



ISE
I s t a n b u l S t o c k E x c h a n g e



ISSN 1301-1642

Volume: 12 No: 48

**The Impact of Ownership Structure on Capital Structure of
Manufacturing Firms: Evidence from the ISE (1988-2009)**
Güven Sayilgan, Yahya Sayman

The Istanbul Stock Exchange and Economic Growth
Mehmet Adak

**Shadow Banking for Connected Lending and
The Countermeasures: Turkish Case**
İhsan Uğur Delikanlı, Ali Alp, Saim Kılıç

The ISE Review

Quarterly Economics and Finance Review

**On Behalf of the
Istanbul Stock Exchange Publisher**

Deputy Chief Legal Advisor
Tayfun DEMİRÇARK

Managing Editor
Ali KÜÇÜKÇOLAK, Ph. D.

Editor-in-Chief
Saadet ÖZTUNA

Editorial Board

Mustafa BALTACI	Güzhan GÜLAY
Esin AKBULUT, Ph. D.	Hüda SEROVA
Aydın SEYMAN, Ph. D.	İlker KIZILKAYA
Adalet POLAT	Korhan ERYILMAZ
Hikmet TURLİN	Levent BİLGİN
Kudret VURGUN	Levent ÖZER
Eralp POLAT	Mert SÜZGEN
Necla KÜÇÜKÇOLAK, Ph. D.	Metin USTAOĞLU
Remzi AKALIN	Ali MÜRÜTOĞLU
Şenol KAYA	M. Kemal YILMAZ, Ph. D.
Tuncay ERSÖZ	Gürsel KONA
Hatice PİR	Recep BİLDİK, Ph. D.
Ali İhsan DİLER	Alişan YILMAZ
Alpay BURÇ	Sedat UĞUR
Bahadır GÜLMEZ	Deniz İLKILIÇ

Editorial Production & Printing

UFUK REKLAMCILIK
Maltepe Mah. Gümüşsuyu
Cad. Çiftehavuzlar Yolu
1. Matb. Sitesi No:1/68
Topkapı / İSTANBUL
Tel: 0212 544 92 30
Fax: 0212 544 92 29
www.ufukmat.com
Print Date: January 2012



The views and opinions in this Journal belong to the authors and do not necessarily reflect those of the Istanbul Stock Exchange management and / or its departments.

Copyright © 1997 ISE

All Rights Reserved

This review is published quarterly. Due to its legal status, the Istanbul Stock Exchange is exempt from corporate tax.

Address of Administration: İMKB, Istanbul Stock Exchange, Reşitpaşa Mah. Tuncay Artun Cd. Emirgan 34467, Istanbul / TURKEY

Contact Address: İMKB (ISE), Strategy Development and Research Department, Reşitpaşa Mah. Tuncay Artun Cd. Emirgan 34467, Istanbul / TURKEY

Phone: (0212) 298 21 00 Fax: (0212) 298 25 00

Internet web site: <http://www.ise.org>

E-mail: evren.arik@imkb.gov.tr, elif.mutlu@imkb.gov.tr

Associate Editors Board

Academicians

Alaeddin TİLEYLİOĞLU, Professor, Çankaya University
Ali ÇOŞKUN, Assist. Professor, Boğaziçi University
Asaf Savaş AKAT, Professor, Bilgi University
Bırol YEŞİLADA, Professor, Portland State University
Burç ULENGİN, Professor, İstanbul Technical University
Cengiz EROL, Professor, İzmir University of Economics
Coşkun Can AKTAN, Professor, Dokuz Eylül University
Çağlar MANAVGAT, Assoc. Professor, Bilkent University
Emre ÖZDENÖREN, Assoc. Professor, London Business School
Erdoğan ALKİN, Professor, İstanbul Commerce University
Gülner MURADOĞLU, Professor, Cass Business School
Halil KIYMAZ, Professor, Rollins College
Hatice DOĞUKANLI, Professor, Çukurova University
Hüseyin GÜLEN, Assoc. Professor, Purdue University
İhsan ERSAN, Professor, İstanbul University
Kürşat AYDOĞAN, Professor, Bilkent University
Mahir FİSUNOĞLU, Professor, Çukurova University
Mehmet ORYAN, Professor, İstanbul University
Mehmet Şükrü TEKBAŞ, Professor, İstanbul University
Nejat SEYHUN, Professor, University of Michigan
Neslihan YILMAZ, Assist. Professor, Boğaziçi University
Nicholas M. KIEFER, Professor, Cornell University
Niyazi BERK, Professor, Bahçeşehir University
Nuran Cömert DOYRANGÖL, Professor, Marmara University
Oral ERDOĞAN, Professor, Bilgi University
Osman GÜRBÜZ, Professor, Marmara University
Reena AGGARWAL, Professor, Georgetown University
Reşat KAYALI, Professor, Yeditepe University
Robert JARROW, Professor, Cornell University
Robert ENGLE, Professor, NYU-Stern
Targan ÜNAL, Professor, Okan University
Taner BERKSOY, Professor, Bahçeşehir University
Ümit EROL, Professor, Bahçeşehir University
Ünal BOZKURT, Professor, İstanbul University
Veysi SEVİĞ, Ph. D., Marmara University
Zühtü AYTAÇ, Professor, Bilkent University

Professionals

Adnan CEZAILRİ
Ahmet ERELÇİN, Ph. D.
Ali İhsan KARACAN, Assoc. Professor
Atilla KÖKSAL, Ph. D.
Bedii ENSARI
Berra KILIÇ, Ph. D.
Erol KATIRCIOĞLU, Professor
Cahit SÖNMEZ
Çetin Ali DÖNMEZ
Emin ÇATANA
Erhan TOPAÇ
Erik SİRRI, Ph. D.
Filiz KAYA
Hasan ERSEL, Assoc. Professor
Kenan MORTAN, Professor
Mahfı EĞİLMEZ, Ph. D.
Meral VARİŞ KIEFER, Ph. D.
Muharrem KARSLI
Ömer ESENER, Assoc. Professor
Reha TANÖR
Serdar ÇITAK
Sezai BEKGÖZ
Tolga SOMUNCUOĞLU
Ünal TEKİNALP, Professor
Vedat AKGIRAY, Professor

ISE Review is a quarterly economics and finance review published by the Istanbul Stock Exchange.

Full-text articles published in the ISE Review are available at <http://www.ise.org/publications/ISEREVIEW.aspx>

The ISE Review Price and Payment Information:

Hard Copy: US\$ 7.5 per copy (Issue No. 48)

Wire transfer to T. İş Bankası Borsa Branch

Account No: 1125 4599 (US\$ account)

Please write the name of the publication and send us a copy of the receipt.

Address: İMKB (ISE) Strategy Development and Research Department
Reşitpaşa Mah., Tuncay Artun Cad.
Emirgan 34467 Istanbul-TURKEY

Tel: +90 212 298 21 52, +90 212 298 26 88 Fax: +90 212 298 21 89

Please contact us for further information, comments and suggestions.

The ISE Review

Volume: 12 No: 48

CONTENTS

The Impact of Ownership Structure on Capital Structure of..... 1 Manufacturing Firms: Evidence from the ISE (1998-2009) <i>Güven Sayılğan, Yahya Sayman</i>	
The Istanbul Stock Exchange and Economic Growth..... 13 <i>Mehmet Adak</i>	
Shadow Banking for Connected Lending and..... 31 The Countermeasures: Turkish Case <i>İhsan Uğur Delikanlı, Ali Alp, Saim Kılıç</i>	
Global Capital Markets..... 53	
ISE Market Indicators..... 61	
ISE Publications..... 65	

The ISE Review has been included in the “World Banking Abstracts” Index published by the Institute of European Finance (IEF) since 1997, in the Econlit (Jel on CD) Index published by the American Economic Association (AEA) since 2000, and in the TÜBİTAK-ULAKBİM Social Science Database since 2005.

THE IMPACT OF OWNERSHIP STRUCTURE ON CAPITAL STRUCTURE OF MANUFACTURING FIRMS: EVIDENCE FROM THE ISE (1998–2009)

Güven SAYILGAN*
Yahya SAYMAN**

Abstract

In this study, the impact of capital structure on firms' ownership structure is examined. Therefore, manufacturing firms whose stocks are quoted on the Istanbul Stock Exchange (ISE) over the period 1998 and 2009 are covered using pooled data. On the developed model, it was investigated how ownership structure is affected by the capital structure. According to the results of the regression model, it has been found that firms which have less shareholders choose higher-risk capital structures because of increasing firm value. Furthermore, provided that capital intensity becomes higher, firms must hire professional managers. In this instance, professional managers prefer equity financing for preventing financial distresses. In summary, this study concludes that firms' ownership structure affects capital structure.

Keywords: Capital structure, ownership structure, agency theory.

JEL Classification: G32, G39

I. Introduction

Capital structure means composition of resources invested in firms' assets. Financial decisions applied by firms' managers form liabilities and capital structure. Liquid assets are kept on balance sheet due to the fact that firms cover matured liabilities and sustain operations. As a consequence, capital structure decisions require a balance between risk and value (income).

* Güven Sayilgan, Professor, Ankara University, Faculty of Political Sciences, Business Administration, Accounting and Finance Department.

Phone: 90 (312) 362 97 80 E-mail: sayilgan@ankara.edu.tr

** Yahya Sayman, Doctorate Candidate, Ankara University, Graduate School of Social Sciences, Specialist, Istanbul Stock Exchange, Listing Department.

Phone: 90 (212) 298 26 92 E-mail: yahya.sayman@imkb.gov.tr

Before 1958, finance managers have focused on optimal capital structure which suited for all circumstances. In 1958, Modigliani and Miller (M&M) have drawn attention to firms' risks. Research performed by M&M stressed that neither capital cost nor firm value were related to capital structure (Modigliani and Miller, 1958). As it is widely accepted, modern finance theory started with M&M model on capital structure. There was no general accepted theory until M&M. After M&M research which blazed finance theory, many researchers have made studies about determinants of firm capital structure.

Theories explaining capital structure reach different conclusions in emphasizing factors. Trade-off theory highlights taxes, pecking order theory highlights asymmetric information, M&M highlights efficient markets and agency theory highlights agency costs (Myers, 2001). In other words, when trade-off theory suggests external resources for financing due to the tax shields, pecking order theory proposes internal resources as retained income and sale of assets for financing. Therefore, agency theory arises stakeholders' conflict of interests. Agency theory that was firstly mentioned by Jensen and Meckling (1976) seeks minimized agency cost of resources provided externally or internally.

In a limited sense, ownership structure is explained by equity capital. Furthermore ownership structure is also related to shareholders' qualification, management relations and control of firms. Family ownership, widely-held ownership, institutional ownership, public ownership, foreign investor ownership and employee ownership are accepted ownership types. Institutional ownership means that investment bank and financial institutions established for holding stocks for operation.

II. Literature Review

Capital structure is not only passively formed by internal and external factors but also determined by conditions as growth strategies, short-run targets, investors' preferences, asset-size and assets' qualifications. In this context, shareholders who assign managers and conduct investment policy through their voting right can affect the capital structure. Depending on whether there are institutional investors or family control or public ownership in firms' shareholders, firms' capital structure can be changed.

Brailsford et al (2002) have investigated ownership power on determining capital structure on firms listed at the Australia Stock Exchange. In that study, Brailsford et al (2002) e represented ownership variables, firms' risk level (three

different variables), agency cost (three variables), asset specificity and tax as independent variables that determined the capital structure. According to Brailsford et al (2002) when firms' capital intensity increases, firms' leverage simultaneously rises. Due to increased capital intensity, shareholder who has great majority of shares make more effort for monitoring managers. For this reason, firms can diverge from maximizing shareholders' wealth. On the other hand, provided that capital intensity decreases (if firm's shareholders are institutional investors or family groups), managers can be monitored more effectively. In this case, managers have to implement investments that increase firm value and have to reject the projects having negative net present value.

Research on Far-East Asia firms prepared by Driffield et al (2007) suggested that the impact of ownership structure on firm value and capital structure explains how economic crises rise and widen. The Asian Crisis of the late 1990s started to contemplate about corporate governance applications that have never been figured out before. In Driffield et al (2007) study, relations between ownership structures, dominant shareholders' control, voting right and intervention of firm operations are investigated. Driffield et al (2007) used ownership concentration term for testing whether ownership structure imposed capital structure or not. Ownership concentration measures how ownership structure is formed. Researchers determined another variable as percentage change of the majority shareholder's control right on the cash flows. The control variables used in the research are firm size, firm age, growth opportunities and diversification. Therefore, Driffield et al (2007) when concentration of ownership increased, leverage ratio also increased. In other words, in case of narrowly-held ownership, majority shareholders prefer growth strategy based on external resources for keeping the existing ownership structure as it is.

Furthermore, Cespedes et al (2010) have researched the determinant of capital structure on Latin America and have used Herfindahl index, which is generally applied for sector competition level, for computing capital intensity.

The study by Mehran et al (1999) has asserted that if CEO ownership effects capital structure decisions. In study, the dependent variable has been total liabilities to market value of equity and total liabilities with Tobit regression model. For explaining CEO ownership dummy variable, operational income to total assets, dividend to total equity, the standard deviation of operational income to total assets, estimated value of liabilities to estimated value of total assets, natural logarithm of sales, market to book ratio and tax rate have also been used. In results, there is strong and positive evidence at impact of CEO ownership on

capital structure. In other words, the more share of CEO, the less equity financing. According to Mehran et al (1999), aiming to sustain control power on company is the basic reason of this result.

The study on China firms prepared by Li et al (2009) has revealed if public ownership, foreigner ownership and intuitional ownership have impacted on capital structure. Above mentioned situation have used as dummy variable and additionally firm size, asset tangibility, asset maturity and sector dummy variable have also used as control variables. In the result, Li et al (2009) emphasized that firms' ownership structure have had impact on firms' capital structure in all cases and, firms with public ownership have preferred more external financing than firms with foreigner ownership.

Pushner (1995) has investigated the impact of intuitional ownership on firms' capital structure. He has found strong evidence that firms with intuitional ownership has preferred less external financing. In the study, total liabilities to total assets has used as dependent variable and, intuitional owner, managerial owner and investor company's share to total equity have tested individually. On the other hand there have been control variables as assets tangibility, profitability, firm size and firm risk.

III. Data and Methodology

In this study, it is aimed to understand whether ownership structure's variety affects capital structure decisions. The suitable and attainable sample covers 179 Turkish manufacturing firms listed on the Istanbul Stock Exchange (ISE) over the period 1998 and 2009 that are used by pooled data. Data is provided from the ISE, Public Disclosure Platform and Central Securities Depository internet sites. Variables included in the regression model reflect a deep literature review. Due to the fact that capital structure and ownership structure all affect same factors, the model has naturally an autocorrelation problem. So, to prevent the above-mentioned technical problem, percentage change variables are used in the light of the literature.

IV. Model

It has been argued in the literature that there are several methods to measure capital structure. The Most commonly used one is the total debt to total equity ratio. Total debt to total assets and short run debt to total liabilities ratios are also served as measurement of capital structure. Due to the fact that these all are not

financially different much different from each other, in this study we use total debt to total equity ratio for explaining capital structure.

In empirical work, when ownership structure defined, it has been taken into consideration if any family group or majority shareholders have controlled the firm (Thomsen et al, 2000; Anderson et al, 2003). has Although family group ownership was a dominant structure in Turkey, it is not included in the study due to difficulties in mathematical modelling. However, first and second biggest shareholders' shares in the capital structure was used in the model as independent variables. Using these two independent variables actually might mean including the family group ownership variable indirectly in the regression model. Another prominent variable to measure ownership structure used in the model is the free float ratio.

