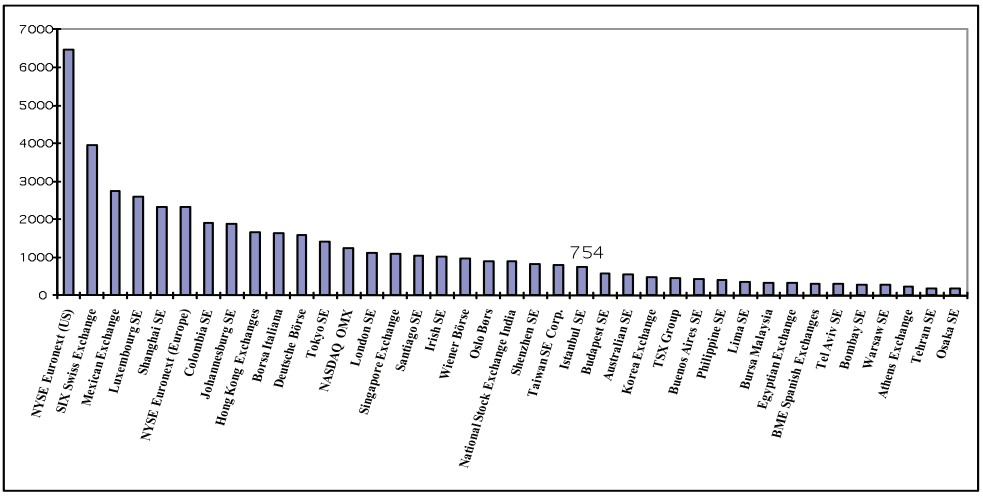
The performances of some developed stock markets with respect to indices indicated that DJIA, FTSE-100, Nikkei-225 and DAX changed by -6.3%, -15.8%, -6.4% and -14.5%, respectively, at June 30th, 2010 in comparison with the December 31, 2009. When US $ based returns of some emerging markets are compared in the same period, the best performer markets were: Indonesia (19.2 %), Colombia (14.1 %), Thailand (11.7 %), Malaysia (9.2 %) and Chile (4.9 %). In the same period, the lowest return markets were: Greece (-44.2 %), Hungary (-19.7 %) and China (-17.2 %), and the performances of emerging markets with respect to P/E ratios as of end of June 2010 indicated that the highest rates were obtained in Jordan (52.8), Indonesia (28.4), S.Africa (20.5) and Chile (20.4) and the lowest rates in Russia (8.5), Turkey (9.7), Hungary (9.8) and Pakistan (10.4).

Market Capitalization (USD Million, 1986-2008)

	Global	Developed Markets	Emerging Markets	ISE
1986	6,514,199	6,275,582	238,617	938
1987	7,830,778	7,511,072	319,706	3,125
1988	9,728,493	9,245,358	483,135	1,128
1989	11,712,673	10,967,395	745,278	6,756
1990	9,398,391	8,784,770	613,621	18,737
1991	11,342,089	10,434,218	907,871	15,564
1992	10,923,343	9,923,024	1,000,319	9,922
1993	14,016,023	12,327,242	1,688,781	37,824
1994	15,124,051	13,210,778	1,913,273	21,785
1995	17,788,071	15,859,021	1,929,050	20,782
1996	20,412,135	17,982,088	2,272,184	30,797
1997	23,087,006	20,923,911	2,163,095	61,348
1998	26,964,463	25,065,373	1,899,090	33,473
1999	36,030,810	32,956,939	3,073,871	112,276
2000	32,260,433	29,520,707	2,691,452	69,659
2001	27,818,618	25,246,554	2,572,064	47,150
2002	23,391,914	20,955,876	2,436,038	33,958
2003	31,947,703	28,290,981	3,656,722	68,379
2004	38,904,018	34,173,600	4,730,418	98,299
2005	43,642,048	36,538,248	7,103,800	161,537
2006	54,194,991	43,736,409	10,458,582	162,399
2007	64,563,414	46,300,864	18,262,550	286,572
2008	35,811,160	26,533,854	9,277,306	117,930

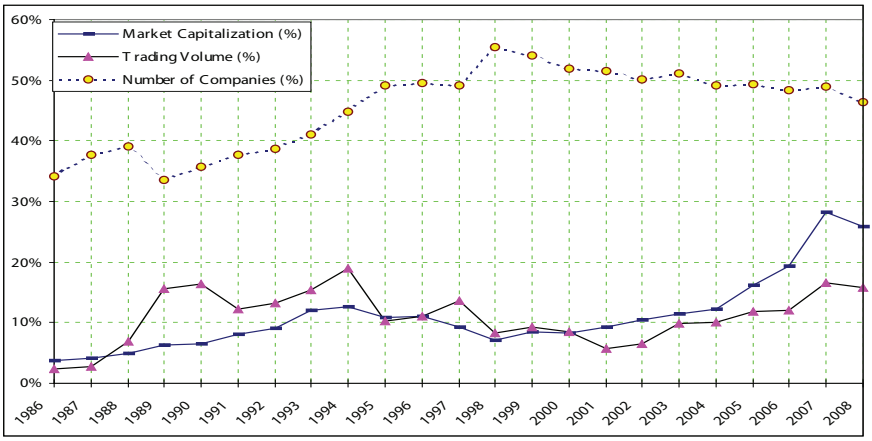
Source: Standard & Poor's Global Stock Markets Factbook, 2009.

