THE IMPACTS OF INTERNATIONAL PORTFOLIO INVESTMENTS ON ISTANBUL STOCK EXCHANGE MARKET

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ABSTRACT

The aim for this study is to investigate the role of international investors during the financial crisis in 2001. The impacts of two basic investment strategies of international investors on Istanbul Stock Exchange had been analyzed during the crisis and after crisis period that is between 2001-2004. These investment strategies are positive feedback trading and herding. Previous researches have revealed that foreign investors are more successful in timing of buying and selling securities. In addition, there is too much discussion about herding behaviors of the institutional investors. Main data of this study is the monthly stock positions of 455 active financial institutions that are provided from Istanbul Stock Exchange, Takasbank and Finnet Financial Information Company. The findings revealed that the foreign investors was engaged in negative feedback trading activity that was stabilized the financial market during the crisis, whereas domestic investors caused the instability in markets by engaging in positive feedback trading. The second outcome of the study was related with the herding behavior of investors. It is found that the both of investor groups have been participated the herding behavior in the market not only in the peak period of the crisis but also post crises periods.

Keywords: Portfolio investment, hedge funds, positive feedback trading, negative feedback trading, herding.

ULUSLARARASI PORTFÖY YATIRIMLARININ İMKB ÜZERİNDEKİ ETKİSİ

ÖZET

Bu çalışmanın amacı, uluslararası yatırımcının 2001 finans krizindeki rolünü araştırmaktır. Bu amacı gerçekleştirebilmek için 2001–2004 yılları arasında uluslararası yatırımcıların iki temel yatırım stratejilerinin İstanbul Menkul Kıymetler Borsası

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üzerindeki etkileri analiz edilmiştir. Bu yatırım stratejileri olumlu geri besleme ticareti ve sürü etkisi davranışıdır. Daha önce yapılmış çalışmalarda yabancı yatırımcıların hisse senetlerini alma ve satma zamanlamalarının daha başarılı olduğunu gösteren sonuçlar elde edilmiştir. Ayrıca sürü etkisi davranışı konusunda yapılan çalışmalarda çok sayıda birbiri ile çelişen sonuçlar elde edilmiştir. Veri seti İstanbul Menkul Kıymetler Borsası, Takasbank ve Finnet Finansal Bilgi Hizmetleri kurumlarından elde edilmiştir. Bu veriler, İMKB'de hala aktif olarak alım satım işlemi yapan 455 adet finans kurumunun ay sonu hisse senedi takas bakiyeleridir. Bulgular, yabancı yatırımcıların kriz süresince olumsuz geri besleme ticareti ile uğraşmalarına rağmen yerli yatırımcıların olumlu geri besleme ticareti ile uğraştıklarını göstermektedir. İkinci bulgu ise hem yabancı yatırımcıların ve hem de yerli yatırımcıların 2001–2004 döneminin tamamında sürü etkisi davranışının etkisinde kaldıklarını göstermektedir. Dolayısı ile kriz dönemi ve sonrası için sürü etkisi davranışı açısından ayırt edici bir bulguya rastlanmamıştır.

Anahtar Kelimeler: Portföy yatırımı, serbest fonlar, olumlu geri besleme ticareti, olumsuz geri besleme ticareti, sürü etkisi davranışı.

INTRODUCTION

One of the important developments in international financial markets over the last decade has been the growing role of foreign portfolio investment as a channel for international capital flows to developing countries. The increased flows of securities investment from industrialized countries to emerging markets was made possible by a number of developments in all the countries involved. Major sources for foreign portfolio investment in developing countries were the predominantly U.S.-based emerging markets mutual funds which led the surge in investment in emerging market equities. Some of these funds seek to identify countries where macroeconomic variables far out of line with sustainable values, so that changes in asset prices will be large when they finally occur. However, the financial crises driven from the reverse in capital inflows lead to the discussion on the role of market players. The countries benefited from access to global capital markets improvement in resource allocation will be open the risk of international capital movements and investment funds.

Bouts of turbulences in international financial markets in recent years have drawn attention to the role played by institutional investors, especially hedge funds. Following the crisis in Asia, Russia and Turkey, it was suggested that hedge fund investments precipitated major developments in

asset prices either directly through their own transactions or indirectly via the tendency of other market participants to follow their lead. We assumed in the study that the most of the international funds in Turkish capital markets are hedge funds or the funds have similar feature.