Firms' size, profitability and intangible assets have been considered as control variables in the model for forecast accuracy power. Control variables mentioned-above have been inserted into the model, since they have served to improve efficiency of main independent variables such as the first two biggest shareholders and free float ratio. Eviews Version 7 has been used to estimate the model. Fixed effect and random effect models for panel data have been applied.

Initially, the model, which consists of all variables to explain the relationship between capital structure and ownership structure in the literature frameworks, has been founded. Then, statically insufficient variables have been excluded from the model and a new model has been founded again. From that point on, only this refined model has been tested with Hausman methodology that suggests fixed-effect model or random-effect model.

All independent and dependent variables that have been used in the ultimate model are exhibited as shown below.

Table 1: Description of the Variables

Variables	Proxies	Calculations
Capital Structure	BORC	Total Liabilities to Total Equity
Ownership Structure Effect	HALK	Percentage Change of Free Float Ratios
Ownership Status	BUYUK	Majority Shareholders Share Ratio
Firm Size	AKTIF	Natural Logarithm of Total Assets

Regression model with panel data have two different effects as fixed and random. In fixed effect model, α_{it} is considered fixed over all times series for all cross section data. Nonetheless, in random effect model α_i and α_t they must be different for each cross section data as ϵ_{it} error term; due to the fact that they are affected more by individual factors (Greene, 2003: 615). In order to consider firms' specific circumstances and firms' ratios' variation, initially fixed and random effects model are composed together and then, we determine whether models are sufficient (Hsiao, 2003).

V. Empirical Results

To be on the safe side, model results must be tested for non-stationary. There are many kinds of unit root tests, which are developed for panel data models in the literature applications. Nevertheless, a considerable part of these unit root tests are used for balanced-panel data. These tests may be classified as following: MADF test (Sarno and Taylor, 1998), LLC test (Levin and Lin, 1993), IPS test (Im et al, 1997) and Hadri LM test (Hadri, 2000). However, LLC test depending on irrational assumptions are used more commonly for empirical research and Maddala and Wu (1999) suggested that IPS test was more applicable for unbalanced panel data.

Due to the fact that the number of firms listed at the ISE is not constant over the years, data that are used in this study have missing points and the data set is unbalanced. For that reason, above-mentioned unit root tests (MADF, LLC and Hadri LM tests) are not applied for the ultimate model and IPS test suggested by Maddala and Wu (1999) is used with Augmented Dickey-Fuller methodology. The unit root test results show that there is no evidence of non-stationary.

Table 2: Unit Root Results

	Lag	Adjusted Chi² Test	p value
BORC	(1)	449,658	0,0001
HALK	(1)	1152,13	0,0000
BUYUK	(1)	233,633	0,0590
AKTIF	(1)	1340,66	0,0000

Since Table 1 values are consistent with literature perspective, it might be said that data are stationary.

Furthermore, Hausman test shows which effects are more suitable for model explored in this study, fixed or random one. Either fixed effects model or random effects model solutions are basically not different from each other. However, according to the result in Table-3, fixed effect model is more significant than random effect model.

Table 3: Hausman Test Result

Chi ² test	Probability (p)
35,700450	0,0000

Regression model is solved “Generalized Least Square Model” and so the ultimate model for fixed effect is exhibited as shown below.

$$\text{Fixed Effect Model: } \text{BORC}_{it} = \beta_1 \text{HALK}_{it} + \beta_2 \text{BUYUK}_{it} + \beta_3 \text{AKTIFLN}_{it} + \alpha_{it} + \epsilon_{it}$$

In regression model, if there is correlation between residuals, this situation means that model has autocorrelation. In panel regression models Durbin-Watson test adjusted for panel models and LBI statistic are suggested (Bhargava et al,1982; Baltagi and Wu, 1999). These test are shown below.

Table 4: Autocorrelation Test Result

Durbin-Watson Test	LBI Test
1,28	1,85

According to the result in Table-4, model represented above has autocorrelation problem. However Wooldridge procedure dealing with panel regression autocorrelation problem is given below.

Table 5: Autocorrelation Wald Tests Results

	Value	Probability (p)
t - test	20,61	0,0000
F - test	424,86	0,0000
Chi ² test	424,86	0,0000

According to the result in Table-5, there is strong evidence that model has autocorrelation problem and the null hypothesis must be rejected. Nevertheless the problem can be solved with White period standard errors and covariance adjustment. In hence, model with White period standard errors and covariance adjustment is exhibited as shown below.

Table 6: Model Result

Dependent Variable	BORC			
Independent Variable	Constant	Standard Derivation	t test	Probability (p)
HALK	-0,068719	0,032101	-2,140709	0.0326
BUYUK	-0,003357	0,000989	-3,392748	0.0007
AKTIF	-0,074273	0,031913	-2,327365	0.0202
C	2,131656	0,630865	3,378942	0.0008
R²	0,798060	F test		20,67012
Adjusted R ²	0,759451	F test p value		0,000000
Standard Derivation	0,277155	Durbin-Watson Test		1,612742

When t statistical test determines each variables significant degree, F test and R² statistic ascertain whole model significance situation. All test results conclude that model is statically sufficient. Excluding BUYUK which is statically significant at the 99% confidence level, other two variables are statically significant at the 95% confidence level.

VI. Conclusion

In this study, it is examined whether ownership structure conditions, such as ownership diversity and free float ratio, affect capital structure of firms listed at the ISE. The Study consists of data over 1998-2009 and according to the results, firms are not indifferent from ownership structure when they build up their capital structure.

We find negative relationship between ownership structure and capital structure. In economic perspective, it means that in case of increasing free float ratios (or decreasing majority shareholder's share), leverage ratios have been

adversely affected and they decreased. In other words, the more shareholders firms have, the more equity financing they prefer.

Thus, absences from family group, institutional investors or public ownership, firms decrease leverage ratio. However, this result is made might be new research question Nonetheless; our study results may also be interpreted as “the more the capital diffusion is, the higher the diffusion speed is”.

Capital intensity indicates number of shareholders. The firms owning more shareholders have low-capital intensity and adversely, the firms owning less shareholders have high-capital intensity. According to Jensen and Meckling (1976), the firms having low-capital intensity need professional managers. As stated in agency theory, professional managers prefer capital structure, which is unlevered and consists of more equity financing. Thus, agency cost is revealed between shareholders and professional managers because of capital structure choices.

In summary, financial decisions of manufacturing firms listed in ISE and financial decisions of firms with majority shareholders (family group or institutional investors or public ownership) might be different from each other. In the results, there is no evidence of relationship between capital structure and profitability and intangible assets. Notwithstanding, we find serious evidence to relationship between capital structure and firm size. In light of the agency theory, findings revealed that firms that increase capital intensity decrease agency costs. Thus, firm managers (at the same time firms shareholders) prefer not only more risky capital structure but also maximize shareholders’ wealth. In case of increasing free float ratios, (decreasing capital intensity), shareholders are obliged to employ professional manager. Then agency problem arises and due to avoiding financial distress, professional managers force themselves to equity financing.

References

- Anderson, Ronald C., Reeb, David M., “*Founding – Family Ownership and Firm Performance: Evidence From The S&P 500*”, The Journal of Finance, Vol: 58, No: 3, 2003, ss. 1301-1328.
- Berger, P., Ofek, E., Yermack, D., “*Managerial Entrenchment and Capital Structure Decisions*”, Journal of Finance, Vol: 52, 1997, pp. 1411-1437.
- Bhargava, A., Franzini, L., Narendranathan, W., “*Serial Correlation and the Fixed Effects Model*”, Review of Economic Studies, Vol: 49, 1982, pp. 533–549.
- Brailsford, T. J., Oliver, B. R., PUA, S. L. H., “*On the Relation Between Ownership Structure and Capital Structure*”, Journal of Accounting and Finance, Vol: 42, 2002, pp. 1-26.
- Céspedes, J., González, M., Molina, C. A., “*Ownership and Capital Structure in Latin America*”, Journal of Business Research, Vol: 63, 2010, pp. 248–254.
- Cho, M. H., “*Ownership Structure, Investment, and the Corporate Value: An Empirical Analysis*”, Journal of Financial Economics, Vol: 47, 1998, pp. 103-121.
- Driffield, N., Mahambre, V., PAL, S., “*How Does Ownership Affect Capital Structure and Firm Value? Recent Evidence from East Asia*”, CEDI Discussion Paper Series, Working Paper No: 07-04, 2007.
- Greene, William H., *Econometric Analysis*, Fifth Edition, New York: Prentice-Hall Inc., 2003.
- Hsiao, Cheng, *Analysis of Panel Data*, Second Edition, Cambridge: Cambridge University Press, 2003.
- Jensen, M. C., Meckling, W. H., “*Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*”, Journal of Financial Economics, Vol: 3, No: 4, 1976, pp. 305-60.
- Li, K., Yue, H., Zhao, L., “*Ownership, Institutions, and Capital Structure: Evidence from China*”, Journal of Comparative Economics, Vol: 37, 2009, pp. 471–490.
- Maddala, G. S., Wu, Shaowen, “*A Comparative Study of Unit Root Tests with Panel Data and a New Simple Test*”, Oxford Bulletin of Economics and Statistics, Vol: 61, No: 1, 1999, pp. 631–652.

- Mehran, H., Taggart, R. A., Yermack, D., “*CEO Ownership, Leasing, and Debt Financing*”, *Financial Management*, Vol: 28, No: 2, 1999, pp. 5-14.
- Modigliani, F., Miller, M., “*The Cost of Capital. Corporation Finance and the Theory of Investment*”, *The American Economic Review*, Vol: 48, No: 3, 1958, pp. 261-297.
- Myers, S. C., “*Capital Structure*”, *The Journal of Economic Perspective*, Vol: 15, No: 2, 2001, pp. 81-102.
- Pushner, G. M., “*Equity Ownership Structure, Leverage, and Productivity: Empirical Evidence from Japan*”, *Pacific-Basin Finance Journal*, Vol: 3, 1995, pp. 241-255.
- Thomsen, S., Pedersen, T., “*Ownership Structure and Economic Performance in the Largest European Companies*”, *Strategic Management Journal*, Vol: 21, No: 6, 2000, pp. 689-705.

THE ISTANBUL STOCK EXCHANGE AND ECONOMIC GROWTH

Mehmet ADAK*

Abstract

The causality between the number of companies that are transacted in the Istanbul Stock Exchange market and economic growth in Turkish economy has been analyzed in this study. The analysis covers the 23 years between 1986 and 2009. The study shows that the number of new firms transacted in the stock exchange market account for 18% of annual national economic growth according to least square test results. These test results have been examined using serial correlation and heteroskedasticity tests whereby significant reliable results were found.

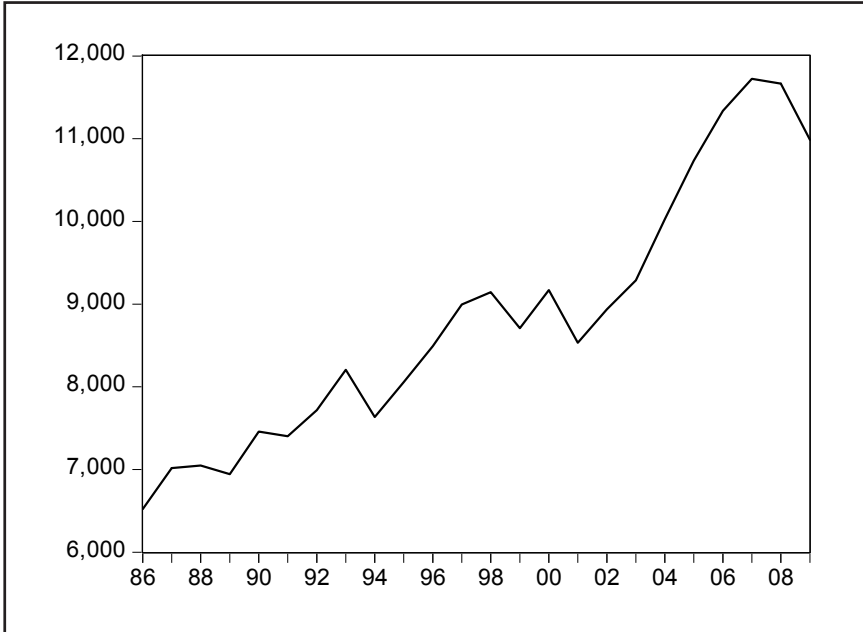
Keywords: Economic Growth, Heteroskedasticity, Least Square Method, Serial Correlation, Stock Market

JEL Classification: G10, O11, O16

I. Introduction

The effort of integrating Turkey's economy to the global economy led the government to change the law system and market system in practice. The new changes in the system generated mass production in the economy, high productivity and a rapid income increases. Per capita income was doubled between the years 1980 and 2007. Permission for Foreign exchange transactions was given in the local market. The foreign trade regime wanted to conform to the global economy, national transportation was modernized, new interconnected electricity distribution systems started running, new telecommunication systems were invested in and new energy suppliers were constructed in this period. All these developments yielded positive externalities to the private sector and became major factors in reducing costs in the long-run. New cost cuts increased the competitiveness of products and triggered economic growth.

* Mehmet Adak, Assistant Professor, Yalova University, Department of Economics, Safran Campus, Yalova, 77100, Turkey.
Phone: + 90 (226) 811 50 38 / 450 E-mail: madak@yalova.edu.tr

Figure 1: Per Capita Income (in US Dollar)

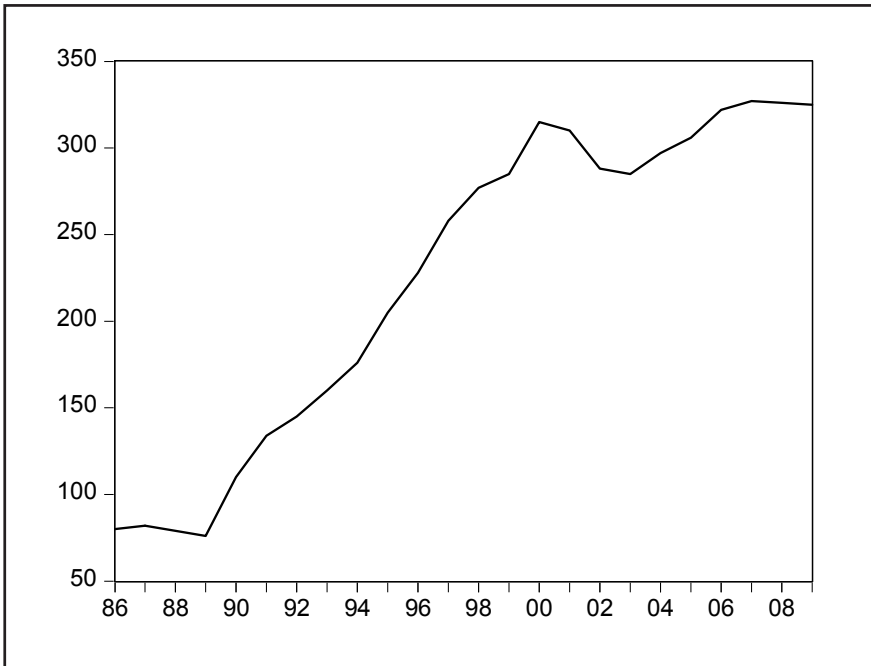
Privatization started in this period (the 80s). A big emphasis was paid to the private sector for economic growth. New incentives like; tax return for exporters, tax cuts for developing regions and export-import bank credits were given to the private sector. A lot more attention was paid to the private sector in order to make it financially strong in the international market.

