

# The Herding Effect of Domestic Investors on Foreign Investors: Evidence from the Iraq Stock Exchange

Mohammed Faez Hasan<sup>a</sup>, Noor Sabah Al-Dahan<sup>b\*</sup>, <sup>a,b</sup>Faculty of Administration and Economics, University of Karbala, Karbala, Iraq, Email: <sup>b\*</sup>[nooraldahan855@gmail.com](mailto:nooraldahan855@gmail.com)

Financial market participants show biases over time. Herding is still one of the well-known biases. In developing or emerging financial markets, herding increases for domestic investors in relation to foreign investors' behaviour. We study this effect on the Iraqi Stock Exchange. We found that local investors follow or 'herd' on foreign investors in many situations like forming portfolios, buy and sell signals, and in imitating their behaviour when less information is available for investments. Reasons behind that go back to domestic investors thinking foreign investors have enough skills and knowledge to make a better prediction about securities futures, because foreign investors have improved their experience from investments in developed countries, in addition to their enormous financial resources.

**Key words:** *Herding, Behavioural Finance, Efficient markets, foreign investors, domestic investors.*

## Introduction

Financial markets contain many investors, behavioural and institutional. Each investor depends on private sources of information that enables him to trade effectively and generate profits, alongside cumulative experience. The modern financial theory depends on the behavioural aspects of the investor, specifically on their biases while making their decisions. Like others, herding must be considered as a common bias among investors, whether individual or institutional. The current study focuses on the impact of foreign investors in the Iraqi Stock Exchange, by finding the existing domestic investors herding for foreigners. The study uses data from the exchange and surveys to analyse the views of domestic investors,

about replication of decisions. We find that herding for foreign investors already existed (de Miguel Guzmán, Campdesuñer et al. 2018, Mohd, Rahman et al. 2018, Safa 2018, Titisari, Susanto et al. 2018).

## **Literature Review**

### ***Behavioural Finance***

In the twentieth century, financial theory developed rapidly. It begins with the results of Bachelier (1900) when observing stock prices following the random walk theory, which means speculation is gaining nothing. After that, Roberts (1959) tested price changes in the short-term and long-term, then described prices behaviour as looking like a roulette wheel, and being difficult to predict. Moreover, financial models of the dividend discount model (Gordon 1962), the model of asset pricing (Sharpe 1964), and other models are similar. They build on bases of an ideal market that depends on the random walk theory and investor rationality. That led Fama (1991) to present the main contribution in the twentieth century when revealing the efficient market theory for the first time, with theoretical and empirical evidence. Fama describes the efficient market when it instantly reflects all available information. As a result, it is challenging to achieve an abnormal return. Later, in 1991, Fama revised his first work and stated that the efficient market fully reflects all available information, with a report which was to some misleading as to assets pricing models. Even though Efficient Market Theory faces severe refutations, several studies still support the validity of the theory.

On the other hand, market anomalies became the major challenge of efficient market theory. Anomalies refer to patterns or trends, which increase the predictability of future returns. Fama (1998) claimed market anomalies have a chance to happen, are available around events, and disappear in the long-term. Besides, investors over-react, or under-react for coming information is the main reason behind the anomalies. Furthermore, some studies suggest that findings are inconsistent with efficient market theory assumptions. Likewise, Kemp and Reid (1971) noted stock prices have non-random movements, after analysing stock price patterns in the London Stock Exchange with large samples. Alongside this, Lo and MacKinlay (1988) rejected the random walk hypothesis after a test, the stocks' weekly returns, which demonstrated high positive auto-correlation among return observations.

Criticism of the efficient market hypothesis shed light on behavioural finance. Behavioural finance examines the psychology of market participants and their behaviour in the market, through interpreting the decision mechanism and their reaction to market information (Park and Sohn 2013). Investors sometimes make irrational decisions, which show cognitive biases or emotions, which lead to worse investments. The root of behavioural finance comes from the study of Kahneman and Tversky (2013) when introducing prospect theory. They compare

the pain of losses as being twice the relief of gaining the same amount. Thus, investors keep assets when losing, to offset the losses. Whereas they directly sell assets to harvest gains after achieving profits. That demonstrates irrational behaviour and leads to doubt about rationality.