Comparison of Average Market Capitalization Per Company (USD Million, June 2010)



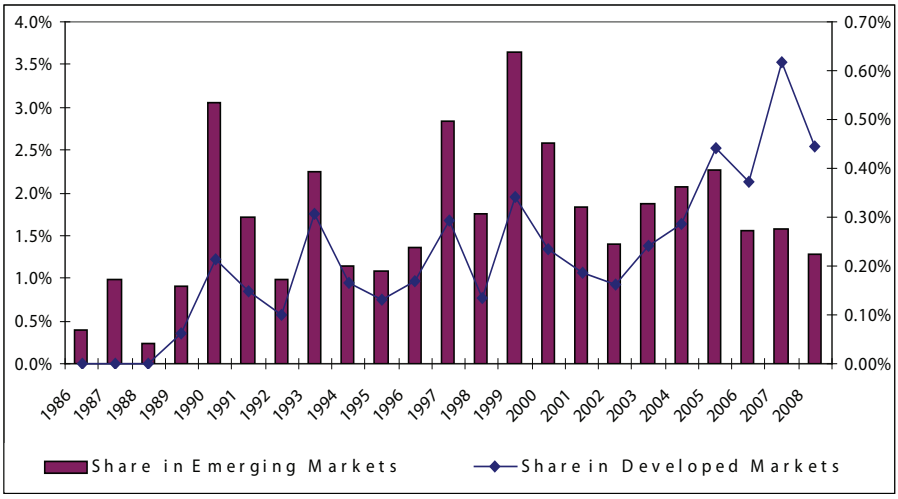
Source: www.world-exchanges.org

Worldwide Share of Emerging Capital Markets (1986-2008)



Source: Standard & Poor's Global Stock Markets Factbook, 2009.

Share of ISE's Market Capitalization in World Markets (1986-2008)



Source: Standard & Poor's Global Stock Markets Factbook, 2009.

Main Indicators of Capital Markets (June 2010)

	Market	Monthly Turnover Velocity (June 2010) (%)	Market	Value of Share Trading (millions, US$) Up to Year Total (2010/1-2010/6)	Market	Market Cap. of Share of Domestic Companies (millions US$) June 2010
1	NASDAQ OMX	407.5%	NYSE Euronext (US)	9,496,001	NYSE Euronext (US)	11,793,689.0
2	Shenzhen SE	263.8%	NASDAQ OMX	7,118,369	Tokyo SE	3,277,303.4
3	Borsa Italiana	231.3%	Tokyo SE	1,953,803	NASDAQ OMX	3,165,217.8
4	Korea Exchange	162.8%	Shanghai SE	1,886,872	London SE	2,407,407.2
5	NYSE Euronext (US)	160.8%	Shenzhen SE	1,425,280	NYSE Euronext (Europe)	2,294,915.5
6	Budapest SE	132.4%	NYSE Euronext (Europe)	1,099,793	Hong Kong Exchanges	2,199,901.0
7	Deutsche Börse	126.6%	London SE	958,747	Shanghai SE	2,050,695.9
8	Istanbul SE	124.0%	Deutsche Börse	915,249	TSX Group	1,634,732.7
9	Tokyo SE	117.1%	Korea Exchange	779,441	Bombay SE	1,376,332.9
10	BME Spanish Exchanges	114.3%	Hong Kong Exchanges	697,950	National Stock Exchange India	1,341,185.4
11	Shanghai SE	111.6%	BME Spanish Exchanges	685,152	Deutsche Börse	1,106,338.1
12	Taiwan SE Corp.	105.5%	TSX Group	673,201	Australian SE	1,058,967.0
13	Oslo Børs	96.6%	Borsa Italiana	546,680	BME Spanish Exchanges	1,018,473.7
14	NYSE Euronext (Europe)	90.0%	Australian SE	520,647	SIX Swiss Exchange	989,936.3
15	Australian SE	84.2%	SIX Swiss Exchange	416,329	Korea Exchange	836,187.3
16	Osaka SE	82.7%	Taiwan SE Corp.	403,703	Shenzhen SE	826,862.3
17	TSX Group	81.0%	National Stock Exchange India	374,467	Johannesburg SE	666,099.2
18	SIX Swiss Exchange	71.7%	Istanbul SE	209,825	Taiwan SE Corp.	588,796.2
19	London SE	70.4%	Johannesburg SE	165,764	Singapore Exchange	507,972.7
20	Tel Aviv SE	63.9%	Oslo Børs	140,663	Borsa Italiana	477,240.8
21	National Stock Exchange India	54.9%	Singapore Exchange	133,069	Mexican Exchange	350,386.3
22	Hong Kong Exchanges	50.5%	Bombay SE	124,399	Bursa Malaysia	319,678.4
23	Wiener Börse	47.7%	Osaka SE	97,674	Osaka SE	249,363.2
24	Egyptian Exchange	46.9%	Mexican Exchange	59,939	Istanbul SE	245,057.8
25	Athens Exchange	44.7%	Tel Aviv SE	53,906	Santiago SE	239,600.4
26	Singapore Exchange	43.0%	Bursa Malaysia	49,180	Tel Aviv SE	176,684.5
27	Colombo SE	42.5%	Warsaw SE	32,767	Oslo Børs	174,581.9
28	Warsaw SE	40.8%	Athens Exchange	27,545	Colombia SE	158,662.1
29	Tehran SE	39.4%	Wiener Börse	27,206	Warsaw SE	138,171.9
30	Johannesburg SE	33.4%	Egyptian Exchange	23,582	Philippine SE	102,101.9
31	Mexican Exchange	29.2%	Santiago SE	20,808	Wiener Börse	89,930.2
32	Bursa Malaysia	23.8%	Budapest SE	15,746	Luxembourg SE	77,712.3
33	Irish SE	20.8%	Colombia SE	10,502	Egyptian Exchange	72,076.9
34	Philippine SE	18.2%	Tehran SE	8,719	Tehran SE	71,312.6
35	Bombay SE	17.3%	Philippine SE	8,548	Lima SE	69,463.3
36	Santiago SE	15.6%	Irish SE	4,985	Athens Exchange	64,080.9
37	Colombia SE	10.2%	Colombo SE	1,782	Irish SE	54,633.0
38	Cyprus SE	8.3%	Buenos Aires SE	1,514	Buenos Aires SE	42,685.7
39	Ljubljana SE	4.5%	Lima SE	1,338	Budapest SE	23,895.5
40	Mauritius SE	4.3%	Cyprus SE	412	Colombo SE	13,241.6
41	Buenos Aires SE	3.7%	Ljubljana SE	248	Ljubljana SE	9,237.0
42	Lima SE	1.8%	Mauritius SE	209	Mauritius SE	6,350.2
43	Bermuda SE	1.2%	Luxembourg SE	121	Cyprus SE	6,213.9
44	Malta SE	1.0%	Bermuda SE	60	Malta SE	3,413.4
45	Luxembourg SE	0.2%	Malta SE	25	Bermuda SE	1,439.7