One popular generalization is that hedge funds are nimble and quick off the market. Their managers have a reputation for astuteness. It has been believed that the hedge funds are taking a position may thus encourage other investors to follow. Systematic evidence on these relations is scanty. An analysis on data reported to the US Commodity Futures Commission by financial institutions who take large positions in future markets found that hedge funds herd among themselves in the Standard and Poor's 500 index contract and the three month Eurodollar contract. Smaller funds were detected as herding with larger ones in the Japanese yen contract and Standard and Poor's 500 index contracts.

The aim of this paper is to analyze the investment trading strategies which are generally applied by foreign portfolio investors in an emerging economy, Turkey which is suffered from financial crisis in 2001. These trading strategies are positive feedback trading and herding. Previous researches have revealed that foreign investors are more successful in timing of buying and selling securities. In addition, there is too much discussing about herding behaviors of the institutional investors.

In the first part of our study, the previous studies on trading strategies of investors will be discussed and explained. An empirical study on the Turkish market will be applied in the second part of the study. In the third part of the findings of the research will be evaluated.

1. Previous Studies on Trading Strategies of Investors

1.1. Positive Feedback Trading - Momentum Process:

It is claimed that international (offshore) funds may engage in trading behaviors that are different from their domestic (onshore) counterparts. International funds may engage in positive feedback trading more aggressively than domestic funds, and that positive feedback trading could destabilize the market. A positive feedback trading pattern is when one buys securities when the prices rise and sells when the prices fall. In other words, investors rush to buy when the market is booming and rush to sell when the

market is declining This trading pattern can result from extrapolative expectations about prices from stop loss orders automatically selling when the price falls below a certain point, from forced liquidations when an investor is unable to meet her margin calls, or from a portfolio insurance investment strategy which calls for selling a stock when the price falls and buying it when the price rises.

Grinblatt, Titman and Werners (1995) alleged that international portfolio investors should be impetuous to engage in positive feedback trading with their sample of 274 U.S. mutual funds during 1975-1984**.** They also found that offshore funds may be more prone to this kind of trading pattern than their onshore counterparts, either due to the nature of their investment styles or due to lower regulatory constraints they face at home. However, using quarterly data on U.S. pension funds in the U.S. market, Lakonishok, Shleifer, and Vishny (1992) did not find strong evidence of significant feedback trading.

Tesar and Werner (1994, 1995) and Brennan and Cao (1997) discovered that international prices tend to rise when international investors purchase. Froot, O'Connell and Seasholes (2001) use measures of daily international investor flows across a wide number of countries, and find evidence that suggests at least a portion of the price increase occurs subsequent to internationals' purchases. These studies reveal that international investors have more information than the domestic investors and they may use this information to anticipate domestic-market equity returns.

Dornbusch and Park (1995) claimed that since the foreign investors' transactions are affected by previous performances, they tend to purchase shares when the prices of shares are increasing and sell when the prices decreasing. Bohn and Tesar (1996), Frankel and Schmukler (1996, 1998), Brennan and Cao (1997) found the evidences on positive feedback trading in international markets.

Choe, Kho and Stulz analyzed Korean shares before and after the crisis to scrutinized how the foreign investors affect the price of Korean shares. They found evidences relating to positive feedback trading in before crisis period. Result indicates that not only foreign investors, but also individual Korean investors bought the shares before the Korean crisis and

then they sold their shares when the market was declining. There are consistency between this result and evidences found by Froot, O'Connell and Seashole (1998). Kaminsky, Lyons and Schmukler (2000) examined the trading behavior of the mutual funds that invest in Latin America. They found evidence of positive feedback trading both among the managers of the mutual funds and among the ultimate investors in the mutual funds.

In order to test the positive feed back trading and herding behavior in international markets, Froot, O'Connell and Seashole (2000, 2001) analyzed the inflows and outflows of international portfolio investments in 44 countries during the period of 1994-1998. They found strong evidence about positive feedback trading. In addition; they also found that flows of international investments are important variable to predict the future value of assets.

Froot and Ramodorai (2001) found a significant relation between international portfolio funds with prices of closed-end funds. On the other hand, Kim and Wei (2001 and 2002) could not find any evidence about the positive feedback trading of foreign investors, so they did not support the argument about the positive role of foreign investors in international crises.