More studies last decade relied on behavioural finance to interpret market anomalies and describe stock price movements. Shiller (2003) described the frequent crashes and market failure, through behavioural finance. Furthermore, Statman (2014) introduced normal people instead of rationales, and hard-to-beat markets for efficient markets. Nonetheless, Sharma and Kumar (2019) argue that behavioural finance theory is immature for now. So, prospect theory needs further time to be an alternative to efficient market theory in explaining market returns.

### ***Herding***

Behavioural finance points out several behavioural biases. Herding is considered one of the famous biases that exist in financial environments. The terminology “herding” has various meanings in different disciplines. Individuals herd as human-embedded behaviour. In financial distress, for example, depositors rush to the bank window to withdraw their deposits, afraid of bank failure. The panic increases for others when they see a long line in front of the bank. Make them worry about never getting their money, if time is late; it obligates the bank to liquidate its asset in a loss and then fail (Diamond and Dybvig 1983). In finance, herding means when market participants imitate each other’s actions as a reaction to the effects of others in preceding situations (Spyrou 2013). Then, herding leads to securities prices deviating from their fundamental value, making the market suffer from a price bubble (Filip, Pochea et al. 2015). Garber (1990) studied the three famous prices bubbles like tulip mania, Mississippi, and the South Sea, and indicates it was an investors’ group psychology effect. Wherefore, several studies described herding as irrational behavior.

Devenow and Welch (1996) refer to herding into irrational and rational views. Irrational-herding views are based on investors’ beliefs when they follow other investors blindly, without attention to any signals they have or to the different conditions of other investors. As a result, they ignore rational analysis for available information. Meanwhile, the rational-herding view considers other investors’ decisions when investors are deciding. The investor thinks the optimal decision-making process should surround all available information, including decisions of surrounding investors. Likewise, the study of Bikhchandani and Sharma (2000) illustrates two types of herding in the financial market context. The first type is called spurious herding, when a group of investors makes the same decision at the same time. That happened for several reasons, like using the same fundamental models and information, due to regulation limits when applying to similar investors, and occur when there are the same limited opportunities to investors. The second type is intentional herding when investors copy others’ behaviour or decisions.

Zhou and Lai (2009) study herding phenomena in the Hong Kong market. They note that investors, when herding, rely on fundamental information rather than technical, analytical information. Furthermore, investors' herding increases in 'sell-side' than 'buy-side'. Also, they conclude that however transparent the market is and information is available, herding exists as a phenomenon. Chang, Cheng et al. (2000) studied herding presence in developed and emerging countries, namely (United States, Japan, Hong Kong, South Korea, and Taiwan). The study exhibited evidence against herding that exists in the U.S., Japan, and Hong Kong markets, despite severe price movements, while herding was present in South Korea and Taiwan. This result indicates deficient information disclosure in the emerging markets. Besides, the study suggests that herding is unrelated to stock capitalization. Goodfellow, Bohl et al. (2009) analyze the herding pattern in the Polish stock market. They suggest herding presence among individual investors and without evidence among institutional investors. Also, individual herding increases in the bearish rather than bullish market. The absence of institutional-herding backs an increase in market efficiency during their sample study. They attribute this condition to the smooth flow of information and regulatory support.

Moreover, Chiang and Zheng (2010) study herding phenomena as existing in a sample which covered 18 countries, in three different geographical contexts; the advanced stock markets, Latin American markets, and Asian markets. They concluded that herding exists in each country except the U.S. and Latin America countries. They attribute these findings to slow information reflection in the Asian markets. Furthermore, the financial crisis triggers herding in each country, also, in the U.S. and Latin America countries. Kapusuzoglu (2011), however, tested the Istanbul stock market to confirm herding behaviour presence in Turkish markets.