Source: www.world-exchanges.org

Trading Volume (USD millions, 1986-2008)

	Global	Developed	Emerging	ISE	Emerging / Global (%)	ISE/ Emerging (%)
1986	3,573,570	3,490,718	82,852	13	2.32	0.02
1987	5,846,864	5,682,143	164,721	118	2.82	0.07
1988	5,997,321	5,588,694	408,627	115	6.81	0.03
1989	7,467,997	6,298,778	1,169,219	773	15.66	0.07
1990	5,514,706	4,614,786	899,920	5,854	16.32	0.65
1991	5,019,596	4,403,631	615,965	8,502	12.27	1.38
1992	4,782,850	4,151,662	631,188	8,567	13.20	1.36
1993	7,194,675	6,090,929	1,103,746	21,770	15.34	1.97
1994	8,821,845	7,156,704	1,665,141	23,203	18.88	1.39
1995	10,218,748	9,176,451	1,042,297	52,357	10.20	5.02
1996	13,616,070	12,105,541	1,510,529	37,737	11.09	2.50
1997	19,484,814	16,818,167	2,666,647	59,105	13.69	2.18
1998	22,874,320	20,917,462	1,909,510	68,646	8.55	3.60
1999	31,021,065	28,154,198	2,866,867	81,277	9.24	2.86
2000	47,869,886	43,817,893	4,051,905	179,209	8.46	4.42
2001	42,076,862	39,676,018	2,400,844	77,937	5.71	3.25
2002	38,645,472	36,098,731	2,546,742	70,667	6.59	2.77
2003	29,639,297	26,743,153	2,896,144	99,611	9.77	3.44
2004	39,309,589	35,341,782	3,967,806	147,426	10.09	3.72
2005	47,319,584	41,715,492	5,604,092	201,258	11.84	3.59
2006	67,912,153	59,685,209	8,226,944	227,615	12.11	2.77
2007	98,816,305	82,455,174	16,361,131	302,402	16.56	1.85
2008	80,516,822	67,795,950	12,720,872	239,713	15.80	1.88

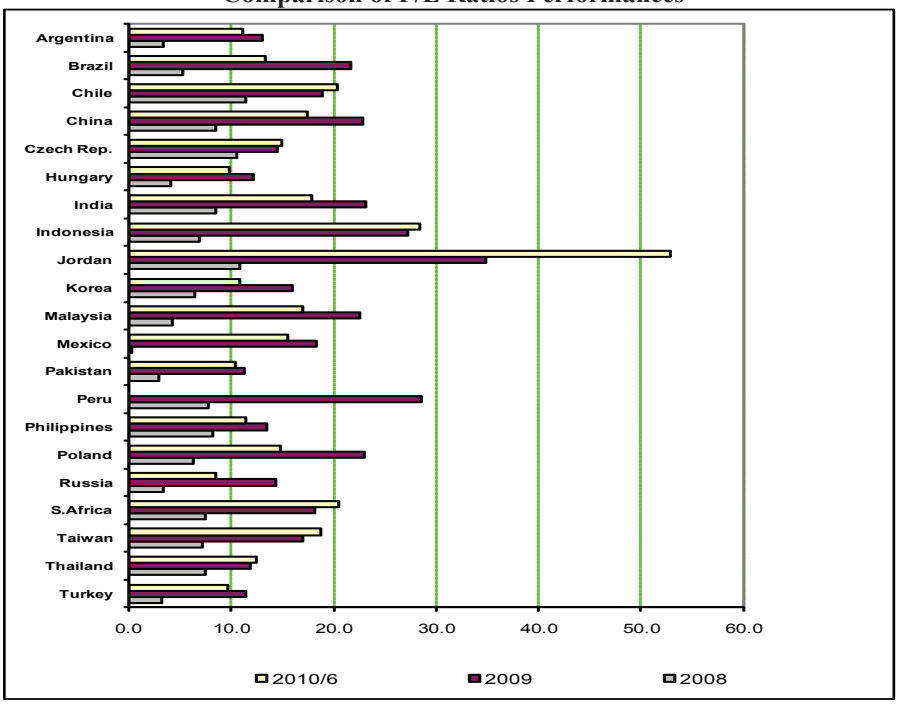
Source: Standard & Poor's Global Stock Markets Factbook, 2009.

Number of Trading Companies (1986-2008)

	Global	Developed Markets	Emerging Markets	ISE	Emerging / Global (%)	ISE/Emerging (%)
1986	28,173	18,555	9,618	80	34.14	0.83
1987	29,278	18,265	11,013	82	37.62	0.74
1988	29,270	17,805	11,465	79	39.17	0.69
1989	25,925	17,216	8,709	76	33.59	0.87
1990	25,424	16,323	9,101	110	35.80	1.21
1991	26,093	16,239	9,854	134	37.76	1.36
1992	27,706	16,976	10,730	145	38.73	1.35
1993	28,895	17,012	11,883	160	41.12	1.35
1994	33,473	18,505	14,968	176	44.72	1.18
1995	36,602	18,648	17,954	205	49.05	1.14
1996	40,191	20,242	19,949	228	49.64	1.14
1997	40,880	20,805	20,075	258	49.11	1.29
1998	47,465	21,111	26,354	277	55.52	1.05
1999	48,557	22,277	26,280	285	54.12	1.08
2000	49,933	23,996	25,937	315	51.94	1.21
2001	48,220	23,340	24,880	310	51.60	1.25
2002	48,375	24,099	24,276	288	50.18	1.19
2003	49,855	24,414	25,441	284	51.03	1.12
2004	48,806	24,824	23,982	296	49.14	1.23
2005	49,946	25,337	24,609	302	49.27	1.23
2006	50,212	25,954	24,258	314	48.31	1.29
2007	51,322	26,251	25,071	319	48.85	1.27
2008	49,138	26,375	22,763	284	46.32	1.25

Source: Standard & Poor's Global Stock Markets Factbook, 2009.