The financial market structure was redesigned in modern form for the private sector's financial needs. The Securities Exchange Act was accepted by parliament so the Istanbul Stock Exchange Market reached its modern and legal identity. The firms which needed financial support could easily sell their shares in the primary market and those shares started to transact in the secondary market. These modernizations in the financial market helped Turkey become an investment center in the region.

The Istanbul Stock Exchange Market was working very simply at the beginning of the 80s. With the new technological investments, supply and demand met simultaneously in the stock market. Shares could now be kept in digital systems. Only 80 firms' shares were transacted in the market in 1986. In 2010 the number of firms whose shares were transacted in the market reached

327. This development shows how the Istanbul Stock Exchange Market grew four times bigger over the past 25 years. The traditional family companies wanted to sell their shares in the market in order to convert their family companies into institutional companies. These efforts helped the private sector conform to global standards.

Figure 2: The number of firms whose shares are transacted in the market



The analysis covering the years between 1986 and 2009 witnessed big production output and structural developments in the financial market. This paper focuses on the interrelation between the number of companies that sell their shares yearly in the stock market and yearly per capita income development in the national economy.

The brief economic background is shown in section 2. Each variable's time series is analyzed and their structural properties are shown in section 3. In section 4 Ordinary Least Square method is employed and the regression model is designed with dependent and independent variables. Statistical values which

are reached after the calculations are tested for their significances. The test results and relation between variables are summarized in section 5.

II. Literature

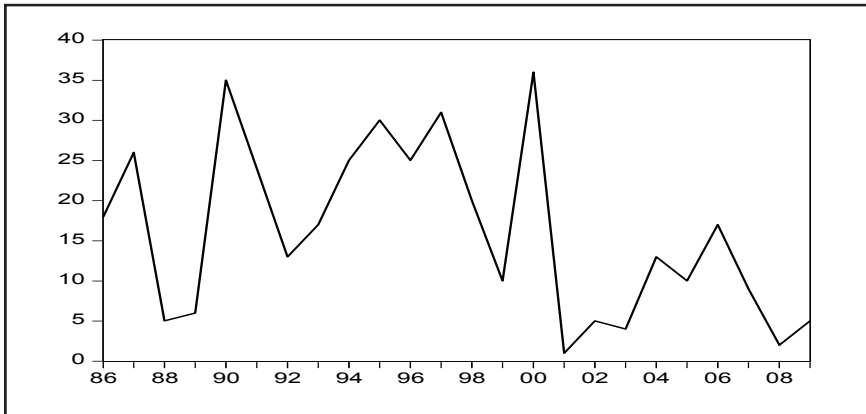
Cooray integrates the developments in Stock Market as an independent endogenous variable in aggregate production function and he also did an economic growth analysis for 30 countries (Cooray, 2010). He concludes that the stock markets have a positive influence on national economies in the long-run and that the growth rates of economies which have developing stock markets converge into a natural equilibrium. Minier did his analysis on 40 countries. He proved that the developments in the stock markets are parallel to economic developments in those countries. He saw that the new opened stock market helped the economic growth in the first 5 years in those countries for the year between 1960 and 1998 (Minier, 2010). In another study which was done for 30 countries, we can see that stock markets have a significantly positive effect on economic growth (Saci, Giorgionive Holden, 2009). Fengqianq and Zhenling worked on the national Chinese economy. They analyzed the cointegration relation between economic development in china's economy and Shanghai Stock Market. But they did not find significant relation between two variables (Fengqiang ve Zhenling, 2010). There is also a study done on financial development and economic growth for Turkey. This study depends on testing the relation with cointegration and causality analysis (Çetintaş, Barışık, 2003). They found that there is a positive relation between financial development and economic growth for long run analysis in Turkey. Granger causality was found between two variables.

There has been some regional economic research done in this subject as well. Developments in stock markets, capitalization in markets and increasing liquidity have positive effects on economic growth in the European Union (Wu, Houand Cheng, 2010). Another regional economic research was done for the African continent (Adjasi and Biekpe, 2006). Dynamic panel data model was employed for 14 African countries. A positive relation was found between developments in stock markets and economic growth in the analysis. The liberalization in stock markets and an open stock market to international investors brought big production and productivity to national economies (Kose, Prasad and Terrones, 2009). Total Factor Productivity developments were seen in economies after liberalization activities in financial markets.

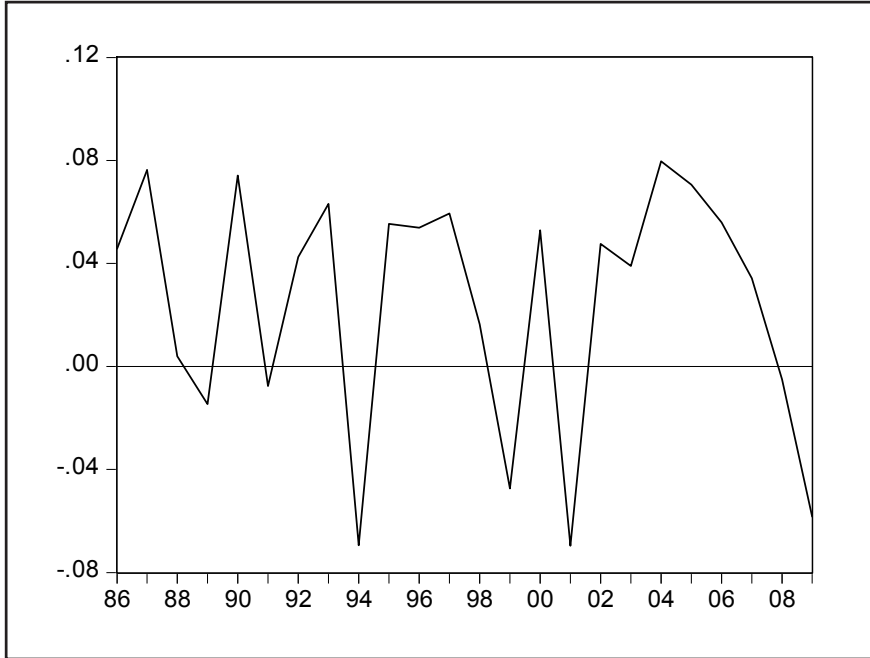
III. Data Set

The number of firms whose shares began to have transactions in the Istanbul Stock Market was sourced from Istanbul Stock Market's data base. The series was in annual formation.

Figure3: The number of firms whose shares are started to be transacted in the market



The per capita income series was sourced from OECD data base. The series was performed in US dollars and in annual formation. The annual development in per capita income is calculated as t period's income value subtracted from t-1 period's income value and the difference between the two years was divided by t-1 (initial) period's income value. The development in per capita income is calculated as a percentage for each year.

Figure4: Annual Development in Per Capita Income

Per capita income increased on an average of 2.4 % p.a. during analysis covering the 24 year period. The maximum development in per capita income occurred in 2004 with 7.9 % while the minimum development in per capita income occurred in 2001 with a decrease of 6.96 %.

Table 1: General Properties of Variables

	Per Capita Income Developments	Number of Companies
Mean	0.024961	16.12500
Median	0.044138	15.00000
Maximum	0.079726	36.00000
Minimum	-0.069658	1.000000
Std. Dev.	0.047495	10.82795
Skewness	-0.842590	0.326815
Kurtosis	2.431993	1.883835
Jarque-Bera	3.162460	1.673055
Probability	0.205722	0.433212
Observation	24	24

On an average, 16 company's shares' began to have transactions in the Istanbul Stock Exchange Stock Market yearly between 1986 and 2009. The maximum participation in the Stock Market happened in the year 2000 with 36 companies and the minimum number of companies joining the Stock Market was in the year 2001 with 1 company.

When both series' distributions were analyzed we saw that the series' Jarque-Bera probability values stayed below 50 %. It means that both series were not distributed normally.

Table 2 and Table 3 give information about the interrelation of two variables with covariance and correlation matrixes. A positive relation between the two variables can be seen in both tables.

Table 2: Covariance Matrix

	Per Capita Income Developments	Number of Companies
Per CapitaIncomeDevelopments	0.00216	0.20909
Number of Companies	0.20909	112.35937

Table 3: Correlation Matrix

	Per Capita Income Developments	Number of Companies
Per Capita Income Developments	1	0.42427
Number of Companies	0.42427	1

The unit root test was employed for both time series. The Augmented Dickey Fuller Test results are given in Table 4. The regression models which were performed in the unit root test are designed with intercept and intercept-trend together. According to test results in Table 4, both series are stationary in level I (0) and there are no unit roots in 5 percent significance.

Table4: Augmented Dickey-Fuller Unit Root Test (ADF)

Time Series	in level	
	withintercept	Withintercept and trend
Per Capita Income Developments	-4.894511 (0.0007)	-4.788107 (0.0045)
Test Critical Values: 5 % level	-2.998064	-3.622033
Number of Companies	-3.586075 (0.0145)	-4.214694 (0.0152)
Test Critical Values: 5 % level	-2.998064	-3.622033

Mac Kinnon's one sided probability values are given in parenthesis. The variable lag length is evaluated according to Schwarz info criterion in unit root tests.

IV. Analysis

Ordinary Least Square method is employed in this study. The regression analysis tests the interrelation between the annual economic growth and the number of firms whose shares began to have transaction in the Istanbul Stock Exchange Market annually.

4.1. Ordinary Least Square Method

The dependent variable of the model is per capita income growth rate in percentage and the independent variable is the number of companies whose shares began to have transactions in the stock market annually. The function which gives causality relation is given below;

Annual development in per capita income
 $= f(\text{number of companies whose shares started to transacted every year})$

We can write the causality relation in a linear model as follows;

$$income = \beta_0 + \beta_1 firms + \varepsilon$$

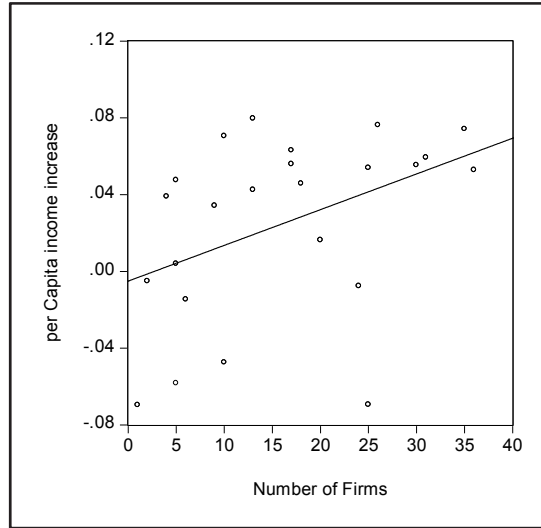
β_0 and β_1 are coefficients of the model. ε is the error term of the model. According to the unit root tests' results both time series were found stationary in level I(0). That is why there is no problem in using the ordinary least square method with the time series which are stationary in level I(0).

Ordinary Least Squares Analysis results are given in Table 5. The regression's constant was found negative and the independent variable coefficient's sign was found positive.

Table 5: Ordinary Least Squares Model's Result

Dependent Variable:income				
Method: Least Squares				
Sample:1986 2009				
Included Observations:24				
Variable	Coefficient	Std. Error	t-Statistics	Probability
Constant	-0.005047	0.016341	-0.308874	0.7603
firms	0.001861	0.000847	2.197597	0.0388
R-square	0.180005	Meandependent var		0.024961
Adjusted R-squared	0.142733	S.D. dependent var		0.047495
S.E. of regression	0.043975	Akaikeinfocriterion		-3.330750
Sumsquaredresid	0.042543	Schwarzcriterion		-3.232579
Loglikelihood	41.96900	Hannan-Quinnriter		-3.304705
F-statistic	4.829434	Durbin-Watson stat		1.721331
Probability (F-statisitcs)	0.038800			

When we compare the t-statistic values with critical t-statistical values we can easily see that the independent variable's t-statistics value exceed the 95 % significance critical value but the regression constant's t-statistics value could not exceed the 95 % significance level. The R-square and adjusted R-square were found at 18 % and 14 %. Accordingly we can say, changes in the number of firms whose shares began to have transactions in the market every year statistically explain the changes in per capita income growth of 18 %.

Figure5: Ordinary Least Squares Model's Graph

Standard Error of Regression and Sum Squared Residual (0.04) were found at very low values. Regression's F-statistics value exceeds the 5 % significance level. F-statistics probability ratio was calculated as 3 %. Linear model is given in Figure 5 in 2 dimension system. Regression's constant cuts the vertical ordinate below the 0 point and it shows the intercept's negative value. The regression line has a positive slope. The Durbin-Watson statistics value, which gives information about autocorrelation was found close to 2. From this statistic we can argue that there is no autocorrelation in the model.

4.1.1. Autocorrelation Test

Autocorrelation is a relation between t period's error term and $t-1, t-2, \dots, t-n$ periods' error terms by using ordinary least squares methods. Despite Durbin Watson's analysis which explains the autocorrelation in the model, it also uses the LM test and correlogram methods to reach the final result.

4.1.1.1. Breusch-Godfrey LM Test

Breusch-Godfrey autocorrelation LM Test works with regression model as below;

$$e_t = \beta_1 + \beta_2(\text{firms}) + \beta_3 e_{t-1}$$

e_t represents the error term of the regression model. The test is designed in AR(1) (Autoregression) form for e_t . LM test model run in one lag length for e_t . The aim of the test depends on checking the β_3 's statistical significance. R-square, F-statistics and t-statistics are the key indicators for this test. The following hypothesis are tested in the analysis;

$$H_0: \beta_3 = 0$$

$$H_1: \beta_3 \neq 0$$

The Breusch-Godfrey Autocorrelation LM Test's F-statistics value (first row in Table 6) is calculated by taking the square power of the β_3 parameter's t-statistics value.

$$F\text{-statistics} = t^2$$

$$0.206795 = (0.454747)^2$$

The Breusch-Godfrey Autocorrelation LM Test's χ^2 value (second row in Table 6) is calculated by multiplying the R-square value with the number of observation (N).

$$LM = N \times R^2$$

$$0.234032 = (24) \times (0.009751)$$

The calculated values were compared with the critical values which show a 5 % significance level. In conclusion H_0 hypothesis cannot be rejected.

$$F_{0.95, 1, 21} = 4.324793 > 0.206795$$

$$\chi^2_{0.95, 1} = 3.841458 > 0.234032$$

No autocorrelation was found in regression analysis by LM test.

Table 6: Breusch-Godfrey LM Test

<i>F-statistics</i>	0.206795	<i>Probability F(1,21)</i>	0.6540	
<i>(observations) X (R-Square)=χ^2</i>	0.234032	<i>Probability $\chi^2 (1)$</i>	0.6285	
<i>Dependent Variable: e_t</i>				
<i>Method: Least Square</i>				
<i>Sample: 1986 – 2009</i>				
<i>Included Observations (N): 24</i>				
<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-statistic</i>	<i>Probability</i>
<i>Constant</i>	-0.002198	0.017332	-0.126832	0.9003
<i>Firms</i>	0.000119	0.000901	0.131817	0.8964
<i>e_{t-1}</i>	0.108502	0.238599	0.454747	0.6540
<i>R-Square</i>	0.009751			

4.1.1.2. Correlogram Method

Another method which gives information about autocorrelation is the correlogram method. According to this approach correlation is calculated between error term of e_t and $e_{t-1}, e_{t-2}, \dots, e_{t-n}$ one by one and each correlation value is represented in the graph. Error terms' correlogram is given in Table 7. Each horizontal block shows the correlation value of error term in (t) period with previous periods' ($t-1, t-2, \dots, t-12$) error terms. Correlation values are also given in numeric form next to the correlogram. None of the horizontal block could exceed the 5 % significance level which is driven by dots. We can argue that there is no autocorrelation in the regression analysis in 5% significance level.