Herding has high activity in both upside and downside market movements. Likewise, Hsieh (2013) studied institutional and individual investor herding among Taiwan's market participants. Hsieh found that the two types show herding action according to intraday data. In addition, institutional investors herd more than individual investors do. Both rely on small-capitalization stocks. The institutional investor herds based on private information, while individual investors herd according to their beliefs and emotions. Filip, Pochea et al. (2015) investigate herding behavior among investors in Central and South-Eastern Europe. The sample covered markets in the Czech Republic, Hungary, Poland, Romania, and Bulgaria. The study suggested herding is manifest in each country except Poland. In addition, herding becomes apparent during market decline.

More studies have searched herding sources, even though it is a prevailing phenomena, but evidence has come in divergent findings (Welch 2005). Scharfstein and Stein (1990) adopted a theory of herding in the financial market. The theory refers to a fund manager in the labour

market where managers mimic the decisions of investments for others. When managers' composition depends on their market prediction, they attempt to enhance their reputation for pursuing the right decision. Managers reach the same market information, but some can exploit their correct manner, making them smart managers. In contrast, others search for a smart manager to copy their decision. Hence, when they follow the trend of the smart manager, and it was wrong, they have to share the blame and more of that banter than if it was their decision alone. Wherefore, although managers better predict investment, they prefer to follow the consensus with another investment. Banerjee (1992) stated a herding model based on probability and equilibria. By using a sequential decision model, Banerjee claims that a person considers herd as a rational choice although he has private market signals. According to that, the person considers the decision of previous decision-makers when they make their decisions. They think the preceding decision of others contained information that affects their decisions. The model of Banerjee assumes iteration of decision-making by herding, which leads to an inefficient decision at a specific point because of cumulative decisions.

Froot, Scharfstein et al. (1992) assert that one of the herding models came from the investment horizon of speculators. Undoubtedly, market participants try to get more information than others. As a result, if they are unable to get the required private information, they herd with others. That is obvious for those in the short-horizon as compared with the long horizon. In the short-horizon speculators ignore some necessary information for new information that reflects from others. Whidictionch attributed market inefficiencies for those with the short-horizon, for making them interpret their behaviour as a rational reaction to current market conditions. Similarly, Avery and Zemsky (1998) in their model assert that in the long-term, the market is efficient with a simple information structure. Thus, it is impossible to support herding behaviour. On the other hand, in the short-term, the information structure became complicated, and that led investors to herd. Thus, the market suffers from price distortion leading to price bubbles.

In 1994, it was claimed (Trueman) that security market analysts forecasts have biased decisions, although they have unique information. Trueman notes that analysts follow the consensus through issuing forecasts similar to those previously declared by other analysts, although the declared forecasts are inconsistent with their information, which makes them compensate as best, experienced analysts. Thus, analysts' forecasts unveil apparent herding behaviour. Alongside this, Graham (1999) revealed the model of herding based on analysts' behaviour. According to the model, two types of analysts exist in financial markets. First movers refer to smart analysts who can receive informative private signals. On the other hand, second movers refer to dump analysts, who are challenging to get significant signals from the market environment. For that, second movers try to mimic the first mover actions,

which leads to herding. Then, the second movers consider a smart analyst and compensate like the first movers. While the smart or high-ability analyst tries to hide with the consensus.

### ***Foreign investors***

As a result of market liberalization policies, foreign investors spread their investments around the world. They are searching for opportunities to gain profit and reduce risk among investments. Either in developed or in developing markets, they expand to new emerging markets, which lately unveil liberalization policies. Therefore studying any economic phenomena requires considering the rules of foreign investors, either individual or institutional. Chiang and Zheng (2010) assert the evidence of investors herding in the U.S. market beside their local markets. Thus, the traditional studies, which exclude foreign investors while testing herding, might suffer from biased results. In line with that, Jeon and Moffett (2010) studied the role of foreign investor herding in the Korean market, and stated strong evidence for the presence of foreign investor herding. They pronounced a greater impact on domestic institutional investors, more than on individuals.