Comparison of P/E Ratios Performances



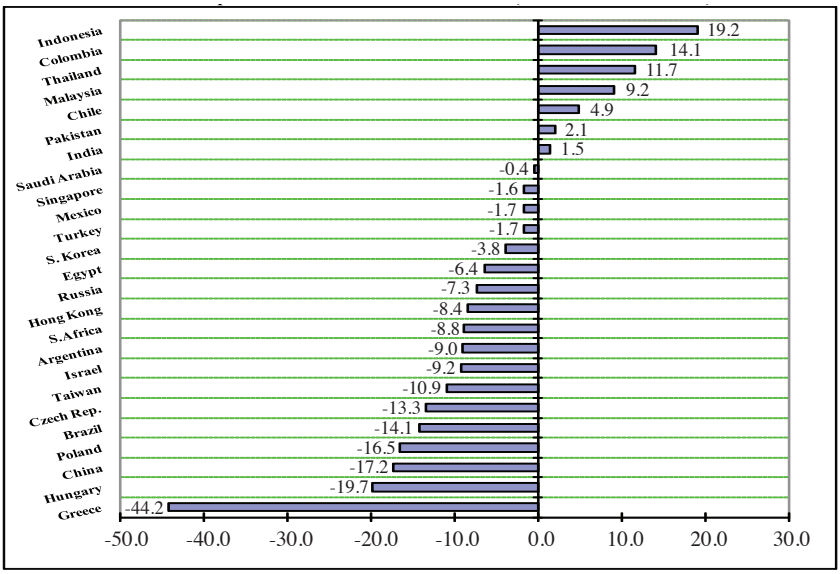
Source: IFC Factbook 2001. Standard & Poor's, Global Stock Markets Factbook, 2009. Bloomberg.

Price-Earnings Ratios in Emerging Markets

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010/6
Argentina	32.6	-1.4	21.1	27.7	11.1	18.0	13.6	3.4	13.0	11.1
Brazil	8.8	13.5	10.0	10.6	10.7	12.7	16.6	5.3	21.7	13.3
Chile	16.2	16.3	24.8	17.2	15.7	24.2	22.3	11.5	18.9	20.4
China	22.2	21.6	28.6	19.1	13.9	24.6	50.5	8.6	22.8	17.5
Czech Rep.	5.8	11.2	10.8	25.0	21.1	20.0	26.5	10.5	14.6	14.9
Hungary	13.4	14.6	12.3	16.6	13.5	13.4	14.0	4.2	12.2	9.8
India	12.8	15.0	20.9	18.1	19.4	20.1	31.6	8.6	23.2	17.9
Indonesia	-7.7	22.0	39.5	13.3	12.6	20.1	31.7	7.0	27.3	28.4
Jordan	18.8	11.4	20.7	30.4	6.2	20.8	28.0	10.9	34.8	52.8
Korea	28.7	21.6	30.2	13.5	20.8	12.8	16.4	6.4	15.9	10.9
Malaysia	50.6	21.3	30.1	22.4	15	21.7	20.1	4.2	22.6	17.0
Mexico	13.7	15.4	17.6	15.9	14.2	18.6	17.2	0.3	18.3	15.5
Pakistan	7.5	10.0	9.5	9.9	13.1	10.8	15.3	3.0	11.2	10.4
Peru	21.3	12.8	13.7	10.7	12.0	15.7	20.9	7.7	28.6	
Philippines	45.9	21.8	21.1	14.6	15.7	14.4	17.7	8.2	13.4	11.4
Poland	6.1	88.6	-353.0	39.9	11.7	13.9	15.6	6.4	23.0	14.8
Russia	5.6	12.4	19.9	10.8	24.1	16.6	18.4	3.4	14.3	8.5
S.Africa	11.7	10.1	11.5	16.2	12.8	16.6	18.7	7.5	18.2	20.5
Taiwan	29.4	20.0	55.7	21.2	21.9	25.6	27.9	7.2	17.1	18.8
Thailand	163.8	16.4	16.6	12.8	10.0	8.7	11.7	7.5	11.9	12.4
Turkey	72.5	37.9	14.9	12.5	16.2	17.2	25.2	3.2	11.4	9.7

Source: IFC Factbook, 2004; Standard & Poor's & Bloomberg
Note: Figures are taken from S&P/IFCI Index Profile.

Comparison of Market Returns in USD (31/12/2009-30/06/2010)