Table 7: Correlogram

Sample: 1986 2009	
Included observations: 24	
Autocorrelation	AC
	1 0.090
	2 0.050
	3 0.029
	4 -0.267
	5 -0.052
	6 -0.197
	7 -0.026
	8 -0.071
	9 -0.048
	10 0.118
	11 -0.119
	12 -0.050

4.1.2. Heteroskedasticity Test

The white test is employed in our analysis with the following model;

$$e_i^2 = \beta_1 + \beta_2 \Delta(Firms) + \beta_3 \Delta(Firms)^2 + v_i$$

Tested hypothesis are given below

H_0 : there is no Heteroskedasticity

H_1 : there is Heteroskedasticity

Or

$$H_0: \beta_2 = \beta_3 = 0$$

$$H_1: \beta_2 \neq \beta_3 \neq 0$$

The White Test statistic is calculated as multiplying the observation number (N) with R-square value which is given Table 8. White test statistic is asymptotically distributed as a χ^2 with a degree of freedom equal to the number of parameters excluding constant. The multiplication of observation (24) and R-square value (0.030749) gives 0.737965;

$$\chi^2 = NXR^2$$

$$0.737965 = 24 \times 0.030749$$

$$\chi^2_{0.95, 2} = 5.99146 < 0.737965$$

The calculated White statistics value χ^2 which was calculated with two degrees of freedom could not exceed the critical (5.99146) value which is boundary of 5 % significance level. Under this circumstance we cannot reject the H_0 hypothesis. We accept the H_0 hypothesis and reject the H_1 hypothesis. We can conclude that there is no heteroskedasticity in the regression analysis.

Table 8: Heteroskedasticity Test; White Test

F-Statistics	0.333102	ProbabilityF(2,21)	0.7204	
(Observation) X (R-Square)	0.737965	Probability $\chi^2(2)$	0.6914	
Dependent Variable: e^2				
Method: LeastSquares				
Sample: 1986 2009				
Included Observations: 24				
Variable	Coefficient	Std. Error	t-statistics	Probability
Constant	0.001359	0.001539	0.883236	0.3871
$\Delta(\text{firms})$	0.000115	0.000209	0.551967	0.5868
$\Delta(\text{firms})^2$	-3.88E-06	5.66E-06	-0.686182	0.5001
R-Square	0.030749			

V. Conclusion

The interrelation of economic growth and the number of companies whose shares began to have transactions in the Istanbul Stock Exchange Market annually is studied in this paper. The relation between the two variables is expressed in a linear model. The estimated model was checked by the heteroskedasticity test and autocorrelation tests. There was no heteroskedasticity nor autocorrelation found in the model. The variables' time series were tested by unit root test for significance of regression analysis. If the regression analysis had been run with non-stationary series, we would have seen robust results. Both series were found stationary at level $I(0)$. After running the regression analysis R-square was found at 18 %. This means that the changes

in the number of firms whose shares began to have transactions in the market annually can explain the changes in annual economic growth rate as 18 percentages.

The regression analysis depends on the linear relationship between variables. It aims to minimize the error terms in the linear model. The two variables are moving together in the same direction except for a few years. During the heavy economic crisis in 1994,1999,2001 and 2008 there was depreciation in annual economic growth. The number of firms whose shares began to have transactions in the market also depreciated from the previous year except for the year 1994. Small shocks were also monitored in 1989 and 1991.

Beside the big economic crises in the economy, small recessions were seen in 1989 and 1991. The number of firms whose shares began to have transactions in the market decreased in 1991 compared to the previous year but the same was not true for the year 1989 where the number of firms whose shares began to have transactions in the market had not changed since 1988. The number of firms whose shares began to have transactions in the market increased during the positive developments in the national economy.

The relation between annual economic growth in national economy and the development in the number of companies whose shares began to have transactions in the market was found positive. It is a common view that financial developments have a positive influence on economic growth. The major financial developments can be calculated according to the geographic location of stock markets, how big the stock market is and how open the stock market is to foreign investors. The only one independent variable influence on economic growth is tested in this study. The relation between other financial developments and annual economic growth can be researched in following other detailed studies.

In conclusion, a positive relation was found between the annual economic growth of Turkey and the number of companies whose shares were transacted in the Istanbul Stock Market annually in the period between 1986 and 2009 (23 years). We can therefore say that developments in the number of firms whose shares were transacted in the Market can explain the 18 %p.a. growth in the Turkish economy.

References:

- Adjasi, C., K., D., Biekpe N., B. "StockMarket Development andEconomicGrowth: The Case of SelectedAfricanCountries" African Development Review, (2006) 18, 1, s.s. 144-161
- Cooray, Arusha "Do stockmarketsleadtoeconomicgrowth?" Journal of PolicyModeling, 32, (2010), s.s. 448-460
- Çetintaş, H., Barışık, S. "Türkiye’de Bankalar, Sermaye Piyasası ve Ekonomik Büyüme: Koentegrasyon ve Nedensellik Analizi (1989-2000)" İMKB Dergisi, 7, 25-26, (2003) s.s. 1-16
- Enders, W., (2003) *AppliedEconometric Time Series*, 2nd Edition, Wiley
- Fengqiang, L., Zhenling, L., "StockMarketandEconomicGrowth: Does it Cointegratedor not in China?" International Conference on Network and Finance Development, (2010), 223-227
- Griffiths W., E., Hill, R., C., Guay, C. L., (2008) *Using EviewsforPrinciples of Econometrics*, Third Edition, John Wiley&Sons, Inc
- Gujarati, D. N.,Porter, D., C., (2009) *Basic Econometrics*, Fifth Edition, McGraw-Hill International Edition
- Kose, M., A., Prasad, E., S., ve Terrones, M., E., "DoesOpennessto International Finance FlowsRaise Productivity Growth?" Journal of International Money and Finance, 28, 4, s.s. 554-580
- Minier, J., "Opening a Stock Exchange" Journal of Development Economics, 90, 1, s.s. 135-143
- Saci, K.,Giorgioni, G., ve Holden, K., "Does Financial Development AffectGrowth?" AppliedEconomics, 41, 13, s.s. 1701-1707
- Wu, J., Hou, H., ve Cheng, S. "TheDynamicImpacts of Financial Institutions on EconomicGrowth: EvidencefromtheEuropeanUnion" Journal of Macroeconomics, 32, 3, s.s. 879-891
- Vogelvang, B., (2005) *EconometricsTheoryand Applications withEviews*, Pearson

SHADOW BANKING FOR CONNECTED LENDING AND THE COUNTERMEASURES: TURKISH CASE

İhsan Uğur DELİKANLI*
Ali ALP**
Saim KILIÇ***

Abstract

Paper aims to provide some lessons from the Turkish experiences to regulatory bodies which would like to take measures against shadow banking. It is organized as literature review and case study. The literature review firstly covered the need of banking regulation, then shadow banking and shadow credit intermediation process and the question of how these activities are implemented. The case study described how the banks transferred to Saving Deposit Insurance Fund between 1998-2001 extended more loan to their principal shareholders exceeding legal limits for connected lending via their affiliates or the entities set up in unregulated jurisdictions by considering Shapiro's (2003) models for intercompany lending activities of the multinational companies and the similarities with the shadow credit intermediation and countermeasures developed by the Turkish authority for them. Our main finding is that it would be needed to revitalize the forgotten justification for banking regulation, keeping them small, asserted by Mishkin (2001). This is why, it could help it to develop the regulations not only by function but also by form.

* İhsan Uğur Delikanlı, Ph. D., Banking Regulation and Supervision Agency.
Phone: 90 (312) 455 65 28 E-mail: idelikanli@bddk.org.tr

** Ali Alp, Professor, TOBB University of Economics and Technology, Department of Business Administration.

Phone: 90 (312) 292 41 17 E-mail: aalp@etu.edu.tr

*** Saim Kılıç, Ph. D., Head of Inspection and Surveillance Board of Istanbul Stock Exchange
Phone: 90 (212) 298 21 00 E-mail: saim.kilic@imkb.gov.tr

The views and opinions expressed in this article belong to the authors and do not necessarily reflect those of the Banking Regulation and Supervision Agency and the Istanbul Stock Exchange.

Keywords: Banking Regulation, Shadow Banking, Shadow Credit Intermediation.

JEL Classification: G15, G21, G28

I. Introduction

Gresham's principle¹ stands for the proposition that greed tends to overwhelm refined human impulses for good in a market economy. It can be applied to banking as well : shadow banking activities tend to drive out the regulated banking activities. Just as bad money cannot drive out good if the supply of bad money is quite limited, so also, shadow banking cannot drive out regulated banking unless there are more favourable conditions for shadow banking.

The absence of regulations or less regulatory burdens in uncooperative and tax heaven jurisdictions enables the banks to operate under more favourable conditions. Also it is not required to have an established position there to operate. However, banks' on and off-balance sheet exposures to counterparties in other jurisdictions, cooperative or non-cooperative, provide one linkage through which economic and financial shocks can be transmitted.

Turkey has witnessed that 20 banks were transferred to Saving Deposit Insurance Fund (SDIF) between 1998 and 2001. The problems emanating from connected lending with the aim of funding by exceeding legal limits have played an important role especially in the deterioration of those of 12 banks' financial structures (BRSA, 2010 : p.15). The affiliates in unregulated jurisdictions helped also them to extend more as shadow credits to their parent partners. In spite of the efforts for regulatory harmonization with international standards, regulations had not been designed considering that the Turkish banks could gain a flexibility to act like an international bank by having an affiliate in an unregulated jurisdiction and so, avoid domestic limits by extending shadow credits via it. This weakness may be thought as part of "regulatory dialectic" defined by Kane (1999). In his model, three stages appear, regulatory actions as initiating process, adaptive sequence as regulatory avoidance and lastly, re-regulation. Thus, improved regulations designed as countermeasures for the shadow banking activities of Turkish banks can be seen as a re-regulation process.

¹ "Bad money drives out good" Sir Thomas Gresham (1551)

But, emerging economies like Turkey do not have sufficient resources to struggle with ongoing banking crises and so, have to fill loopholes in the banking regulations which can lead to systemic distortions in the sector. Also, recent global crisis has shown that developed or emerging, each economy has more or less importance for sustaining global financial stability. So, prudential banking regulation is essential to the performance of the global economy as a whole.

This paper, therefore, aims to explore the measures which could be taken for the shadow banking activities in unregulated jurisdictions by reviewing the literature and describing the Turkish case.

II. The Rationales for Banking Regulation

Regulation is identified as a defining feature of any system of social organization and the design of general rules, the creation of institutions responsible for their implementation, the clarification of the exact meaning of a general rule in particular circumstances, the enforcement of the rule in those circumstances, by Hancher and Moran (1989; cited in Cobb, 1997).

“In the case of banking, there is still no consensus on whether banks need to be regulated and, if so, how they should be regulated” (Santos, 2000). But, consensus exists regarding the most critical element of banking regulation: financial soundness (Borio and Filoso, 1994; Eisenbeis, 1990; Lemieux, 1993; Mullineux, 1987, cited in Cobb, 1997; Mishkin, 2001; Croushore, 2007). Because, it is accepted that the risk of systemic crisis and the correction of market imperfections and failures from asymmetric information could only be provided by the banks financially sound. The reasons for banking regulation are based on these rationalities and the need for keeping them small.

2.1. To Minimize Systemic Risk

Banks are potentially subject to runs that may have contagious effects. The externality is that the failure of an insolvent bank can cause other banks' depositors to withdraw their deposits. The essential function of banking is to create a special kind of debt, debt that is immune to adverse selection by privately informed traders (Gorton and Pennacchi, 1990; Holmström, 2008 and Dang, Gorton and Holmström 2009; cited in Gorton, 2009: p.3). The leading example of this is demand deposits.

Diamond and Dybvig (1983) were the first to model bank runs. Their model suggests an equilibrium in which all depositors try to close their accounts and thus, the possibility of runs, even for sound and solvent banks, arises basically from the transformation of fixed value deposits that can be withdrawn on demand to illiquid loans with uncertain values.

A related type of market failure stresses the "contagious" nature of bank runs (Baltensperger and Dermine, 1987). A bank failure can trigger a run on another, when failure of one bank leads to a heightened risk of failure by others due to direct financial linkages between banks through interbank market or shifts in perceptions of the customers of the solvent banks. Contagious failures can cause severe damages to the macro economy, notably if there is a failure of the payment mechanism, as well as via the withdrawal of credit facilities from borrowers who depend on the institutions affected. Prudential banking regulation provides a mechanism to avoid potential systemic dangers that would damage the financial system to such extent that all economic activities would suffer. These externalities justify more government attention and regulation than for an ordinary business firm (Croushore, 2007: p. 248)

2.2. To Prevent Market Imperfections and Failures From Asymmetric Information

Llewelyn (1999) sees asymmetric information as the main reason for market failures, because banks are better informed about the quality of their loans and the security of their assets than are depositors. Asymmetric information causes two problems: adverse selection² and moral hazard³ (Mishkin, 2001: p. 2 : Croushore, 2007: p.221).

Depositors can improve their information by monitoring banks. Monitoring bank solvency, however, is expensive and requires skills that small depositors may not have. So, the protection of non-professional consumers of banking services (asymmetric information) is one of the theoretical reasons for banking regulation/supervision according to Goodhart (LSE, 2010:p.167).

² The possibility that they will choose an incompetent or dishonest firm for investment or agent for the execution of a transaction

³ The possibility that firms or agents will put their own interests or those of another customer above those of other customers or even engage in fraud

According to Dewatripont and Tirole (1992), when a bank is in trouble, bank managers and equity holders have an incentive to gamble for resurrection. As a consequence, debt holders of banks, i.e., depositors, must take control when bank performance is bad because their incentives are to limit risk taking. A large number of small free-riding depositors, however, cannot perform this task, which suggests a role for public intervention. A public agency would have to regulate banks ex-ante by imposing capital requirements and limiting the growth of deposits. In addition, a public agency would have to intervene ex-post acting on behalf of the small depositors in bad times. Prudential banking regulation provides a mechanism to protect unsophisticated customers who would find it excessively costly to monitor banks.

2.3. To Keep Small

To keep banks small, the authorities enforces a variety of regulations that prevent banks from merging and that limit the activities a bank engage in. Thus banks are not allowed to operate like other business firms. They can not enter many markets where they could earn profits unless the law specifically allows them to do so (Croushore, 2007: p.253). An example of such limitation is the Glass-Steagall Act of USA passed into law in 1993 as response to the Great Depression and remained in force until 1999 by prohibiting banks from underwriting securities or buying and selling securities for their customers or selling mutual funds.

Mishkin sees this reason for banking regulation as a need to take steps to limit the moral hazard and adverse selection that the safety net provided by all governments or banking authorities explicitly or implicitly creates (Mishkin, 2001: p.8). He calls it as prudential supervision in which the government or banking authority establishes regulations to reduce risk taking and then supervisors monitor banks to see that they are complying with these regulations and not taking on excessive risk. Such regulations may be in the form of restrictions on asset holdings and activities or capital requirements or risk based deposit insurance premiums. These regulations provide also countermeasures for the bank regulators naturally reluctant to allow a big bank to fail and cause losses to its depositors. Because the moral hazard created by a government safety net and the desire to prevent bank failures have presented bank regulators with a particular quandary (Mishkin and Eakins, 2006:p.516). Kay (2010) also favours

functional separation of financial services architecture, with particular emphasis on narrow banking-tight restriction of the scope and activities of deposit taking institutions.