1.2. Herding

Herding Herd behavior is the term used to describe situations in which a group of individuals react coherently without there being any co-ordination between them. Bikhchandani, Hirshleifer and Welch, (1992); and Banerjee, (1992) indicated that informational asymmetry may cause uninformed but rational speculators to choose to trade in the same way as informed traders. Particularly information problem is more important in foreign markets, so, herd behavior may more impact on these markets. Whether international funds herd more or less than the domestic funds depends on their relative capacity in collecting and processing information about the emerging market in question.

There is an alternative explanation foe herding among institutional investors. Unlike individual investors, fund managers face regular reviews (e.g., quarterly for mutual funds, and annually for pension funds) on their performance relative to a benchmark and/or to each other. This may induce

them to mimic each other's trading to a greater extent than they otherwise would (Scharfsten ve Stein, 1990).

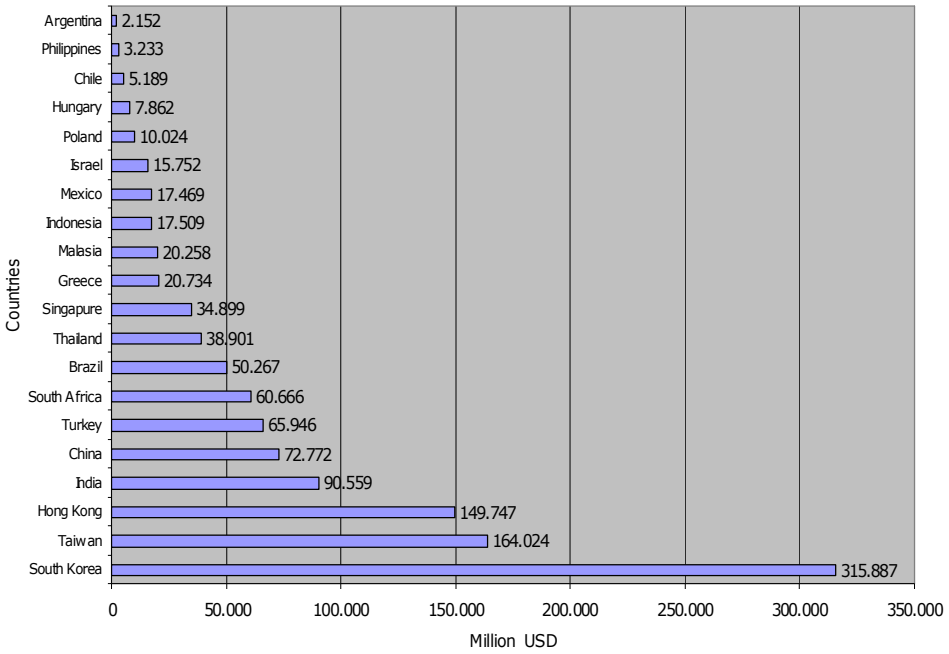
There have been several empirical papers that quantify herding behavior. Using data on institutional investors, the pioneering paper by Lakonishok, Schleifer, and Vishny (1992), followed by Grinblatt, Titman, and Wermers (1995), and Wylie (1997), all report evidence of herding among U.S. or U.K. institutional investors. In addition, Dornbusch and Park (1995) found some evidence on herding behaviors among foreign investors. Wylie found the similar results; Choe, Kho, and Stulz (1999) proved the herding behavior in Korea market, using data on foreign investors (or U.S. investors) in Korea as a single group.

Froot, O'Connell and Seasholes (2000) found that the herd behavior is more common among international investors during crisis periods than but in normal periods. However Kim and Wei (2001) revealed that domestic institutional investors more react coherently than institutional foreigner investors in Korea during the period of 1996-1999.