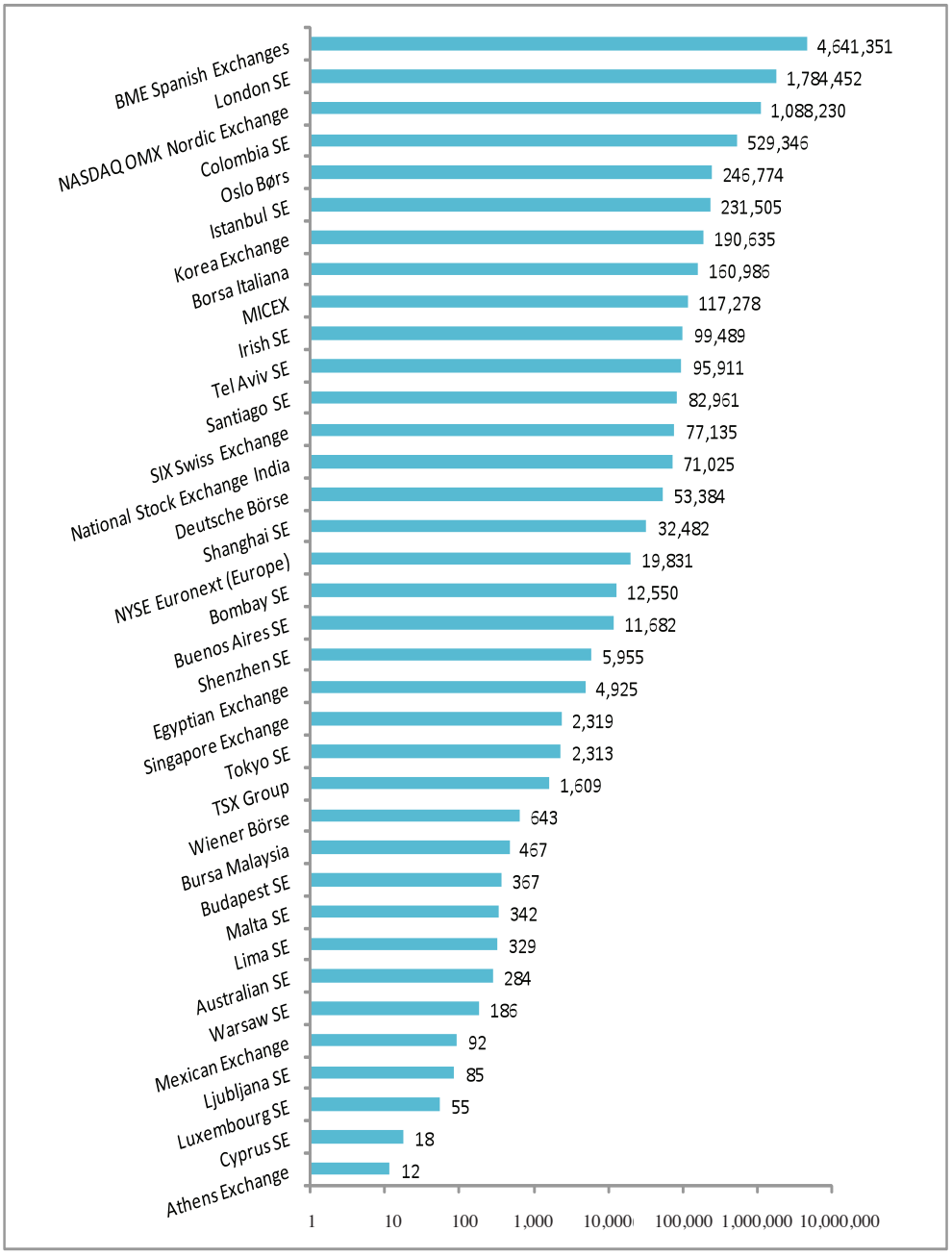
Source: The Economist, July 3th 2010.

Market Value/Book Value Ratios

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010/6
Argentina	0.6	0.8	2.0	2.2	2.5	4.1	3.2	0.8	1.5	1.1
Brazil	1.2	1.3	1.8	1.9	2.2	2.7	3.3	1.0	2.2	1.8
Chile	1.4	1.3	1.9	0.6	1.9	2.4	2.5	1.4	2.4	2.2
China	2.3	1.9	2.6	2.0	1.8	3.1	6.3	1.9	3.3	2.5
Czech Rep.	0.8	0.8	1.0	1.6	2.4	2.4	3.1	2.0	1.4	1.3
Hungary	1.8	1.8	2.0	2.8	3.1	3.1	3.2	0.9	1.5	1.4
India	1.9	2.0	3.5	3.3	5.2	4.9	7.9	1.7	3.5	3.1
Indonesia	1.7	1.0	1.6	2.8	2.5	3.4	5.6	1.6	2.7	2.8
Jordan	1.5	1.3	2.1	3.0	2.2	3.3	4.4	1.3	1.3	1.2
Korea	1.2	1.1	1.6	1.3	2.0	1.7	2.2	0.8	1.2	1.2
Malaysia	1.2	1.3	1.7	1.9	1.7	2.1	2.5	0.7	2.3	2.2
Mexico	1.7	1.5	2.0	2.5	2.9	3.8	3.6	1.0	2.7	2.6
Pakistan	0.9	1.9	2.3	2.6	3.5	3.2	4.7	0.8	1.6	1.5
Peru	1.4	1.2	1.8	1.6	2.2	3.5	6.0	2.7	5.4	
Philippines	0.9	0.8	1.1	1.4	1.7	1.9	2.8	1.3	2.0	2.1
Poland	1.4	1.3	1.8	2.0	2.5	2.5	2.8	1.1	1.5	1.4
Russia	1.1	0.9	1.2	1.2	2.2	2.5	2.8	0.1	1.0	1.0
S.Africa	2.1	1.9	2.1	2.5	3.0	3.8	4.4	1.6	2.2	2.1
Taiwan	2.1	1.6	2.2	1.9	1.9	2.4	2.6	1.0	2.1	1.7
Thailand	1.3	1.5	2.8	2.0	2.1	1.9	2.5	1.0	1.5	1.6
Turkey	3.8	2.8	2.6	1.7	2.1	2.0	2.8	0.7	1.6	1.6

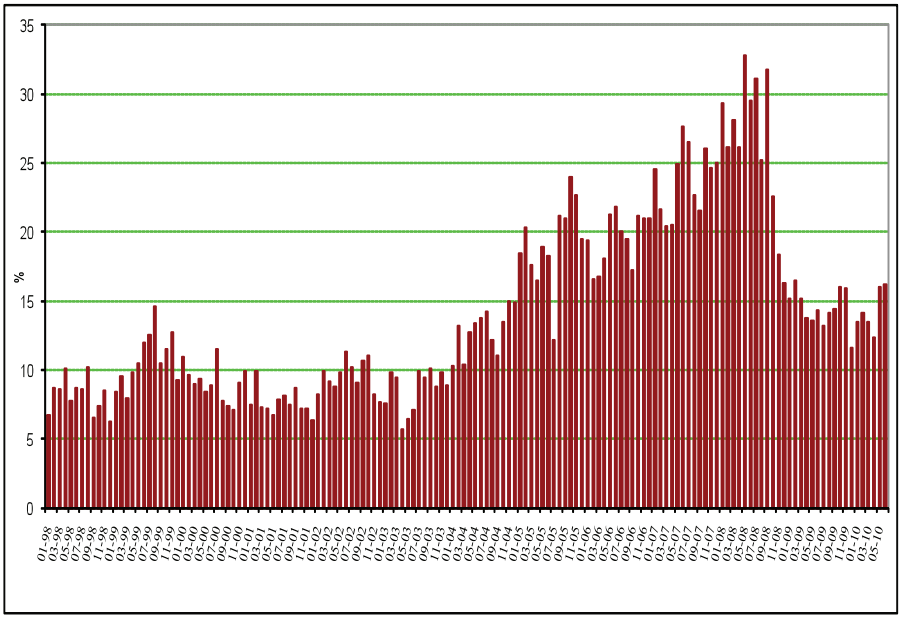
Source: IFC Factbook, 2004; Standard & Poor's & Bloomberg
Note: Figures are taken from S&P/IFCI Index Profile.