III. Shadow Banking and Shadow Credit Intermediation

Traditionally, commercial banks and savings institutions have accepted deposits from consumers and businesses, which become the banks' liabilities. These deposits can be withdrawn at any time with little or no penalty and, up to statutory limits, are insured by the deposit insurance schemes. In return for depositing money with the banks, savers receive interest payments. Putting these deposits to work, banks provide longer-term loans directly to borrowers. This activity, transforming the risk and/or timing of cash flows between savers and borrowers, is called financial intermediation. Over the years, a growing fraction of financial intermediation migrated outside of commercial banks, connecting savers and borrowers through other domestic and international markets. The financial institutions and markets involved in this process comprise the shadow banking system. Like the traditional banking system, the shadow banking system conducts credit intermediation.

3.1. Shadow Banking

Shadow banking refers to bank-like financial activities that are conducted outside the traditional commercial banking system, many of which are unregulated or lightly regulated. Regulatory focus on bank safety and soundness promoted the growth of the shadow banking system in three ways: (1) restrictions on banking activities encouraged nonbanks to develop new services; (2) capital requirements encouraged banks to transfer assets and activities to the jurisdictions providing regulatory arbitrage facility and into off-balance sheet vehicles; and, (3) supervision was less or no intensive for nonbank financial institutions and in some jurisdictions. Also, the development of the shadow banking system coincided with the proliferation of financial investment options available to households and corporations. Rather than store their savings predominantly in their local commercial banks, thrifts, or credit unions, households and corporations increasingly invested outside of commercial banks.

Regulatory arbitrage was the root motivation for many shadow banks to exist. Shadow banks created for the purposes of regulatory arbitrage will always

exist—for every regulatory action (especially globally uncoordinated ones), there will almost certainly be an arbitrage reaction in the shadows (Pozsar and others, 2010:p.72).

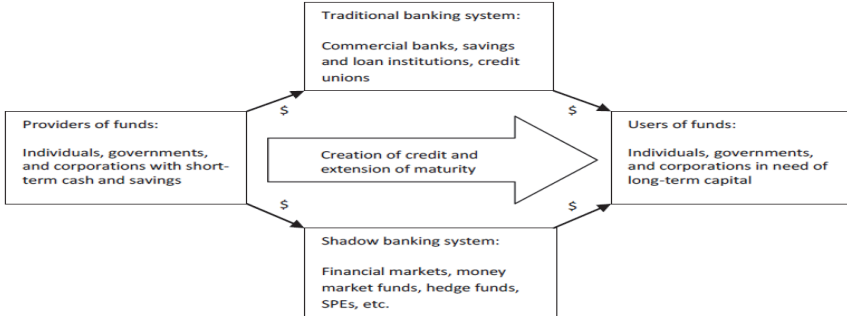
The shadow banking system, like the traditional banking system, has three actors: savers, borrowers, and—instead of banks—specialist non-bank financial intermediaries, or shadow banks. Pozsar and others (2010:p.20) identified the three distinct subgroups of the shadow banking system. These are: (1) the government-sponsored shadow banking sub-system; (2) the “internal” shadow banking sub-system; and (3) the “external” shadow banking sub-system.

Shadow banks are financial intermediaries that conduct maturity, credit, and liquidity transformation without access to central bank liquidity or public sector credit guarantees (Pozsar and others, 2010).

3.2. Shadow Credit Intermediation

Figure 1 summarizes the traditional banking and shadow banking financial intermediation channels. As seen, short-term savings are transformed into long-term sources of capital that allow individuals, governments, and corporations to engage in economic activity. The two systems often overlap as institutions in both systems take place for credit intermediation.

Pozsar and others (2010) see that credit intermediation involves credit, maturity, and liquidity transformation. Credit transformation refers to the enhancement of the credit quality of debt issued by the intermediary through the use of priority of claims. For example, the credit quality of senior deposits is better than the credit quality of the underlying loan portfolio due to the presence of junior equity. Maturity transformation refers to the use of short-term deposits to fund long-term loans, which creates liquidity for the saver but exposes the intermediary to rollover and duration risks. Liquidity transformation refers to the use of liquid instruments to fund illiquid assets. For example, a pool of illiquid whole loans might trade at a lower price than a liquid rated security secured by the same loan pool, as certification by a credible rating agency would reduce information asymmetries between borrowers and savers.

Figure 1 : Credit Creation in Traditional and Shadow Banking

Source : FCIC, 2010 : p.10.

Shadow banks provide credit intermediation function outside the banking system with maturity and liquidity transformation (ie. investing in long-term illiquid assets by short-term liquid funds usually from the wholesale funding markets). They can be affiliated with banks and/or broker-dealers (and their holding companies), or can also be standalone, without any affiliation to the regulated entities, and include: finance companies, asset backed commercial paper conduits, special investment vehicles, credit hedge funds, money market mutual funds. Unlike the traditional banking system, where credit intermediation is performed “under one roof”—that of a bank—in the shadow banking system it is performed through a daisy-chain of non-bank financial intermediaries, and through a granular set of steps. These steps are shown in the Figure 2.

First, loan origination is performed by finance companies which are funded through commercial paper (CP) and medium term notes (MTNs). Second, loan warehousing is conducted by single and multi seller conduits and is funded through asset-backed commercial papers (ABCP). Third, the pooling and structuring of loans into term asset backed securities (ABS) is conducted by broker dealers’ ABS syndicate desks. Fourth, ABS warehousing is facilitated through trading books and is funded through repurchase agreements (repo), total return swaps or hybrid and repo/TRS conduits. Fifth, the pooling and structuring of ABS into CDOs is also conducted by broker dealers’ ABS syndicate desks. Sixth, ABS intermediation is performed by limited purpose finance companies (LPFCs), structured investment vehicles (SIVs), securities arbitrage conduits and credit hedge funds, which are funded in a variety of ways including for example repo, ABCP, MTNs, bonds and capital notes. Seventh, the funding of all the

above activities and entities is conducted in wholesale funding markets by funding providers such as regulated and unregulated money market intermediaries and direct money market investors (such as securities lenders).

Figure 2 : Shadow Banking Chain



Source: Pozsar and others, 2010:p.13.

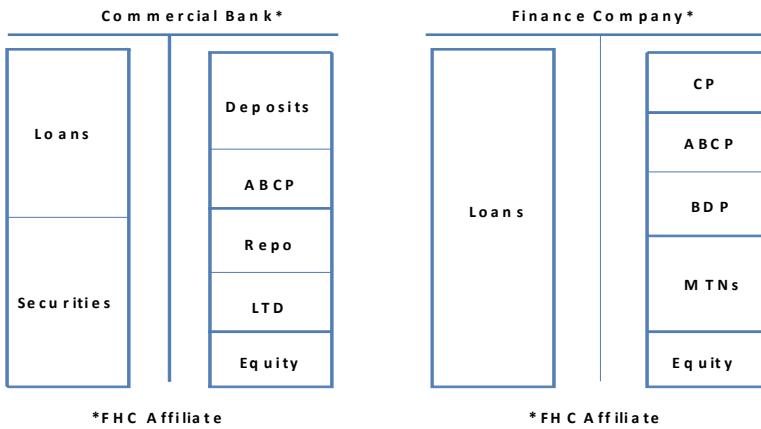
As seen, the shadow credit intermediation process binds shadow banks into a network which forms the backbone of the shadow banking system, and conducts an economic role that is analogous to the credit intermediation process performed by banks in the traditional banking system. Whether an intermediation chain is shorter or longer than seven steps it always starts with origination and ends with wholesale funding, and each shadow bank appears only once in the shadow credit intermediation process.

In the the government-sponsored shadow banking sub-system, the Government Sponsored Enterprises (GSEs) funded their loan and securities portfolios with a maturity mismatch. Unlike banks, however, the GSEs were not funded using deposits, but through capital markets, where they issued short and long-term agency debt securities to money market investors, such as money market mutual funds, and real money investors such as fixed income mutual funds, respectively (Pozsar and others, 2010:p.20). This is why, the government-sponsored shadow banking sub-system is not involved in loan origination, only loan processing and funding.

The “internal” shadow banking sub-system is based on Financial Holding Company (FHC) structure. The shadow credit intermediation process involves the vertical (functional) slicing of the traditional bank lending process into distinct steps, and the horizontal (risk and term) tranching of loan pools. Each of these functions and activities were conducted from those on- or off-balance sheet corners of an FHC and in a manner that required the least amount of capital to be held against them. Similarly, the funding of the term and risk slices of loan pools

was conducted from those corners of FHC and in a manner that was the most capital efficient. Due to the global nature of most FHCs, these activities were also conducted from jurisdictions that had the most lenient oversight of certain types of functions, with the origination, warehousing and securitization of loans conducted mainly from New York, and the funding of final products (ABS intermediation) conducted mainly from London and other offshore centers (Pozsar and others, 2010:p.26). In this model, FHC would originate loans in its bank subsidiary as seen from Figure 3.

Figure 3 : Loan Origination in Internal Shadow Banking Sub-System



Source : Pozsar and others, 2010.

The “external” shadow banking sub-system is defined by the credit intermediation process of diversified broker-dealers and of independent, non-bank specialist intermediaries and the credit puts provided by private credit risk repositories (Pozsar and others, 2010:p.34).

IV. Turkish Case

Most of the takeovers by SDIF were based on the grounds that banks’ resources had been used in favour of the principal shareholders. As seen from the Table 1, the limit for connected lending could also be circumvented by the banks extending shadow credits through their affiliates in unregulated jurisdictions.

Table 1

Bank Transferred to SDIF	Affiliate	Affiliate's Jurisdiction	Credits Extended to Principal Shareholders of the Bank Transferred to SDIF by Its Affiliate	Total Amount of Own Funds of the Bank Transferred to SDIF
<i>Egebank</i>	Egebank Offshore Ltd. *	Northern Cyprus	73 million USD	54,9 million USD
<i>EGS Bank</i>	EGS Bank Offshore Ltd.	Northern Cyprus	81 million USD	78,7 million USD
<i>Etibank</i>	New York Bank Offshore Ltd.	Northern Cyprus	105 million USD 38 million DM 10 million TL	63,8 million USD
<i>Iktisat Bankası</i>	Trade Deposit Offshore Bank Ltd.	Northern Cyprus	412 million USD	53,5 million USD
<i>Kentbank</i> <i>(Atlas Yatırım Bankası)</i>	Atlasbank Offshore Ltd. Kentbank Offshore Ltd.	Northern Cyprus Northern Cyprus	30 million TL	73,4 million TL
<i>Toprakbank</i>	Toprak Offshore Ltd.	Northern Cyprus	123,9 million USD 133 million DM	108,7 million USD
<i>Yurtbank</i>	Yurt Security Offshore Ltd.*	Northern Cyprus	23 million TL 3,4 million USD 1,5 million DM	22,5 million USD
<i>Sümerbank</i>	Efektifbank Offshore Ltd.	Northern Cyprus	46 million USD 14 million DM 361.000 TL	73,1 million USD

DM = Deutsche Mark

Source: Derived by us from SDIF, 2009a:p.51,71; 2009 b:p.35,36;2009 c:49,64;2009 d:p.43,66; 2009 e:p.41,42;2009 f:p.23,33,34; 2009 g:p.36,56; 2009h:37,49.

* Established not as an affiliate but as parallel-owned bank by the principal shareholders of the bank transferred to SDIF.

Total funds used by the principal shareholders as direct credit from the banks transferred to SDIF and shadow credit from their affiliates and the losses resulting from them amount to USD 14 billion, accounting for 81,3 % of the total losses subsidized by the Treasury (BRSA, 2003). It was seen that the first step of shadow credit intermediation, loan origination, had been only used to avoid the regulations on connected lending.

Similar to Pozsar and others' finding (2010:p.6), it is seen from Table 1 that the volume of credit intermediated through the shadow banks for connected lending is of comparable magnitude to the own funds of the banks transferred to SDIF between 1998-2001.

4.1. Shadow Banking for Connected Lending

“Connected lending refers to loans extended to banks’ owners or managers and to related businesses. It is a more common practice among universal banks and development banks” (Goldstein and Turner, 1996, p.20). The risks are primarily a lack of objectivity (sometimes even fraud) in credit assessments and undue concentration of credit risk. The failure of a few large related borrowers can wipe out a bank’s capital. Lindgren et. al (1996) and Sheng (1996 ; cited in Goldstein and Turner, 1996) has also found connected lending as a key bank governance problem and one that has contributed to banking problems in Argentina, Bangladesh, Brazil, Chile, Indonesia, Malaysia, Spain and Thailand.

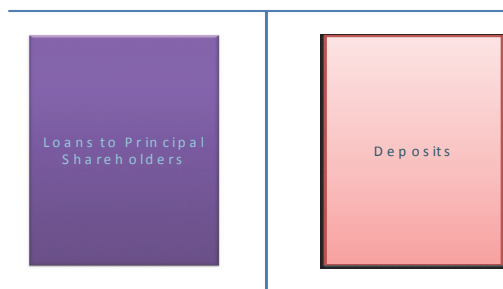
Connected lending transactions of the banks could be compared with Shapiro’s (2003) approaches to intercompany lending activities of multinational companies. Shapiro (2003) sees intercompany lending activities as a principal means of financial foreign activities and international fund transfers and so, cites that intercompany loans are more valuable to the firm than arms-length transactions if the market distortion is led by credit rationing. Although various types of intercompany loans exist, the most important methods are direct and indirect loan. The same could be considered for the loan origination as connected lending.

4.1.1. Direct Credit Intermediation by the Shadow Banks for Connected Lending

Direct loans are defined by Shapiro (2003, p.692) as straight extensions of credit from the parent to an affiliate or from one affiliate to another.

As seen from Figure 4, direct loans to the principal shareholder were extended by the affiliate funding with the deposits collected from the Turkish citizens through the branches of owner bank transferred to SDIF offering higher interest rates due to lack of reserve and liquidity requirements (SDIF, 2009d:p.39; 2009g:p.35).

Figure 4 : Direct Loan Origination by The Affiliate



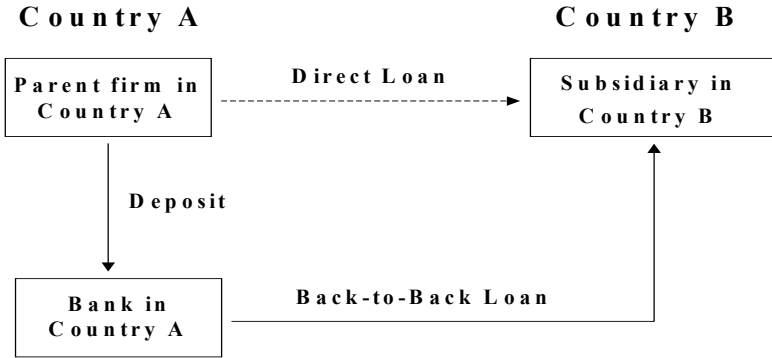
4.1.2. Indirect Credit Intermediation by the Shadow Banks for Connected Lending

Indirect loans involve an intermediary and are structured either as back-to-back loan or parallel loan.

4.1.2.1. Back-to-Back Loan

In typical arrangement of back-to-back loan, the parent company deposits funds with a bank in country A that in turn lends the money to a subsidiary in country B as shown in Figure 5 (Shapiro, 2003). This method is employed when different rates of withholding tax are applied to loans from a financial institution.

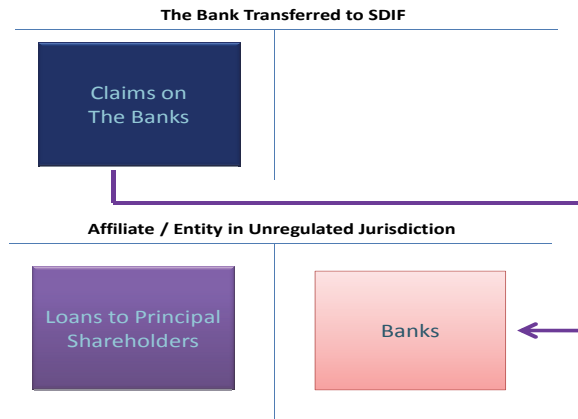
Figure 5 : Structure of Back-to-Back Loan



Source : Shapiro (2003, p.693).