2. Istanbul Stock Exchange and Financial Crisis in 2001

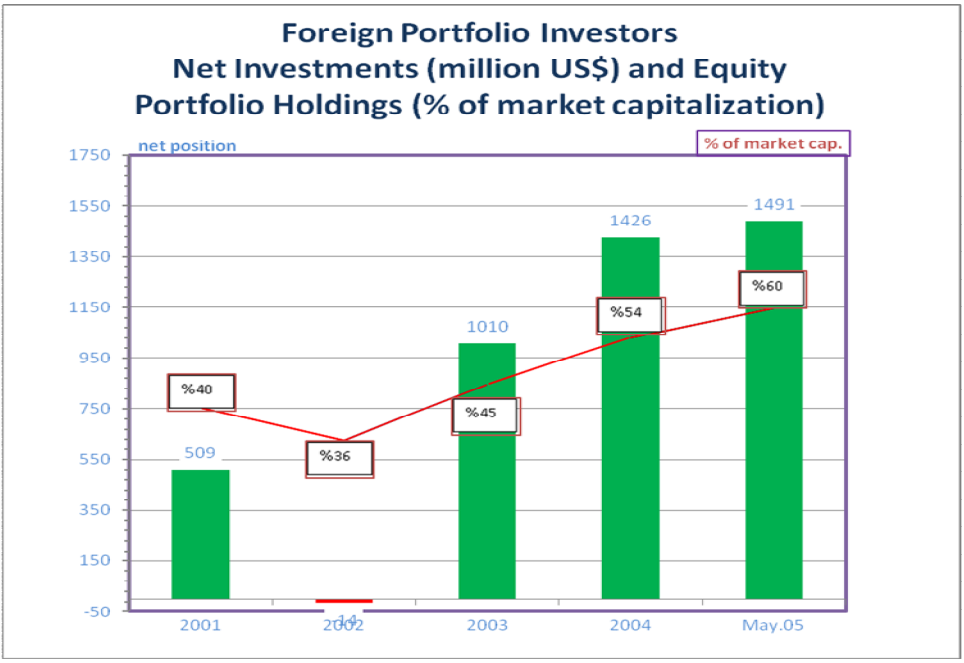
Istanbul Stock Exchange (ISE) was established in 1986, its foundation is an important milestone in financial liberalization in Turkey. The exchange has shown remarkable growth both in terms of trading volume and number of listed companies. As of the April 2005, with 300 listed companies, annual market capitalization reached $95 billion, and annual trading volume stood at $66 billion. These figures put ISE ahead of many emerging markets, and comparable to smaller Western European exchanges (Figure 1).

Figure 1. Emerging Markets Trading Volume (April, 2005)



The Security Market Board of Turkey is the main regulatory agency that provides transparency in the market. International financial investors can easily inflow and outflow their capital, due to the liberal financial regulations of Turkey since 1989. After the financial liberalization foreign portfolio investors have started to invest in government debt security market and publicly trading Turkish companies in ISE: As it is shown in figure 2, equity portfolio holdings of international investments in ISE have been fluctuated in recent years from 36% to 65%. Foreign investors generally decrease their stock holdings in crisis years and increase in boom years, as we expected. They prefer investing in fundamentally bigger and stronger companies included in the ISE 100 index, since those are more liquid. There are 110 brokerage companies, 31 banks, 11 investment banks that are the member of ISE. In addition, there are mutual funds and investment companies that are serving to domestic and foreign investors as of May 2005.

Figure 2: Net Investments and Equity Portfolio Holdings of Foreign Portfolio Investors (million US$)



The main feature of the ISE is its market volatility. It has become one of the best and the worst performing stock markets of world in the last 15 years. The main reason for this volatility is the country's economic and political upheavals. There were two main factors that should be considered while analyzing the ISE regarding the country's economy before 2004. These were high inflation and high internal debt. During the period 1995 to 2003 the inflation rate has fluctuated around 75%. The second important factor that should be considered is high internal debt occurred because of the requirement of borrowing by the government. During the period 2000 to 2003, the average total debt to GNP ratio has fluctuated around 70% . The problem is stems from the fact that this debt is almost all-short term and depend on foreign portfolio investments. Unstable economic environment and high systematic risk particularly have affected the fundamental values of small and mid-scale firms and changed the investment behavior of both foreign and institutional investors. The investment horizon of investors has

become shortened. Consequently, big and relatively fundamentally strong firms have been preferred by institutional and foreign investors. Unfortunately Turkish economy that had weak macroeconomic indicators could not make use of the opportunities provided by expanded access to international markets without adequate appreciation of the risks and faced with three important financial crises in 1994, 1998 and 2001. The last one is was the strongest.

After going through a series of short term economic problems in 1990s, Turkey entered a period of severe financial crisis in the beginning of 2000s. The crisis which first revealed itself as a warning signal in November 2000 and erupted in full scale in February 2001. GDP of Turkey decreased and unemployment increased to 12% in that year. The most direct indicators of the crisis over the financial markets were rapid rate of depreciation of the Turkish Lira and the sudden hike of the rates of interest on the government's debt instruments. After the second quarter of 2001, USD/TL nominal parity has increased by quarterly rates of 96.5%, 116.5% and 114.5% stabilized only in November of 2001 (Yeldan 2003). Since the holdings of foreign investors in ISE decreased in the crises period, the role of the portfolio investments in triggering the crises had been examined.