Value of Bond Trading (Million USD Jan. 2010-June 2010)



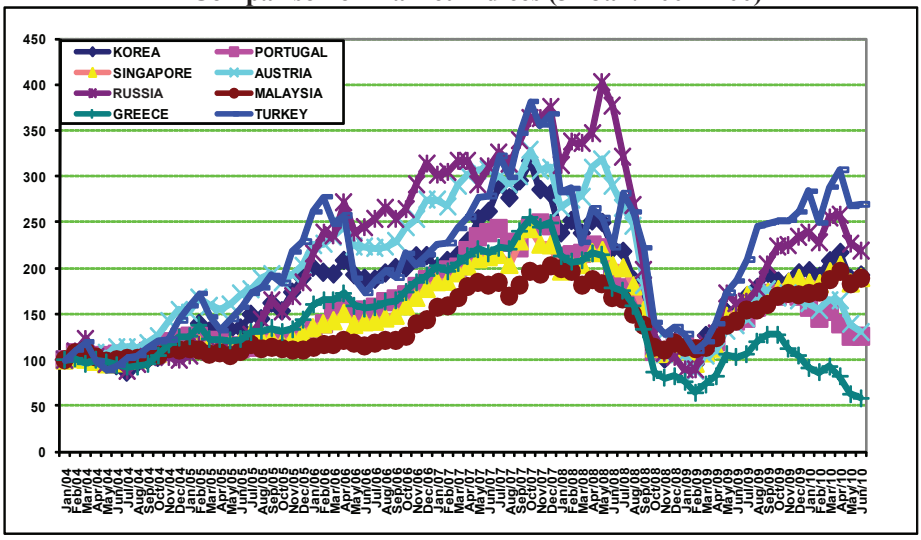
Source: www.world-exchanges.org

Foreigners' Share in the Trading Volume of the ISE (Jan. 1998-June 2010)



Source: ISE Data.

Comparison of Market Indices (31 Jan. 2004=100)



Source: Bloomberg

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ISE
Market Indicators

	STOCK MARKET										
	Number of Companies	Traded Value				Market Value		Dividend Yield	P/E Ratios		
		Total		Daily Average							
		(TL Million)	(US$ Million)	(TL Million)	(US$ Million)	(TL Million)	(US$ Million)	(%)	TL(1)	TL(2)	US $
1986	80	0.01	13	---	---	0.71	938	9.15	5.07	---	---
1987	82	0.10	118	---	---	3	3,125	2.82	15.86	---	---
1988	79	0.15	115	---	---	2	1,128	10.48	4.97	---	---
1989	76	2	773	0.01	3	16	6,756	3.44	15.74	---	---
1990	110	15	5,854	0.06	24	55	18,737	2.62	23.97	---	---
1991	134	35	8,502	0.14	34	79	15,564	3.95	15.88	---	---
1992	145	56	8,567	0.22	34	85	9,922	6.43	11.39	---	---
1993	160	255	21,770	1	88	546	37,824	1.65	25.75	20.72	14.86
1994	176	651	23,203	3	92	836	21,785	2.78	24.83	16.70	10.97
1995	205	2,374	52,357	9	209	1,265	20,782	3.56	9.23	7.67	5.48
1996	228	3,031	37,737	12	153	3,275	30,797	2.87	12.15	10.86	7.72
1997	258	9,049	58,104	36	231	12,654	61,879	1.56	24.39	19.45	13.28
1998	277	18,030	70,396	73	284	10,612	33,975	3.37	8.84	8.11	6.36
1999	285	36,877	84,034	156	356	61,137	114,271	0.72	37.52	34.08	24.95
2000	315	111,165	181,934	452	740	46,692	69,507	1.29	16.82	16.11	14.05
2001	310	93,119	80,400	375	324	68,603	47,689	0.95	108.33	824.42	411.64
2002	288	106,302	70,756	422	281	56,370	34,402	1.20	195.92	26.98	23.78
2003	285	146,645	100,165	596	407	96,073	69,003	0.94	14.54	12.29	13.19
2004	297	208,423	147,755	837	593	132,556	98,073	1.37	14.18	13.27	13.96
2005	304	269,931	201,763	1,063	794	218,318	162,814	1.71	17.19	19.38	19.33
2006	316	325,131	229,642	1,301	919	230,038	163,775	2.10	22.02	14.86	15.32
2007	319	387,777	300,842	1,539	1,194	335,948	289,986	1.90	12.16	11.97	13.48
2008	317	332,605	261,274	1,325	1,041	182,025	119,698	4.93	5.55	5.76	4.63
2009	325	482,534	316,326	1,915	1,255	350,761	235,996	2.37	17.89	16.83	17.34
2010	326	328,380	217,389	2,606	1,725	388,000	246,725	1.92	12.92	11.08	10.59
2010/Ç1	326	175,589	117,179	2,787	1,860	388,063	256,215	2.41	13.85	13.65	13.70
2010/Ç2	334	152,791	100,211	2,425	1,591	388,000	246,725	1.92	12.92	11.08	10.59

Q: Quarter

NOTE:

- Between 1986-1992, the price earnings ratios were calculated on the basis of the companies' previous year- end net profits. As from 1993,
  TL(1) = Total Market Capitalization / Sum of Last two six-month profits
  TL (2) = Total Market Capitalization / Sum of Last four three-month profits.
  US$ = US$ based Total Market Capitilization / Sum of Last four US$ based three-month profits.
- Companies which are temporarily de-listed and will be traded off the Exchange under the decision of ISE's Executive Council are not included in the calculations.
- ETF's data are taken into account only in the calculation of Traded Value.