As seen from Figure 6, similar to Shapiro’s (2003) back to back loan model shown in Figure 4, indirect loan was originated by the bank transferred to SDIF depositing money in its affiliate or the entity owned by the same principal shareholder located in unregulated jurisdiction. Those funds were then channeled to the principal shareholders of the bank transferred to SDIF by the affiliate or entity (SDIF, 2009f:p.34).

Figure 6 : Back to Back Loan Origination for Connected Lending

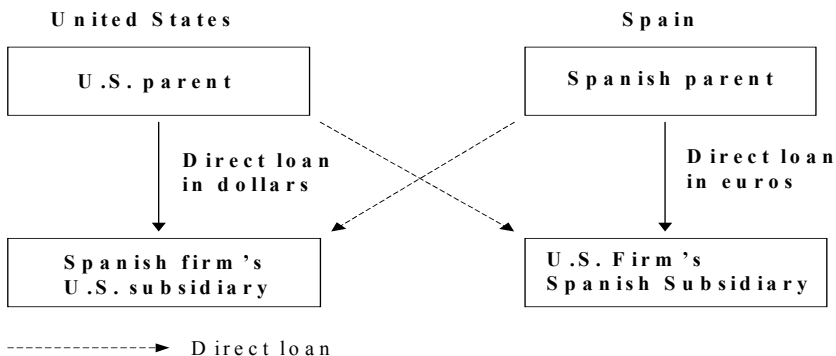


4.1.2.2. Parallel Loan

“Parallel loan consists of two related but separate - that is, parallel - borrowings and usually involves four parties in at least two different countries ” (Shapiro, 2003:695). It is a method of circumventing exchange control restrictions and financing foreign affiliates, without incurring additional exchange risk. As seen from Figure 7, a US parent firm wishing to invest in Spain, lends dollars to the US affiliate of a Spanish firm that wants to invest in USA. In return, the Spanish parent lends euros in Spain to the US firm’s Spanish subsidiary. Drawdowns, interest payments, and principal repayments are made simultaneously. “The parallel transactions are the functional equivalent of direct intercompany loans” (Shapiro, 2003, p.695).

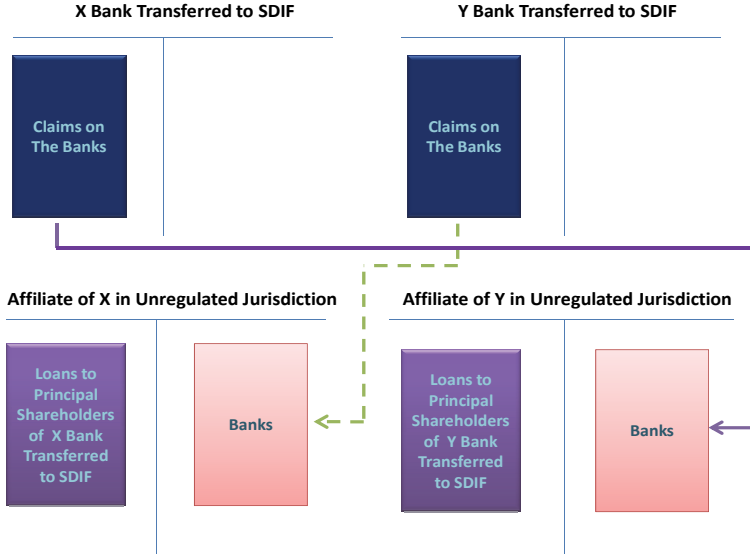
As shown in Figure 8, at the first stage, the funds which would be extended to principal shareholders were created by sending money from the banks to their affiliates in unregulated jurisdictions, similar to back-to-back loans. But they were not sent directly to the affiliates. Instead, they were transferred simultaneously by each bank to the other’s affiliate. In turn, the same amount was lent as credit to the firms established by the shareholders of the funding bank, mutually. The conditions of the credits regarding interest rates, interest payment periods and due dates were the same (SDIF, 2009e :p.41-42).

Figure 7 : Structure of Parallel Loan



Source : Shapiro (2003 : p. 695).

Figure 8 : Parallel Loan Origination for Connected Lending



In Shapiro’s (2003) model, a parallel loan consists of two related but different borrowings and involves four parties located in two different countries. But, in Turkish case, it was arranged as four related borrowings which involved six parties. When the affiliates were consolidated by their owner banks, the number of borrowings and parties would have been decreased to two and four, respectively, as in Shapiro’s model.

4.2. Countermeasures

Turkish cases have shown that the affiliates in unregulated jurisdictions were functioned as shadow banks by the banks transferred to SDIF to extend more loan for connected lending. This process is very similar to loan origination by an affiliate of FHC in internal shadow banking sub-system as developed by Pozsar and others (2010) because the banks transferred to SDIF provided the loans exceeding connected lending limit outside the traditional banking system with maturity and liquidity transformation. The loans were like long-term illiquid investments funded by short term liquid funds without any public guarantee similar to shadow banking. But, Turkish shadow banking chain was created for just one step, loan origination.

Turkish regulatory authority required that minimum level of capital adequacy ratio for the banks having any branch or affiliate in unregulated jurisdictions should not be less than 12 % both on unconsolidated and consolidated basis. Also, the claims on the banks established in unregulated jurisdictions or the loans which would be extended to someone or given against securities issued or guarantees provided by someone or offered against securities issued by anybody's guarantee in the same jurisdictions, have been taking into account to the extent of 150 % in lending limits.

V. Conclusion

The shadow banking model developed by Pozsar and others (2010) consisted of the techniques that had been created to mitigate the credit risk (which the banks are exposed to). Because, these are aimed to decrease the credit risk level that could arise after extending the credits and thereby to create opportunities for new credit lines. These transactions to mitigate credit risk were used by special purpose vehicles and/or financial products that have not been yet subject to clear regulations, in unregulated or lightly regulated regions. Turkey's "off-shore banking" experience between years 1998 and 2001 arose out of the efforts to understate the credit risks of bank's principal shareholders. As in shadow banking case, special purpose vehicles set up in unregulated jurisdictions had been used by the banks that were transferred to the SDIF. Accordingly, Turkey's experience could be of high help and an important input to the process of developing regulations for shadow banking.

Pozsar and others (2010) think that regulation by form alone, that is regulating banks, will almost always be arbitrated away by banks via shadow banks. But, banks and shadow banks perform the same, credit intermediation function. So, they believe that regulation by function, credit intermediation, can catch shadow banks earlier. Implementation of higher risk weight for the business operations with the shadow banks can be a good example for this as did in Turkey.

On the other hand, the measures that could be taken to prevent the transactions like extending credits to principal shareholders via shadow banks which had been established by the banks transferred to the SDIF between years 1998 and 2001, show us the need to revitalize the goal of keeping banks small. Because, to increase the capital requirement for the banks that are affiliated to

shadow banking and to implement this both on consolidated and unconsolidated basis might restrict the traditional banking activities of the shadow banks. Therefore, not only the function but also the form should be taken into account while developing the regulations for shadow banking. Otherwise, it would be inevitable to end up with the regulations that would rule out the rationality of the banking regulations, provide solutions only for negative state of affairs and accordingly provide banks with new arbitrage opportunities over unregulated operations.

References

- Baltensperger E. and Dermine J. (1987) Banking Deregulation in Europe, *Economic Policy*, 2 (4), pp. 63-109.
- BRSA (2003) *Banking Sector Restructuring Program Progress Report (VI)*, April 2003, Ankara : Banking Regulation and Supervision Agency.
- Bhattacharaya S. and Thakor, A. (1993) Contemporary Banking Theory, *Journal of Financial Intermediation*, Vol. 3, pp. 2-50.
- Cobb S. C. (1998) Global Finance and The Growth of Offshore Financial Centers : The Manx Experience, *Geoforum*, 29 (1), pp. 7-21.
- Croushore D. (2007) *Money & Banking, A Policy – Oriented Approach*, Houghton Mifflin Company.
- Dewatripont M. and Tirole J. (1994) *The Prudential Regulation of Banks*, Cambridge: MIT Press.
- Diamond D. and Dybvig P. (1983) Bank Runs, Deposit Insurance, and Liquidity, *Journal of Political Economy*, Vol. 91, pp. 401-419.
- Fama E. (1980) Banking in the Theory of Finance, *Journal of Monetary Economics*, Vol. 6, pp. 39-57.
- FCIC (2010), Preliminary Staff Report : Shadow Bankinn and Financial Crisis, Fnnacial Crisis Inquiry Commission. Available at <http://www.fcic.gov/reports/pdfs/2010-0505-Shadow-Banking.pdf>
- Goodhart C. (2010) How Should We Regulate Bank Capital and Financial Products ? What Role for ‘Living Wills’, *The Future of Finance : The LSE Report*, London School of Economics and Political Science, pp.165-187.
- Goldstein M. and Turner P. (1996) Banking Crises in Emerging Economies : Origins and Policy Options, *BIS Economic Papers*, 46, Monetary and Economic Department, Basle : Bank for International Settlements.
- Hellwig M. (1991) Banking, Financial Intermediation and Corporate Finance, In: A. Giovannini and C. Mayer, (eds.), *European Financial Integration*, New York: Cambridge University Press.
- Kane E. J. (1999) How Offshore Financial Competition Disciplines Exit Resistance by Incentive-Conflicted Regulators, *Working Paper*,

- 7156, National Bureau of Economic Research. Available at <http://www.nber.org/papers/w7156>
- Kay J. (2010) Should We Have ‘Narrow Banking’, *The Future of Finance : The LSE Report*, London School of Economics and Political Science, pp.217-234.
- Llewelyn D. (1999) The Economic Rationale for Financial Regulation, *Occasional Paper Series*, No.1, Financial Services Authority.
- Llewelyn D. (2004) Institutional Structure of Financial Regulation and Supervision, *Aligning Financial Supervisory Structures with Country Needs*, ed. Jeffrey Carmichael, Alexander Fleming and Dawid Llewelyn, World Bank Institute.
- Mishkin F. S. (2001) Prudential Supervision - Why Is It Important and What Are The Issues, in Mishkin, F. S. (Ed.), *Prudential Supervision, What Works and What Doesn't*, The University of Chicago Press, pp. 1-30.
- Mishkin F. S. and Eakins S. G. (2006) *Financial Markets and Institutions*, Pearson Addison Wesley.
- Pawley M., Winstone D. and Bentley P. (1991) *UK Financial Institutions and Markets*, London : MC Millan Press Ltd.
- Pozsar Z., Adrian T., Ashcraft A. and Boesky H. (2010) Shadow Banking, *Federal Reserve Bank of New York Staff Reports*, Staff Report No:458, Federal Reserve Bank of New York.
- Santos J.A.C. (2000) Bank Capital Regulation in Contemporary Banking Theory: A Review of The Literature, *BIS Working Papers*, No.90. Available at <http://www.bis.org/publ/work90.pdf>
- Shapiro A. C. (2003) *Multinational Financial Management*, Seventh Edition, U.S.A.: John Wiley & Sons Inc.
- TMSF (2009a) Egebank, *Raf Temizliği*, ed. Erdinç Y., Tasarruf Mevduatı Sigorta Fonu.
- (2009b) EGSBank, *Raf Temizliği*, ed. Erdinç Y., Tasarruf Mevduatı Sigorta Fonu.
- (2009c) EtiBank, *Raf Temizliği*, ed. Erdinç Y., Tasarruf Mevduatı Sigorta Fonu.
- (2009d) İktisat Bankası, *Raf Temizliği*, ed. Erdinç Y., Tasarruf Mevduatı Sigorta Fonu.

- (2009e) Kentbank, *Raf Temizliđi*, ed. Erdinç Y., Tasarruf Mevduatı Sigorta Fonu.
- (2009f) Toprakbank, *Raf Temizliđi*, ed. Erdinç Y., Tasarruf Mevduatı Sigorta Fonu.
- (2009g) Yurtbank, *Raf Temizliđi*, ed. Erdinç Y., Tasarruf Mevduatı Sigorta Fonu.
- (2009h) Sümerbank, *Raf Temizliđi*, ed. Erdinç Y., Tasarruf Mevduatı Sigorta Fonu.

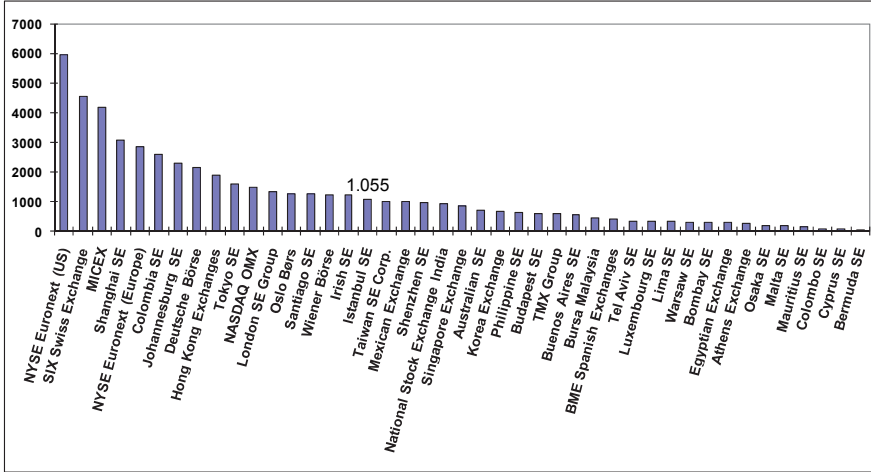
GLOBAL CAPITAL MARKETS

Market Capitalization (USD millions, 1986-2010)

	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
2009	48,713,724	34,907,166	13,806,558	235,996
2010	54,540,941	39,309,690	15,231,251	306,662

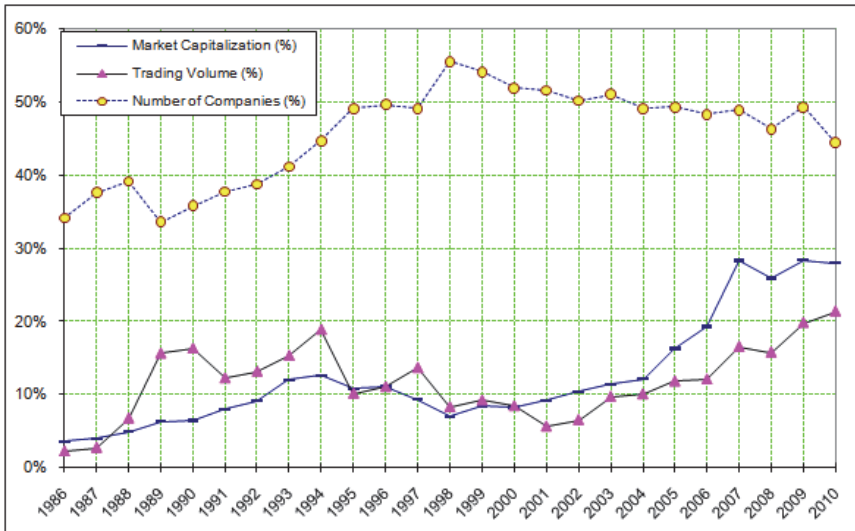
Source: Standard & Poor's Global Stock Markets Factbook, 2011.