In order to solve the economic problems Turkish government applied a new economics program with the support of the International Monetary Fund (IMF) and implemented the reforms that had demanded by IMF: The reforms have been applied during the 2001 and 2002. Then the economy has started to improve and achieve macroeconomic stability. The most important events that influenced the economy after the crisis were the general elections in 2002 and Iraq war in 2003.

2.1. Hypothesis

Since the aim of the study is to analyze the impact of the foreign portfolio investments in Turkey, we searched the main two investment strategies of international investors that are mentioned in previous sections in Istanbul Stock Exchange. The hypotheses of this study are:

1- Foreign investors are engaged in positive feedback trading more aggressively than domestic investors and that positive feedback trading are destabilized the Turkish market.

2- Foreign investors herd more than the domestic investors in Istanbul Stock Exchange.

2.2. Data

Main data of this study is the monthly stock positions of financial institutions that are provided from Istanbul Stock Exchange, Takasbank that is unique clearing company of Turkish Capital Market and Finnet Financial Information Company. Finnet is the one of the main data base for Turkish companies. It has been served for institutional and individual investors since 1994.

This study covers the period of December 31, 2000 to December 31, 2004 (49 months). Since the data has not been classified as institutional investor, individual investor or international fund, we are compelled to use transaction data of the brokerage companies, banks, mutual funds and investment companies of Istanbul Stocks Exchange.

According to Turkish capital market regulation, brokerage companies are main intermediation institutions that market participants have to do all transactions about stocks via them. However Takasbank classifies these transactions in institutionalized base, the transactions that are done by brokerage companies, banks, mutual funds and investment companies are placed in their accounts at the end of the day and inform the public. The month end stock positions and transactions of individual investors are seen in the accounts of brokerage companies. On the other hand, the transactions of foreign investors are listed in separate accounts. Finnet collects this information and informs the costumers since December, 2000.

According to the Finnet data there are 520 financial institutions that have accounts in the list of Takasbank, however 455 of them were active, during to 2000-2004 period. It is noted that the number of active financial institutions varies in monthly periods. 85 of them were serving to foreign investors. Monthly and US dollar denominated data of financial institutions will be used in this study. Month end common stock balances of the financial institutions are assumed to reflect the investment positions of them. On the other hand, only the data of companies that are in the list of ISE National-100 Index are included in the study. This index has been calculated since the inception of the ISE that is composed of National Market companies except

investment trusts. The constituents of the ISE National-100 Index that represents is about 90% of listed companies of ISE, are selected on the basis of pre-determined criteria directed for the companies to be included in the indices. ISE National-100 Index contains the ISE National-50 and ISE National-30 Index companies.

In order to understand investments strategies of foreign investors the total period is divided into four sub periods that reflects the different stages of 2001 financial crisis as seen in Table 1. Period I covers the hottest part of the crisis. After the peak crisis period, the reforms are implemented and market participants observed very closely the direction of the market during the second period. Since the coalition government that serves the Turkey during the period of 1999-2002 lost their support because of the economic problems, the agenda of investors during the year of 2002 was the general elections and the policies of the new government. During the period III, expectations of investors have directed the markets. Economy has been stabilized after the elections, but the Iraq war has increased the tension of financial markets during the 2003. Period IV shows the result of economic stabilization program.

Table 1: Sample periods

Periods	Date	Events
Period I	Jan/2001-Dec/2001	Peak period of the crisis
Period II	Jan/2002-Dec/2002	Reforms implemented and general elections
Period III	Jan /2003-Dec/2003	Iraq war and economic stabilization
Period IV	Jan/2004-Dec/2004	Results of economic stabilization
Total Period	Dec/2000-Dec/2004	From crisis to stabilization

2.4. Methodology

Two different methodologies are used in the study to measure the efficiency of the each trading strategy of foreign investors. The positive trading methodology of this study depends on the study of Grinblatt, Titman and Wermers (1995) that was modified by Kaminsky, Lyons, and Schmukler (2000). This measure is adapted for investor groups by Kim and Wei (2002). The herding measure Lakonishok, Shleifer and Vishy (1992) is employed. This

measure shows the correlation in herding patterns among members of a group.

2.4.1 Positive Feedback Trading Momentum Process.

The measure of positive feedback trading considers the connection between investors' trading on particular stocks and prior performance of the stocks.