Closing Values of the ISE Price Indices

TL Based

	'ISE 100 (Jan. 1986=1)	ISE CORPORATE GOVERNANCE (Aug.29,2007=48,082.17)	ISE INDUSTRIALS (Dec.31, 90=33)	'ISE SERVICES (Dec.27, 96=1046)	ISE FINANCIALS (Dec. 31, 90=33)	'ISE TECHNOLOGY (June, 30,2000=14.466,12)	'ISE INVESTMENT TRUSTS (Dec 27,1996=976)	'ISE SECOND NATIONAL (Dec.27,1996=976)	'ISE NEW ECONOMY (Sept. 02, 2004=20525.92)
1986	1.71	---	---	---	---	---	---	---	---
1987	6.73	---	---	---	---	---	---	---	---
1988	3.74	---	---	---	---	---	---	---	---
1989	22.18	---	---	---	---	---	---	---	---
1990	32.56	---	---	---	---	---	---	---	---
1991	43.69	---	49.63	---	33.55	---	---	---	---
1992	40.04	---	49.15	---	24.34	---	---	---	---
1993	206.83	---	222.88	---	191.90	---	---	---	---
1994	272.57	---	304.74	---	229.64	---	---	---	---
1995	400.25	---	462.47	---	300.04	---	---	---	---
1996	975.89	---	1,045.91	---	914.47	---	---	---	---
1997	3,451.--	---	2,660.--	3,593.--	4,522.--	---	2,934.--	2,761.--	---
1998	2,597.91	---	1,943.67	3,697.10	3,269.58	---	1,579.24	5,390.43	---
1999	15,208.78	---	9,945.75	13,194.40	21,180.77	---	6,812.65	13,450.36	---
2000	9,437.21	---	6,954.99	7,224.01	12,837.92	10,586.58	6,219.00	15,718.65	---
2001	13,782.76	---	11,413.44	9,261.82	18,234.65	9,236.16	7,943.60	20,664.11	---
2002	10,369.92	---	9,888.71	6,897.30	12,902.34	7,260.84	5,452.10	28,305.78	---
2003	18,625.02	---	16,299.23	9,923.02	25,594.77	8,368.72	10,897.76	32,521.26	---
2004	24,971.68	---	20,885.47	13,914.12	35,487.77	7,539.16	17,114.91	23,415.86	39,240.73
2005	39,777.70	---	31,140.59	18,085.71	62,800.64	13,669.97	23,037.86	28,474.96	29,820.90
2006	39,117.46	---	30,896.67	22,211.77	60,168.41	10,341.85	16,910.76	23,969.99	20,395.84
2007	55,538.13	55,406.17	40,567.17	34,204.74	83,822.29	10,490.51	16,428.59	27,283.78	32,879.36
2008	26,864.07	21,974.49	19,781.26	22,169.30	38,054.32	4,858.62	8,655.55	8,645.09	14,889.37
2009	52,825.02	42,669.96	37,899.01	36,134.16	79,763.23	14,335.01	18,215.26	25,764.15	25,795.58
2010	54,839.46	46,405.00	41,039.66	34,027.90	85,381.67	14,337.38	18,531.10	33,152.31	55,292.78
2010/Q1	56,538.37	46,860.89	42,360.56	35,927.74	87,233.97	15,851.41	20,461.16	30,093.58	30,105.36
2010/Q2	54,839.46	46,405.00	41,039.66	34,027.90	85,381.67	14,337.38	18,531.10	33,152.31	55,292.78

	US$ Based									EURO Based
	'ISE 100 (Jan. 1986=100)	ISE CORPORATE GOVERNANCE Aug.29,2007=2,114.37)	'ISE INDUSTRIALS (Dec.31, 90=643	'ISE SERVICES (Dec.27, 96=572	'ISE FINANCIALS (Dec. 31, 90=643	'ISE TECHNOLOGY June 30,2000=1.360,92	SE INVESTMENT TRUSTS (Dec. 27, 96=534)	'ISE SECOND NATIONAL (Dec. 27, 96=534)	'ISE NEW ECONOMY (Sept. 02, 2004=796,46)	'ISE 100 (Dec.31, 98=484)
1986	131.53	---	---	---	---	---	---	---	---	---
1987	384.57	---	---	---	---	---	---	---	---	---
1988	119.82	---	---	---	---	---	---	---	---	---
1989	560.57	---	---	---	---	---	---	---	---	---
1990	642.63	---	---	---	---	---	---	---	---	---
1991	501.50	---	569.63	---	385.14	---	---	---	---	---
1992	272.61	---	334.59	---	165.68	---	---	---	---	---
1993	833.28	---	897.96	---	773.13	---	---	---	---	---
1994	413.27	---	462.03	---	348.18	---	---	---	---	---
1995	382.62	---	442.11	---	286.83	---	---	---	---	---
1996	534.01	---	572.33	---	500.40	---	---	---	---	---
1997	982.--	---	757.--	1,022.--	1,287.--	---	835.--	786.--	---	---
1998	484.01	---	362.12	688.79	609.14	---	294.22	1,004.27	---	---
1999	1,654.17	---	1,081.74	1,435.08	2,303.71	---	740.97	1,462.92	---	1,912.46
2000	817.49	---	602.47	625.78	1,112.08	917.06	538.72	1,361.62	---	1,045.57
2001	557.52	---	461.68	374.65	737.61	373.61	321.33	835.88	---	741.24
2002	368.26	---	351.17	244.94	458.20	257.85	193.62	1,005.21	---	411.72
2003	778.43	---	681.22	414.73	1,069.73	349.77	455.47	1,359.22	---	723.25
2004	1,075.12	---	899.19	599.05	1,527.87	324.59	736.86	1,008.13	1,689.45	924.87
2005	1,726.23	---	1,351.41	784.87	2,725.36	593.24	999.77	1,235.73	1,294.14	1,710.04
2006	1,620.59	---	1,280.01	920.21	2,492.71	428.45	700.59	993.05	844.98	1,441.89
2007	2,789.66	2,783.03	2,037.67	1,718.09	4,210.36	526.93	825.20	1,370.45	1,651.52	2,221.77
2008	1,027.98	840.87	756.95	848.33	1,456.18	185.92	331.21	330.81	569.76	859.46
2009	2,068.18	1,670.60	1,483.81	1,414.71	3,122.86	561.24	713.16	1,008.71	1,009.94	1,682.53
2010	2,029.23	1,717.13	1,518.59	1,259.14	3,159.38	530.53	685.71	1,226.74	2,046.00	1,940.04
2010/Q1	2,172.21	1,800.40	1,627.49	1,380.35	3,351.53	609.01	786.12	1,156.20	1,156.65	1,890.97
2010/Q2	2,029.23	1,717.13	1,518.59	1,259.14	3,159.38	530.53	685.71	1,226.74	2,046.00	1,940.04