Comparison of Average Market Capitalization Per Company (USD millions, June 2011)



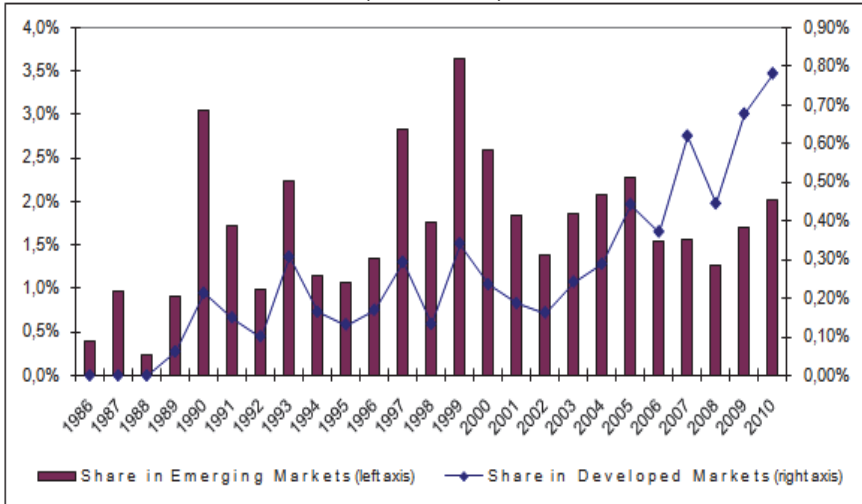
Source: WFE

Worldwide Share of Emerging Capital Markets (1986-2010)



Source: Standard&Poor's Global Stock Markets Factbook, 2011.

Share of ISE's Market Capitalization in World Markets (1986-2010)



Source: Standard&Poor's Global Stock Markets Factbook, 2011

Main Indicators of Capital Markets (June 2011)

	Exchange	Turnover velocity	Exchange	Traded value (USD millions, 2011/1-2011/6)	Exchange	Market capitalization (USD millions, 2011/6)
1	NASDAQ OMX	299,5%	NYSE Euronext (US)	8.730.761	NYSE Euronext (US)	13.791.198
2	Shenzhen SE	184,6%	NASDAQ OMX	6.007.704	NASDAQ OMX	4.067.515
3	Korea Exchange	151,6%	Shanghai SE	2.219.294	London SE Group	3.849.447
4	Istanbul SE	129,2%	Tokyo SE	2.202.393	Tokyo SE	3.655.396
5	NYSE Euronext (US)	122,7%	Shenzhen SE	1.550.800	NYSE Euronext (Europe)	3.248.195
6	Shanghai SE	122,4%	London SE Group	1.530.593	Shanghai SE	2.804.002
7	Tokyo SE	106,3%	NYSE Euronext (Europe)	1.128.970	Hong Kong Exchanges	2.712.128
8	Taiwan SE Corp.	102,9%	Korea Exchange	1.013.549	TMX Group	2.230.778
9	DeutscheBörse	100,3%	DeutscheBörse	897.805	DeutscheBörse	1.622.302
10	BME Spanish Exchanges	86,2%	TMX Group	824.734	BM&FBOVESPA	1.552.778
11	Australian SE	84,5%	Hong Kong Exchanges	775.047	Bombay SE	1.505.720
12	Osaka SE	83,2%	BME Spanish Exchanges	655.468	NationalStock Exchange India	1.470.778
13	SaudiStock Market - Tadawul	76,7%	Australian SE	604.371	Australian SE	1.443.672
14	NASDAQ OMX Nordic Exchange	72,5%	BM&FBOVESPA	473.364	BME Spanish Exchanges	1.352.415
15	London SE Group	69,4%	Taiwan SE Corp.	465.223	SIX Swiss Exchange	1.319.613
16	TheStock Exchange of Thailand	68,3%	SIX Swiss Exchange	461.325	Shenzhen SE	1.283.472
17	TMX Group	68,1%	NASDAQ OMX Nordic Exchange	435.549	Korea Exchange	1.199.929
18	NYSE Euronext (Europe)	65,2%	NationalStock Exchange India	325.614	NASDAQ OMX Nordic Exchange	1.033.134
19	SIX Swiss Exchange	62,9%	Istanbul SE	260.320	MICEX	1.023.085
20	BM&FBOVESPA	59,0%	MICEX	240.418	Johannesburg SE	907.650
21	Oslo Børs	58,7%	Johannesburg SE	191.750	Taiwan SE Corp.	802.694
22	Hong Kong Exchanges	55,3%	SaudiStock Market - Tadawul	154.518	Singapore Exchange	669.421
23	Budapest SE	52,8%	Singapore Exchange	152.846	Mexican Exchange	460.422
24	Warsaw SE	45,9%	Oslo Børs	138.741	Bursa Malaysia	437.608
25	Egyptian Exchange	44,1%	TheStock Exchange of Thailand	113.240	Indonesia SE	407.914
26	MICEX	42,2%	Osaka SE	105.157	SaudiStock Market - Tadawul	348.655
27	Athens Exchange	41,2%	Bombay SE	88.452	Santiago SE	334.986
28	Tel Aviv SE	40,9%	Bursa Malaysia	74.770	Oslo Børs	307.697
29	NationalStock Exchange India	40,3%	Mexican Exchange	64.924	Istanbul SE	282.807
30	Singapore Exchange	39,9%	Indonesia SE	54.688	TheStock Exchange of Thailand	279.196
31	WienerBörse	34,7%	Tel Aviv SE	49.119	Osaka SE	253.253
32	Colombo SE	31,2%	Warsaw SE	46.404	Colombia SE	213.706
33	Johannesburg SE	30,8%	Santiago SE	31.638	Warsaw SE	211.208
34	Bursa Malaysia	30,0%	WienerBörse	23.185	Tel Aviv SE	209.208
35	Mexican Exchange	27,9%	Athens Exchange	18.025	Philippine SE	161.162
36	Santiago SE	23,3%	Colombia SE	17.544	WienerBörse	131.815
37	Indonesia SE	22,5%	Philippine SE	13.078	Luxembourg SE	99.068
38	Philippine SE	16,1%	Egyptian Exchange	10.350	Lima SE	82.486
39	Amman SE	15,1%	Budapest SE	10.172	Irish SE	69.140
40	Colombia SE	13,2%	Irish SE	4.372	Egyptian Exchange	67.146
41	Irish SE	11,7%	Lima SE	3.991	Athens Exchange	66.757
42	Bombay SE	10,6%	Colombo SE	2.997	Buenos Aires SE	59.876
43	Ljubljana SE	7,3%	Amman SE	2.351	Budapest SE	32.416
44	Lima SE	7,1%	Buenos Aires SE	1.678	Amman SE	27.826
45	Buenos Aires SE	4,9%	Ljubljana SE	322	Colombo SE	21.477
46	Cyprus SE	4,8%	Cyprus SE	294	Ljubljana SE	8.836
47	Mauritius SE	3,6%	Mauritius SE	176	Mauritius SE	8.815
48	Bermuda SE	1,2%	Luxembourg SE	89	Cyprus SE	6.335
49	Malta SE	0,9%	Malta SE	32	Malta SE	4.103
50	Luxembourg SE	0,1%	Bermuda SE	15	Bermuda SE	1.605

Source: WFE

Stock Markets Traded Value (USD millions, 1986-2010)

	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	16.55	1.85
2008	80,516.822	67,795.950	12,720.872	239,713	15.80	1.88
2009	80,418.059	64,458.380	15,959.679	316,326	19.85	1.98
2010	63,974.708	50,306.541	13,668.167	421,590	21.36	3.08

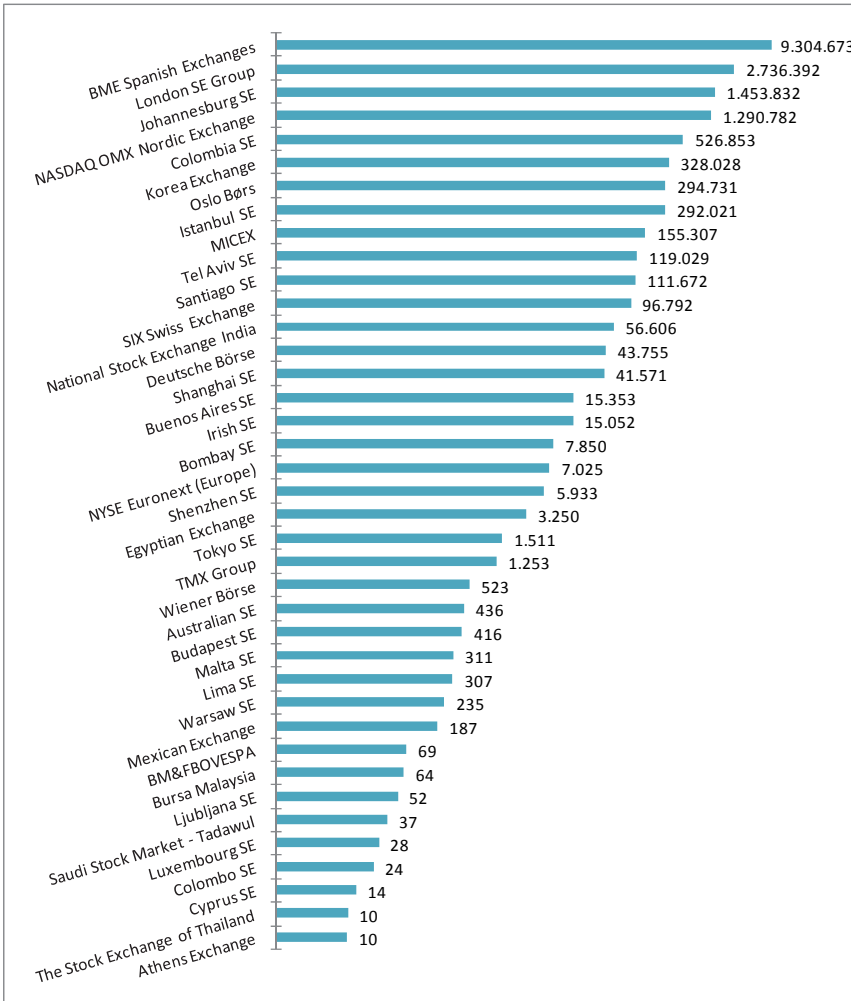
Source: Standard & Poor's Global Stock Markets Factbook, 2011.

Number of Listed Companies (1986-2010)

	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
2009	48.561	24.635	23.926	267	49.27	1.12
2010	48.655	27.024	21.631	337	44.46	1.56

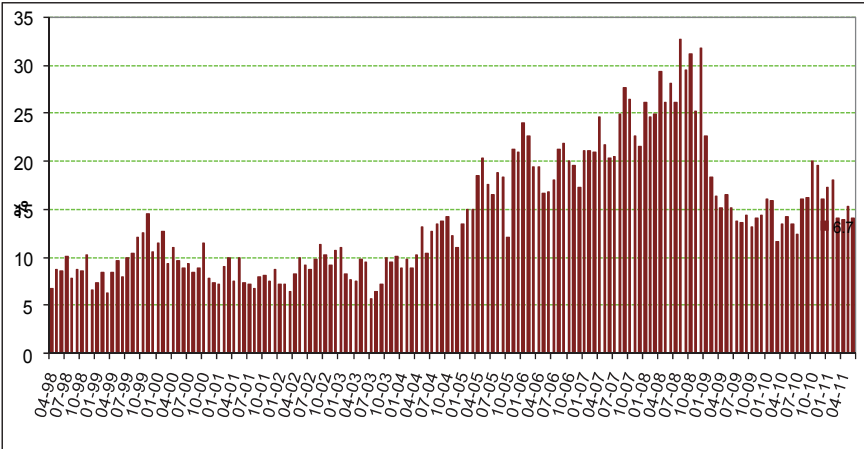
Source: Standard & Poor's Global Stock Markets Factbook, 2011.

Value of Bond Trading (USD millions, Jan. 2011-June 2011)



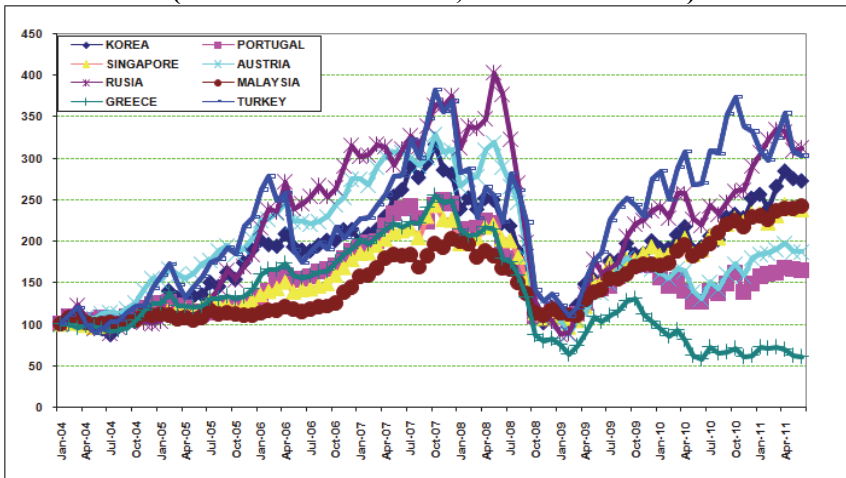
Source: WFE

Foreign Investors' Share in the Traded Value of the ISE (Jan. 1998 – June 2011)



Source: ISE

Comparison of Market Indices (Jan. 2004 – June 2011, 31 Jan. 2004=100)



Source: Bloomberg

ISE Market Indicators

STOCK MARKET												
	Number Of Comp.	Traded Value				Market Value			Dividend Yield	P/E Ratios		
		Total		Daily Average		US\$Mill ion	TL Million	TL Million		US\$Mill ion	TL Million	TL Million
		TL Million	US\$Milli on	TL Million	TL Million				US\$Mill ion			
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	16,7	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	315	482.534	316.326	1.915	1.255	350.761	235.996	2,37	17,89	16,83	17,34	
2010	350	635.664	425.747	2.543	1.703	472.553	307.551	1,79	13,42	---	---	
2011	366	416.843	267.000	3.257	2.086	470.138	291.179	2,04	13,17	---	---	
2011/Q1	354	229.353	146.150	3.584	12.284	479.568	312.382	2,21	13,28	---	---	
2011/Q2	366	187.490	120.851	2.930	1.888	470.138	291.179	2,04	13,17	---	---	

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\$ = based Total Market Capitalization / 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.

- EFT's data are taken into account only in the calculation of Traded Value.