(4)

$$M_{(k,j,t)} = \left[\frac{(Q(k,j,t) - Q(k,j,t-1)}{Q^{*}(k,j,t)} \right] R(j,t-1)$$

Q(k,j,t) = The number of shares of stock j is held by investor group k at time t

Q(k,j,t) = The average of Q(k,j,t) and Q(k,j,t-1)*

R(j,t-1)= The return on stock j from t-2 to t-1

The momentum measure for a particular investor group k over a given sample period is

(5) $M(k) = \frac{1}{JT} \sum_{t} \sum_{j} M(k,j,t)$

J= The total number of stocks traded by k,
T= The total number of time periods

We expect that if there is no feedback trading in either direction, the mean value of M(k) would be zero. In the case of systematic positive trading M(k) would be positive and systematic negative trading M(k) would be negative.

2.4.3 Herding Behaviors

The measure of Lakonishok, Shleifer and Vishy considers the correlation in herding patterns among members of a group. H (i,j,t) is the herding index and formula is given below.

$$(6)\quad H(i,j,t) = \left| \frac{B(i,j,t)}{B(i,j,t)+S(i,j,t)} - p(i,t) \right| - E\left| \frac{B(i,j,t)}{B(i,j,t)+S(i,j,t)} - p(i,t) \right|$$

$$(7)\quad p(i,t) = \frac{\sum_{j=1}^{N} B(i,j,t)}{\left(\sum_{j=1}^{N} B(i,j,t) + \sum_{j=1}^{N} S(i,j,t) \right)}$$

B(i,j,t)= The number of investors in group i that have increased the holdings of stock j in month t (Number of net buyers)

S(i,j,t)= The number of investors in group i that have decreased the holdings of stock j in month t (Number of net sellers)

p(i,t) = The number of net buyers in group i aggregated across all stocks in month t divided by the total number of active traders in group i aggregated across all stocks in month t (number of net buyers plus number of net sellers)

$$(8)\quad H(i,t) = \frac{1}{N} \sum_{j=1}^{N} H(i,j,t)$$

$$(9)\quad H(i) = \frac{1}{NT} \sum_{t=1}^{T} \sum_{j=1}^{N} H(i,j,t)$$

H(i,t);= The herding index for group i, Month t, averaged across all stocks.

H(i)= The herding index for group i, averaged across all months in the sample

The reason of subtracting p(i,t) from H(i,j,t) is to make guarantee that the final index is insensitive to general market conditions. As seen in equation (6) calculation of herding index depends on absolute values. Thus the first term in the equation reveals how much of the investment is polarized in the direction of either buying or selling. The second term in equation (6) is called as adjustment factor. It is subtracted to correct for the mean value of the first term under assumption of no herding. Adjustment

factor can be computed under the assumption that B(i,j,t) follows a binomial distribution. Note that for large N and T, H(i,t) and H(i) follow normal distributions by the central limit theorem.

3. Findings

This study reflects only month end stock positions of domestic and foreign investors, the transactions in the months are not included in the study. On the other hand the financial institutions that their month end balance do not varies from one month to the next, in other words the inactive institutions are also excluded.

Table 2 reports the basic findings in positive feedback trading. The results of whole period of the study are statistically significant and reflect negative feedback trading for foreign investors and positive feedback trading for domestic investors.

Table 2: Momentum Trading

Periods	**Foreign Investors (1)**	**Domestic Investors (2)**	**Difference (3) = (1) - (2)**
Total Period	- 0.0042** (0.0014) [84]	0.0038* (0.0018) [271]	- 0.0080** (0.0023)
Period I	- 0.0032 (0.0017) [70]	0.0121* (0.0050) [197]	- 0.0153* (0.0052)
Period II	- 0.0039* (0.0017) [74]	0.0186 (0.0114) [195]	- 0.0225 (0.0115)
Period III	0.0006 (0.0006) [62]	0.0034 (0.0041) [211]	- 0.0028 (0.0042)
Period IV	- 0.0002 (0.0008) [59]	0.0006 (0.0019) [213]	- 0.0008 (0.0020)

Standard errors are in the parentheses, and
Number of observations are in bracket.
**indicate significance at 1%
* indicate significance at 5%