Q: Quarter

BONDS AND BILLS MARKET

Traded Value

Outright Purchases and Sales Market

	Total		Daily Average	
	(TL Million)	(US$ Million)	(TL Million)	(US$ Million)
1991	1	312	0.01	2
1992	18	2,406	0.07	10
1993	123	10,728	0.50	44
1994	270	8,832	1	35
1995	740	16,509	3	66
1996	2,711	32,737	11	130
1997	5,504	35,472	22	141
1998	17,996	68,399	72	274
1999	35,430	83,842	143	338
2000	166,336	262,941	663	1,048
2001	39,777	37,297	158	149
2002	102,095	67,256	404	266
2003	213,098	144,422	852	578
2004	372,670	262,596	1,479	1,042
2005	480,723	359,371	1,893	1,415
2006	381,772	270,183	1,521	1,076
2007	363,949	278,873	1,444	1,107
2008	300,995	239,367	1,199	954
2009	417,052	269,977	1,655	1,071
2010	239,669	158,125	1,902	1,255
2010/Q1	128,175	85,410	2,035	1,356
2010/Q2	111,494	72,715	1,770	1,154

Repo-Reverse Repo Market

Repo-Reverse Repo Traded Value

	Total		Daily Average	
	(TL Million)	(US$ Million)	(TL Million)	(US$ Million)
1993	59	4,794	0.28	22
1994	757	23,704	3	94
1995	5,782	123,254	23	489
1996	18,340	221,405	73	879
1997	58,192	374,384	231	1,486
1998	97,278	372,201	389	1,489
1999	250,724	589,267	1,011	2,376
2000	554,121	886,732	2,208	3,533
2001	696,339	627,244	2,774	2,499
2002	736,426	480,725	2,911	1,900
2003	1,040,533	701,545	4,162	2,806
2004	1,551,410	1,090,476	6,156	4,327
2005	1,859,714	1,387,221	7,322	5,461
2006	2,538,802	1,770,337	10,115	7,053
2007	2,571,169	1,993,283	10,203	7,910
2008	2,935,317	2,274,077	11,694	9,060
2009	2,982,531	1,929,031	11,835	7,655
2010	1,600,231	1,057,761	12,700	8,395
2010/Q1	806,180	538,058	12,797	8,541
2010/Q2	794,051	519,702	12,604	8,249

Q: Quarter

ISE GDS Price Indices (January 02, 2001=100)

	TL Based					
	3 Months (91 Days)	6 Months (182 Days)	9 Months (273 Days)	12 Months (365 Days)	15 Months (456 Days)	General
2001	102.87	101.49	97.37	91.61	85.16	101.49
2002	105.69	106.91	104.87	100.57	95.00	104.62
2003	110.42	118.04	123.22	126.33	127.63	121.77
2004	112.03	121.24	127.86	132.22	134.48	122.70
2005	113.14	123.96	132.67	139.50	144.47	129.14
2006	111.97	121.14	127.77	132.16	134.48	121.17
2007	112.67	122.83	130.72	136.58	140.49	128.23
2008	112.56	122.69	130.63	136.65	140.81	128.03
2009	114.96	127.78	138.50	147.29	154.03	131.08
2010	114.87	127.60	138.24	146.96	153.66	132.61
2010/Q1	115.03	127.93	138.75	147.65	154.52	133.79
2010/Q2	114.87	127.60	138.24	146.96	153.66	132.61

ISE GDS Performance Indices (January 02, 2001=100)

	TL Based				
	3 Months (91 Days)	6 Months (182 Days)	9 Months (273 Days)	12 Months (365 Days)	15 Months (456 Days)
2001	195.18	179.24	190.48	159.05	150.00
2002	314.24	305.57	347.66	276.59	255.90
2003	450.50	457.60	558.19	438.13	464.98
2004	555.45	574.60	712.26	552.85	610.42
2005	644.37	670.54	839.82	665.76	735.10
2006	751.03	771.08	956.21	760.07	829.61
2007	887.85	916.30	1,146.36	917.23	1,008.52
2008	1,047.38	1,083.04	1,369.76	1,070.37	1,241.27
2009	1,165.91	1,227.87	1,558.64	1,247.88	1,421.58
2010	1,206.63	1,273.23	1,619.36	1,299.00	1,479.82
2010/Q1	1,186.30	1,251.79	1,592.06	1,277.03	1,454.80
2010/Q2	1,206.63	1,273.23	1,619.36	1,299.00	1,479.82

ISE GDS Portfolio Performance Indices (December 31, 2003=100)

	TL Based						
	Equal Weighted Indices			Market Value Weighted Indices			
	EQ180-	EQ180+	EQ Composite	MV180-	MV180+	MV Composite	Repo
2004	125.81	130.40	128.11	125.91	130.25	128.09	118.86
2005	147.29	160.29	153.55	147.51	160.36	154.25	133.63
2006	171.02	180.05	175.39	170.84	179.00	174.82	152.90
2007	203.09	221.63	211.76	202.27	221.13	212.42	177.00
2008	240.13	264.15	251.95	239.21	263.57	252.36	203.07
2009	270.34	318.15	293.06	268.84	317.82	295.43	219.59
2010	280.19	332.32	304.84	278.71	332.13	307.53	225.61
2010/Q1	275.28	326.12	299.35	273.73	325.80	301.95	222.50
2010/Q2	280.19	332.32	304.84	278.71	332.13	307.53	225.61

Q: Quarter

GDS : Government Debt Securities

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