### **Methodology**

As a sample, the current study imported the data of foreign investors from formal publications of Iraqi Stock Exchange (ISX hereafter). The data were in yearly form and referred to the transactions' numbers, value, and volume of traded stocks by foreign investors. In addition, the views of domestic investors were recorded, in questionnaires that addressed their attention to foreign investor behaviour in the market. The date of transaction numbers, value, and the volume of traded stocks was converted into a percentage. The period covered was from 2006 to 2018. It was chosen because before 2003 foreign trading was severely limited by authorities. After 2003 directly, foreign investors found it difficult to reach the Iraqi market because of the same legislation. In 2006 and later, foreign investors begin their trails to trading after legislation modification by the market authority. Alongside this, the views of domestic investors were collected by using a questionnaire, adapted from biases test developed by Michael Pompeian (Pompeian, 2006). The survey applied to 100 participants, which represent most prominent local investors (individuals and institutions) in the ISX. The questionnaire contained 15 questions as variables in the current study. After that, we analyzed the surveyed views by using MS-Excel 2019 to find the survey results.

### **Results and Discussion**

As mentioned in Table 1, foreign investors, on average, have over 12% share of total transaction numbers in the ISX, and over 18% in traded stock value. Moreover, they have about 14% of the traded volume of the whole market. That means foreign investors represent

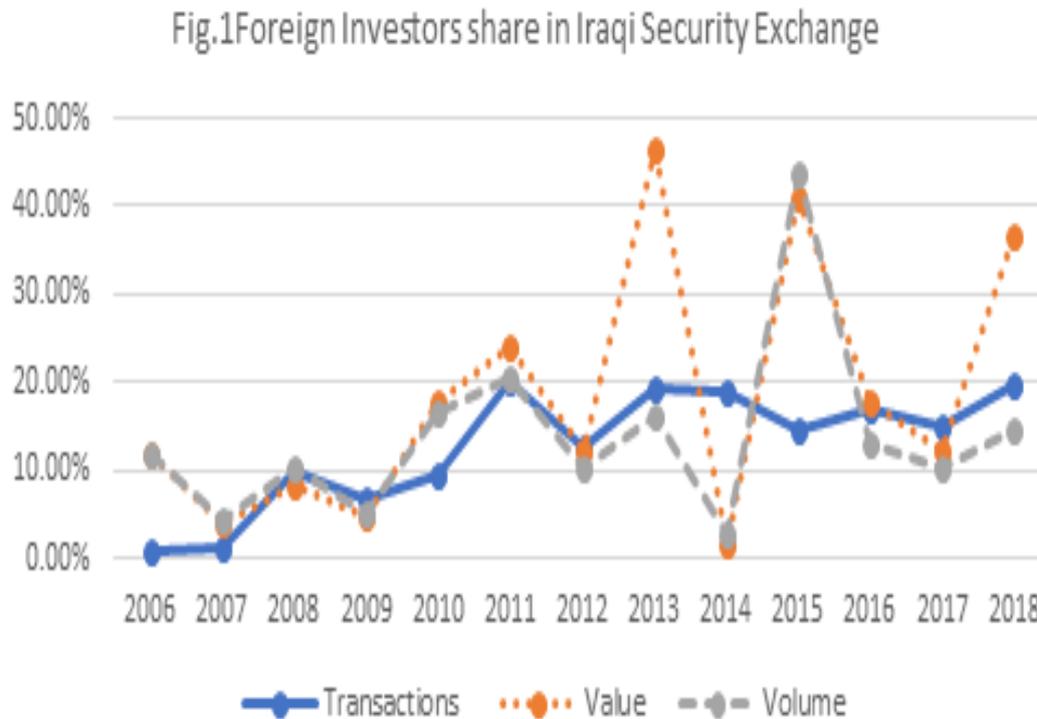
a significant portion of traders. Their effect may be more than that share because the Iraqi market is considered a new financial market with limited technical and fewer infrastructure capabilities. Though founded before 2003, it has had significant changes in rules and legislation for trading. It contains a few consistently listed companies because of political and economic factors that limit companies' activity in the Iraqi business environment. The peak of foreign investors' share in 2013 (Fig.1) represents the last year before ISIS attacked North Iraqi Cities in 2014. That made the Iraqi Market risky and less attractive for foreign investors who pushed foreign investor share decline after that.