Closing Values of the ISE PricelIndices

TL Based

	ISE NATIONAL 100 (Jan. 1986=1)	ISE CORPORATE GOVERNANCE (Aug.29,2007 =48,082.17)	ISE NATIONAL INDUSTRIALS (Dec.31, 90 =+33)	ISE NATIONAL SERVICES (Dec.27, 96 =1046)	ISE NATIONAL FINANCIALS (Dec. 31, 90 =33)	ISE NATIONAL 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	66.004,48	57.152,14	52.503,36	42.650,40	99.602,32	18.522,80	21.147,57	34.218,62	52.990,53
2011	63.269,40	57.814,03	55.169,20	40.633,03	92.792,18	23.490,86	20.455,46	33.852,48	---
2011/Q1	64.434,51	59.809,76	55.612,73	41.655,03	94.451,52	22.215,53	19.925,98	38.517,21	---
2011/Q2	63.269,40	57.814,03	55.169,20	40.633,03	92.792,18	23.490,86	20.455,46	33.852,48	---

US \$ Based

	ISE NATIONAL 100 (Jan. 1986=100)	ISE CORPORATE GOVERNANCE (Aug.29,2007 =2,114.37)	ISE NATIONAL INDUSTRIALS(De c.31, 90 =643)	ISE NATIONAL SERVICES (Dec.27, 96 =572)	ISE NATIONAL FINANCIALS (Dec. 31, 90 =643)	ISE NATIONAL TECHNOLOGY (June 30,2000 =1.360,92)	ISE INVESTMENT TRUSTS (Dec. 27, 96 =534)	ISE SECOND NATIONAL (Dec. 27, 96 =534)	ISE NEW ECONOMY (Sept. 02, 2004 =796,46)	NATIONAL 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	981,99	---	756,91	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	2.499,75	2.164,49	1.988,43	1.615,27	3.772,18	701,50	800,91	1.295,94	2.006,88	2.191,88
2011	2.280,26	2.083,65	1.988,33	1.464,43	3.344,28	846,62	737,23	1.220,06	---	1.845,49
2011/Q1	2.442,36	2.267,06	2.107,97	1.578,91	3.580,14	842,07	755,28	1.459,98	---	2.015,13
2011/Q2	2.280,26	2.083,65	1.988,33	1.464,43	3.344,28	846,62	737,23	1.220,06	---	1.845,49

Euro Based

Q: Quarter

BONDS AND BILLS MARKET				
Traded Value				
Outright Purchases and Sales Market				
	Total		Daily Average	
	TLMillion	US\$Million	TLMillion	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	446.183	297.710	1.785	1.191
2011	276.600	176.985	2.161	1.383
2011/Q1	167.485	106.779	2.617	1.668
2011/Q2	109.114	70.206	1.705	1.097

Repo-Reverse Repo Market				
Repo-Reverse Repo Market				
	Total		Daily Average	
	TLMillion	US\$Million	TLMillion	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	3.012.293	2.010.217	12.049	8.041
2011	1.486.851	951.572	11.616	7.434
2011/Q1	768.592	489.812	12.009	7.653
2011/Q2	718.259	461.761	11.223	7.215

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	115,16	128,35	133,63	149,18	156,85	139,22
2011	114,75	127,31	137,75	146,22	152,65	139,84
2011/Q1	114,82	127,45	137,98	146,55	153,08	137,56
2011/Q2	114,75	127,31	137,75	146,65	152,65	139,84

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	1.251,51	1.323,01	1.688,06	1.349,78	1.537,67
2011	1.295,41	1.365,82	1.742,69	1.389,52	1.576,86
2011/Q1	1.271,23	1.340,34	1.710,17	1.362,45	1.545,01
2011/Q2	1.295,41	1.365,82	1.742,69	1.389,52	1.576,86

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

TL Based							
	EqualWeightedIndices			Market Value WeightedIndices			EQ Composite
	EQ180-	EQ180+	EQ Composite	MV180-	EQ180-	EQ180+	
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	291,44	351,18	320,00	289,99	351,20	323,14	232,28
2011	301,29	357,88	328,19	299,79	357,86	330,91	238,30
2011/Q1	295,50	351,09	321,91	294,08	350,98	324,64	235,15
2011/Q2	301,29	357,88	328,19	299,79	357,86	330,91	238,30

Q: Quarter

GDS: Government Debt securities

ISE PUBLICATIONS		
I- PERIODICALS	ISSN/ISBN	DATE
ISE Review*	ISSN 1301-1642 ISSN 1301-1650	
ISE Finance Award Series Volume 4*	ISBN 975-6450-12-6	2005
II- RESEARCH PUBLICATIONS		
The Impact of Trading Statements by Principal Shareholders and Managers on Their Own Company Share Prices in the Istanbul Stock Exchange.– <i>Selma Kurtay</i>	978-975-6450-24-6	2009
The Role of Financial Markets on Inflation Targeting: Analysis of Correlation between Stock Returns and Inflation – Dr. Cahit Sönmez	978-975-6450-17-8	2007
Fixed Income Decision Analysis with Excel/VBA Models* – <i>Prof. Dr. A. Gültekin Karaşin</i>	978-975-6450-20-8	2007
Performance Evaluation of Real Estate Investment Trusts: The Case of Turkey – <i>Dr. Feyzullah Yetgin</i>	975-6450-14-2	2006
Conjunctive Fluctuations and Capital Markets – The Case of Turkey – <i>Dr. Eralp Polat</i>	975-6450-10-X	2005
Cross-sectional Anomalies in Stock Markets and a Research on the ISE – <i>M. Volkan Öztürkatalay</i>	975-6450-11-8	2005
Role of Financial Market Imperfections in Firm Level Investment: Panel Data Evidence from Turkish Corporations* – <i>Bahşayış Temir-Fıratoglu</i>	975-6450-08-8	2004
Depository Certificates within Turkish Law – <i>Dr. Korkut Özkorkut</i>	975-6450-06-1	2003
Developments in International Financial Markets and in Turkey - <i>Assoc. Prof. Ali Alp</i>	ISBN 975-6450-03-7	2002
Evaluation of Mutual Fund Performance in Turkey - <i>Saim Kılıç</i>	ISBN 975-6450-00-2	2002
Duty of Loyalty of the Shareholder in Corporate Law, in particular, in the Incorporated Companies - <i>Dr. Murat Yusuf Akın</i>	ISBN 975-8027-99-9	2002
Political Economy of Natural Disasters - <i>Assoc. Prof. Enver Alper Güvel</i>	ISBN 975-8027-91-3	2001
An Analysis of Factors Influencing Accounting Disclosure in Turkey* - <i>Dr. Turgut Çürük</i>	ISBN 975-8027-89-1	2001
Fund Management in the Insurance Sector - <i>Prof. Dr. Niyazi Berk</i>	ISBN 975-8027-86-7	2001
The Changing Role of the Central Bank of Turkey and Monetary Policy Implementation - <i>Dr. Mehmet Günel</i>	ISBN 975-8027-85-9	2001
Financial Asset Valuation Models and Testing of Arbitrage Pricing Model on the ISE - <i>Nevin Yörük</i>	ISBN 975-8027-77-8	2000
Stationary Portfolio Analysis and its Implementation on ISE Data - <i>İbrahim Engin Üstünel</i>	ISBN 975-8027-76-X	2000
Seasonalities in Stock Markets and an Empirical Study on the Istanbul Stock Exchange – Dr. Recep Bildik	ISBN 975-8027-73-5	2000
Real Estate Financing and Valuation - <i>Dr. Ali Alp, M. Ufuk Yılmaz</i>	ISBN 975-8027-72-7	2000
South Asian Crisis: The Effects on Turkish Economy and the ISE Research Department	ISBN 975-8027-44-1	1998
Institutional Investors in the Capital Markets - <i>Dr. Oral Erdoğan, Levent Özer</i>	ISBN 975-8027-51-4	1998

ISE PUBLICATIONS		
What Type of Monetary System? Monetary Discipline and Alternative Resolutions for Monetary Stability - <i>Prof. Dr. Coşkun Can Aktan, Dr. Utku Utulu, Dr. Selahattin Togay</i>	ISBN 975-8027-47-6	1998
Analysis of Return Volatility in the Context of Macroeconomic Conjuncture - <i>Prof. Dr. Hurşit Güneş, Dr. Burak Saltoğlu</i>	ISBN 975-8027-32-8	1998
Private Pension Funds: Chilean Example - <i>Çağatay Ergenekon</i>	ISBN 975-8027-43-3	1998
Equity Options and Trading on the ISE - <i>Dr. Mustafa Kemal Yılmaz</i>	ISBN 975-8027-45-X	1998
Resolution of Small and Medium Size Enterprises' Financial Needs Through Capital Markets - <i>R. Ali Küçükçolak</i>	ISBN 975-8027-39-5	1998
Regulations Related to Capital Market Operations - <i>Vural Günal</i>	ISBN 975-8027-34-4	1997
Strategic Entrepreneurship: Basic Techniques for Growth and Access to Foreign Markets for Turkish Companies - <i>Ömer Esener</i>	ISBN 975-8027-28-X	1997
The Integration of European Capital Markets and Turkish Capital Market - <i>Dr. Sadi Uzunoğlu- Dr. Kerem Alkin, Dr. Can Fuat Gürlesel</i>	ISBN 975-8027-24-7	1997
Insider Trading and Market Manipulations* - <i>Dr. Meral Varış Tezcanlı</i>	ISBN 975-8027-17-4 & ISBN 975-8027-18-2	1996
European Union and Turkey - <i>Prof. Dr. Rıdvan Karluk</i>	ISBN 975-8027-04-2	1996
Repo and Reverse Repo Transactions - <i>Dr. Nuran Cömert Doyrangöl</i>	ISBN 975-8027-12-3	1996
Fortunes Made Fortunes Lost* - <i>Abdurrahman Yıldırım</i>	ISBN 975-7143-10-3	1996
Personnel Administration - <i>Şebnem Ergül</i>	ISBN 975-8027-07-7	1996
Research Studies on Capital Markets and ISE	ISBN 975-7869-04-X	1996
The Integration of European Union Capital Markets and Istanbul Stock Exchange - <i>Dr. Meral Varış Tezcanlı, Dr. Oral Erdoğan</i>	ISBN 975-8027-05-0	1996
Institutional Investors in the Developing Stock Exchanges: Turkish Example, Problems and Proposed Solutions - <i>Dr. Targan Ünal</i>		1995
International Capital Movements and their Macroeconomic Effects on the Third World Countries and Turkey - <i>Dr. Sadi Uzunoğlu, Dr. Kerem Alkin, Dr. Can Fuat Gürlesel</i>		1995
Modern Developments in Investment Theory and Some Evaluations and Observations at ISE - <i>Dr. Berna Ç. Kocaman</i>		1995
Linkage with International Markets (ADR-GDR) and Alternative Solutions to the Turkish Capital Market - <i>Kudret Vurgun</i>		1994
Portfolio Investments in International Capital Movements and Turkey - <i>ISE Research Department</i>		1994
International Portfolio Investment Analysis and Pricing Model - <i>Oral Erdoğan</i>		1994
Taxation of Capital Market Instruments in Turkey - <i>Sibel Kumbasar Bayraktar</i>		1994

ISE PUBLICATIONS		
RESEARCH ON DERIVATIVES MARKET		
Some Basic Strategies on Securities Market Derived from Future Transactions and Options - <i>Mustafa Kemal Yılmaz</i>		1996
Derivatives Market - Theory and Practice - <i>Prof. Dr. Ümit Erol</i>	ISBN 975-8027-58-1	1999
Pricing of Future and Options Contracts Based on Capital Market Instruments - <i>ISE Derivatives Market Department</i>	ISBN 975-8027-62-X	1999
Interest Rate Futures - ISE Derivatives Market Department	ISBN 975-8027-61-1	1999
SECTORAL RESEARCH		
Automotive Sector - <i>Sibel Kumbasar Bayraktar</i>		1995
Textile Sector (Cotton) - <i>Efser Uytun</i>		1995
Food Sector - <i>Ebru Tan</i>		1995
Glass Sector - <i>Özlem Özdemir</i>		1995
Insurance Sector - <i>Çağatay Ergenekon</i>		1995
Tourism Sector - <i>Oral Erdoğan</i>		1995
Manufactural Paper and Paper Product Sector - <i>Çağatay Ergenekon</i>	ISBN 975-8027-09-3	1996
Textile Sector (Artificial-Synthetic, Woolen, Manufacturer Clothing Leather and Leather Goods) - <i>Efser Uytun</i>	ISBN 975-8027-10-7	1996
Food Sector (Vegetable Oil, Meat, Fruit, Dairy Products. Sugar, Flavor Products, Animal Feed) - <i>Research Department</i>	ISBN 975-8027-19-0	1997
CULTURE PUBLICATIONS		
Turkish Financial History from the Ottoman Empire to the Present*	975-7104-24-8	1999
Istanbul Stock Exchange in a Historical Perspective*	975-8027-00-X	1995
The Story of Ottoman Tiles and Ceramics*	975-7104-11-6	1997
Turkey Timeless Culture*		
III. BOOKLETS		
Questions-Answers: ISE and Capital Markets	ISBN 975-8027-31-X	2009
Guide on Stock Market Transactions	ISBN 975-8027-35-2	2009
Exchange Dictionary	ISBN 975-8027-66-2	2009
Fixed Income Securities	ISBN 975-8027-70-0	2003
(*) Publications marked by (*) are in English. For further inquiries please contact: Training and Publications Department Tel: 90 (212) 298 24 24 Fax: 90 (212) 298 25 00		

Objectives and Contents

The ISE Review is a journal published quarterly by the Istanbul Stock Exchange (ISE). Theoretical and empirical articles examining primarily the capital markets and securities exchanges as well as economics, money, banking and other financial subjects constitute the scope of this journal. The ISE and global securities market performances and book reviews will also be featuring, on merits, within the coverage of this publication.

Copy Guides for Authors

Articles sent to the ISE Review will be published after the examination of the Managing editor and the subsequent approval of the Editorial Board. Standard conditions that the articles should meet for publication are as follows:

1. Articles should be written in both English and Turkish.
2. Manuscripts should be typed, single space on an A4 paper (21cm.x 29.7 cm.) with at least 3 cm. margins in Microsoft Word program and should be submitted electronically to <http://mts.imkb.gov.tr>
3. Articles should be original, unpublished or shall not be under consideration for publication elsewhere.
4. If and when the article is approved by the Editorial Board, the author should agree that the copyright for articles is transferred to the publisher. The copyright covers the exclusive right to reproduce and distribute the articles.
5. If necessary, the Editorial Board may demand changes, deletions and/or modifications in the contents of the article without infringing on the basic structure of the text.
6. The first page of the article should contain a concise and informative title, the full name(s) and affiliation(s) of the author(s) and abstract of not more than 100 words, summarizing the significant points of the article. The full mailing address, telephone and fax numbers of the corresponding author, acknowledgements and other related notes should also appear in the first page as footnote(s).
7. The main text should be arranged in sequentially numbered sections. The first section should be titled "Introduction", while the last section should be titled "Conclusion" as the others should be titled and numbered with a second digit (2.1, 3.2 and so on). Using boldface is necessary to indicate headings.
8. References to personalities in the text should be entered as: Smith (1971) or (Smith, 1971); two authors: Smith and Mill (1965) or (Smith and Mill, 1965); three or more authors: Smith et al. (1974) or (Smith et al.,1974). References to papers by the same author(s) in the same year are distinguished by the letters a,b,c, etc. (e.g. Smith, 1974a). References should be listed at the end of the paper in alphabetical order.
9. Footnotes should be subsequently numbered and are to be placed at the bottom of the related page. Examples of footnote use are:
 - Books with one author:
Hormats, Robert D., "Reforming the International Monetary System; From Roosevelt to Reagan," Foreign Policy Association, New York, 1987, pp. 21-25.
 - Books with two authors:
³Hoel, P.G., Port, S.C. "Introduction to Probability Theory," Houghton Mifflin Company, US, 1971, p.241.
 - Books with more than three authors:
⁵Mendenhall, W., et al., "Statistics for Management and Economics," Sixth Edition, WPS Kent Publishing Company, Boston, 1989, p.54.
 - Articles:
⁹Harvey, Campbell R., "The World Price of Covariance Risk," The Journal of Finance, Vol.XLVI, No.1, March 1991, pp. 11-157.
 - Publications on behalf of an institution:
⁴Federal Reserve Bulletin, Washington, 1992-1993-1994.
10. Tables and Figures should be sequentially numbered with a brief informative title. They should be comprehensible without reference to the text incorporating the full text, heading and unit of measurements. Source of the information and explanatory footnotes should be provided beneath the table or figure.
11. Equations should be entered and displayed on a separate line. They should be numbered and referred to in the main text by their corresponding numbers. Development of mathematical expressions should be presented in appendices.