The results indicate that foreign investors sell (buy) the shares, while the prices of the shares are increasing (decreasing), however the domestic investors that engage in positive feedback trading, buy (sell) the shares, while the price of the shares is increasing (decreasing). The outcomes of first period that covers the peak of the crisis reveals the similar result. The tendency of foreign funds to engage in the negative feedback trading strategy during that period is significantly greater than the domestic funds at five percent level. On the other hand, for the last three sub periods of the analysis, there is no statistically significant evidence in either positive or negative feedback trading. It seems that the trading strategies of foreign investors have contributed the stabilization of economy by purchasing the shares that have downward moving prices. This finding is contrary of previous researches that attract attention of the instability role of foreign portfolio investment. It could be understood that the foreign investors had no intend to leave the Turkish market completely, on the contrary they probably wanted to benefit from bear market in the year of crisis. The trading strategy of domestic investors was not in the same direction, by keeping on selling the shares in bear market, they contributed destabilization in financial market. A possible explanation of this strategy of foreign investors is that foreign investors may be more experienced and informational advantaged relative to domestic investors. Since foreign investors owned relatively bigger companies and almost the half of the shares in the market, a positive feedback strategy could cause a more downward pressure on prices and their position would be more difficult.

The basic results about herding are presented in Table 2. The results reveal that the herding measure is statistically different from zero for domestic and international funds in total period and each sub period. Not only the foreign investors that we have expected but also the domestic investors are engaged in herding during the total period and sub periods. The second outcome of this analysis is a difference in herding tendency among the investor groups. Foreign funds herd significantly more than domestic funds in all periods. The finding supports the previous research that indicates that international funds would generally herd more aggressively than domestic funds. A possible interpretation of this finding is that foreign investors may be informationally advantaged relative to

domestic investors. This result is the consistent with the result in positive/negative feedback trading analysis discussed in the previous part.

Table 2: Herding

Periods	Foreign Investors (1)	Domestic Investors (2)	Difference (3) = (1) - (2)
Total Period	0.3572** (0.0049)	0.1034** (0.0026)	0.2539** (0.0055)
Period I	0.3622** (0.0094)	0.1068** (0.0055)	0.2554** (0.0109)
Period II	0.3579** (0.0083)	0.1071** (0.0071)	0.2509** (0.0109)
Period III	0.3532** (0.0073)	0.1036** (0.0041)	0,2496** (0.0084)
Period IV	0.3556** (0.0139)	0.0959** (0.0031)	0.2596** (0.0143)

Standard errors are in the parentheses.
**indicate significance at 1%
*indicate significance at 5%

CONCLUSION

Since the early 1990s, international deregulations and associated capital flows from industrial countries to developing countries appeared to be fueling faster growth and development. However a series financial crises, starting with industrial countries in Exchange Rate Mechanism (ERM) in 1992 and 1993 but then moving on in a significantly more virulent form to developing countries with the 1995 Mexican crisis, the Asian crises of 1997-1998, the Russian, and Latin America crises in 1998-2000, Turkey and Argentina crises in 2001 had made clear that international capital flows have risks as well as benefits.

After the financial liberalization at the end of 1980s in Turkey, relatively important amount of short term international capital flow invested in government borrowing instruments and ISE. Although these funds had benefited to Turkish economy, but due to the unsustainable and inconsistent macroeconomic policy of Turkey, these funds might create a risk of

instability by leaving the country open to sudden reversals in capital flows. The crises in 1994, 1998 and 2001 might be the outcomes of liberalization in international investments.

The basic motivation for this study is to investigate the role of international investors during the financial crisis in 2001. We analyzed the two popular investment trading strategies of foreign portfolio investors that are positive feedback trading and herding, in comparison with the domestic investors in the crisis period.

By analyzing the monthly stock positions of financial institutions the investment strategies of foreign and domestic investors; we investigated their investment strategies for the period of December 31, 2000 to December 31, 2004. The findings revealed that the foreign investors were engaged in negative feedback trading activity that was stabilized the financial market during the crisis, whereas domestic investors caused the instability in markets by engaging in positive feedback trading. The result is not supporting our expectations and previous studies that indicate the destabilization role of foreign fund in crisis periods. The experience of interpretation of this strategy of foreign investors is that foreign investors may be more experienced and informational advantaged relative to domestic investors.

The second outcome of the study was related with the herding behavior of investors. It is found that the both of investor groups have been participated the herding behavior in the market not only in the peak period of the crisis but also post crisis periods. However it is found that there was a high level of tendency in foreign investor group to mimic each other's trading. In other words, foreign funds herd significantly more than domestic funds in all periods.

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