**Table 1:** Foreign Investors' Share in the Iraq Stock Exchange

<b>Year</b>	<b>Transactions</b>		<b>Value</b>	<b>Volume</b>
<b>2006</b>	0.88%		11.66%	12.01%
<b>2007</b>	1.10%		4.01%	4.55%
<b>2008</b>	9.91%		8.20%	10.19%
<b>2009</b>	6.60%		4.95%	5.17%
<b>2010</b>	9.64%		17.79%	16.64%
<b>2011</b>	20.01%		23.94%	20.60%
<b>2012</b>	12.82%		12.32%	10.32%
<b>2013</b>	19.41%		46.46%	16.16%
<b>2014</b>	18.82%		1.62%	2.82%
<b>2015</b>	14.47%		40.93%	43.90%
<b>2016</b>	16.86%		17.91%	13.16%
<b>2017</b>	15.12%		12.15%	10.36%
<b>2018</b>	19.55%		36.60%	14.42%
<b>Average</b>	12.71%		18.53%	14.87%

Note. Data of 2003-2005 unavailable in formal market publications

**Figure 1.** Foreign Investors' Share in the Iraq Stock Exchange



On the other hand, the survey result was converted into statistical parameters in light of the answers of Domestic investors (Figure 1). All variables were statistically significant except (X1, X2) had a calculated-t-value less than a tabulated-t-value. That means investors' answers were unrealistic in these two variables, and they claimed contrary to their real actions. According to X1, which refers to domestic investors considering the trading volume of the securities of foreign investors when it is increasing, also decreased as claimed in X7. That means domestic investors review the volume of trading resulting from foreign investors' actions, as an essential part of their investment decisions from the domestic investors' point of view.

Their answer X2 implies that domestic investors tend to buy securities as a response to buying orders increasing in opening sessions. Alongside this, their response in same manner by selling securities when selling orders increases in the session opening as mentioned in X6, means that investors react according to daily events, because they thought informed foreign investors applied their buy or sell directions after collecting information throughout market close. Whereas, as noted in X3, domestic investors respond to security price changes that are resulting from foreign investors trading as a signal of 'buy' as stated by X8, or a signal of 'sell' as mentioned in X9. That makes domestic investors follow the trends adopted by foreign investors. Furthermore, X4 reveals that domestic investors react positively to rumours if foreign investors respond to it, either in sell or buy decisions.



Besides, X5 asserts that domestic investors relies on foreign investor portfolio formation. Specifically, when domestic investors form their portfolios, they tend to replicate securities or to pick some of that previously selected by foreign investors, because they thought that foreign investors have skills enabling them to make batter investment decisions. That led domestic investors to follow foreign investors' behaviours in buying or selling securities, even if the domestic investors have unique information that refers to different conclusions, as stated by X10 and X13. Meanwhile, X11 and X12 imply that domestic investors also follow the foreign investors' decisions to attribute their losses when they occur, and this bias makes them depend on foreign investors to decide when to ambiguate or there is insufficient information for the domestic investor.

Moreover, X14 shows that foreign investors have enormous impacts compared to their share for many reasons. Add to that the domestic investors' herding bias, and it leads to foreign investors' effect becoming noticeable in security price changes.

## **Conclusions**

There are many financial markets among different countries. The Iraq Stock Exchange allows foreign investors to trade and collect earnings. Foreign investors comprise a significant portion of the Exchange. Because the Iraqi Stock Exchange is considered a relatively new market and has a low number of listed companies continuously because of political and economic circumstances, foreign investors' impact is more substantial than is proportionate. What supports this finding is that domestic investors are herding on foreign investors most times, like portfolio formation, the timing of buy and sell decisions, and in imitating foreigners' decisions in cases even though domestic investors have information leading to different choices. The reasons behind that go back to domestic investors thinking foreign investors have enough skills and information to make a better prediction about securities futures, because foreign investors have improved their experience from investments in developed countries, in addition to their enormous financial resources.



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