Herding Behavior in the Stock Market

An Empirical Analysis of the Egyptian Exchange

by

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Abstract
This paper examines herding behavior in the Egyptian stock market using the CH model developed by Christie and Huang (1995) and the CCK model developed by Chang et al. (2000). The paper uses daily returns data of the 20 most traded stocks in the Egyptian Exchange in addition to the daily returns of the market index EGX 100 during a period of five years from January 2006 till December 2010. This paper is an attempt towards thorough examination of herding behavior in the Middle East and Africa region which has been investigated only as an entire region and not disaggregated into the specific countries. This study finds that there is no herding present in the Egyptian stock market.

JEL classification
G02, G10

Keywords
Herd behavior, Egyptian stock market, behavioral finance
1. Introduction

“Men, it has been well said, think in herds; it will be seen that they go mad in herds, while they only recover their senses slowly, and one by one.” - Charles Mackay (1841)

(Quoted in: Bikhchandani and Sharma 2000:279)

Behavioral finance is considerably a new area in finance that incorporates investors’ biases and psyche to the more traditional concept of finance. Herding behavior is one of the behavioral biases that are dealt with in the behavioral finance field. Basically, herding means mimicking the behavior of others (Rizzi 2008: 89).

In finance, it is widely known that investors buy undervalued stocks and sell overvalued stocks. However, if investors exhibit herding behavior, then they would buy what other investors are buying and sell whichever they are selling regardless of whether such a decision follows the wide known rule of trading securities (Caparrelli et al. 2004: 223; Lakonishok et al. 1992: 23). In other words, if herding behavior is present, then investors won’t make trading decisions based only on the private information they possess, but also give a weight to the decisions made by other investors (Wylie 2005: 387)

Obviously what is meant by herding here is intentional herding not spurious herding. Spurious herding occurs when investors facing the same information in the market respond, as in make decisions, in the same way (Bikhchandani and Sharma 2000: 281). This is not considered the herding we mean in this paper, as in this case investors are simply responding to public information that is present in the market, and their actions help incorporate this new information in the prices of the securities and thus helping the market become more efficient and more complying to the efficient market hypothesis (Bikhchandani and Sharma 2000: 281; Caparelli et al. 2004: 224).

There are many reasons underlying the herding intentions of individuals. Prechter and Parker (2007: 95-96) claim that when individuals are uncertain about the outcome of their decisions, they tend to assume that other know better and therefore herd. However, Rizzi (2008: 89) claims that people herd due to social pressures to conform to the majority
in addition to being able to blame a failure on the collective action of people rather on oneself and thus reducing a feeling of regret.

Herding is a very interesting and important phenomenon in the financial sphere as it is a common notion that herding is associated with volatility in stock prices and stock returns as well as the destabilization of financial markets (Bikhchandani and Sharma 2000: 279-280; Dasgupta et al. 2011: 892). Moreover, herding is also known to account for the momentum in as well as the reversal of stock prices (Nofsinger and Sias 1999: 2263).

Herding has also been believed to be a main driver of asset price bubbles. Rannou (2010: 291) postulate a model to explain the presence of speculative bubbles and they assume that the increase in the intensity of herding increases the size of the bubble. This is because as investors follow each other, they push the prices up even more. Similarly, DeMarzo et al. (2008: 46) explain that herding is a primary component for the birth and sustainability of a financial bubble which leads to the conclusion that asset bubbles are a social phenomenon. Also, Caparelli et al. (2004: 223) claim that herding is an indicator of inefficient markets that often have speculative bubbles.

There are many papers in the literature that attempt to measure herding using the returns of stocks in the stock market (Chang et al. 2000: 1652; Christie and Huang 1995: 32). The primary model that is used was initially developed by Christie and Huang (1995) - here on known as CH model- and then was further developed by Chang et al. (2000) –here on known as CCK model.

The CH model is based on the notion that during periods of extreme market conditions or market stress, investors are more likely to follow the investment decisions of the majority rather than their own, and thus there is a small difference between returns of the individual stocks and the returns of the market. Statistically, this can be interpreted as a low dispersion of stock returns from that of the market (Christie and Huang 1995: 32).

The model measures dispersion using the Cross sectional Standard Deviations (CSSD) of returns. If herding is indeed present in the market, then the CSSD of individual
stock returns should be lower than normal (Chang et al. 2000: 1652; Christie and Huang 1995: 32). Blasco and Ferreruela (2008: 77), Caparrelli et al. (2004: 224), Chang et al. (2000: 1654), and Christie and Huang (1995: 32) provide the equation used to measure CSSD as:

\[ \text{CSSD} = \frac{\sum_{i=1}^{n} (R_{it} - R_{mt})^2}{n-1} \]  

(1)

Where \((R_{it})\) is the return of stock \((i)\) in time \((t)\), \((R_{mt})\) is the aggregate market return at time \((t)\), and \((n)\) is the number of firms considered.

The CH model predicts that if there is no herding in the market, then during periods of market stress rational asset pricing theories predict that there will be a greater dispersion between the individual stock returns and the market return. This is because individual stocks have different sensitivities to the market return (Chang et al. 2000: 1654; Christie and Huang 1995: 32). Therefore, to test whether herding is actually present in the market or not, the CH model provides the following regression equation:

\[ \text{CSSD}_t = \alpha + \beta^L D^L_t + \beta^U D^U_t + \epsilon_t \]  

(2)

where; \((D^L_t)\) is a dummy variable taking the value ‘1’ if the market return on day \((t)\) lies in the lower tail (once 1% and once 5%) of the return distribution and takes the value ‘0’ otherwise. \((D^U_t)\) is similarly interpreted, but for the upper tail of the return distribution. \((\alpha)\) is the intercept representing the average dispersion of the sample excluding what is covered by the two dummy variable and \((\epsilon)\) is the residual error term. Rational asset pricing models would expect the values of \(\beta^L\) and \(\beta^U\) to be significantly positive. Otherwise, if they are significantly negative, then herding behavior is present in the market as that would mean that the dispersion of stock returns from the market decreases with market stress conditions (Chang et al. 2000: 1654; Christie and Huang 1995: 33; Caparelli et al. 2004: 224-225).

Christie and Huang (1995: 32) find that US equity market does not exhibit herd behavior and that there is more dispersions in a bull market than in a bear market.
Similarly, Caparelli et al. (2004: 225) find that there is no herding behavior in the Italian stock market using the CH model.

Chang et al. (2000) further developed the CH model into their CCK model. The main addition they entail is that they measure dispersions using the Cross Sectional Absolute Deviations (CSAD) of returns instead of CSSD, which the study claims is a more powerful indicator of dispersions, also Chiang and Zheng (2010:1913) explain that CSSD has higher mean and standard deviation values than CSAD (Chang et al. 2000: 1652, 1655; Caparelli et al. 2004: 223-224).

Furthermore they argue that rational asset pricing models maintain that the relationship between dispersion and market returns are linear and increasing with the aggregated market return. Therefore, they would conclude that herding is present in a market where the relation between dispersion and aggregate market return is non-linear and increasing with a decreasing rate or decreasing (Chang et al. 2000: 1652, 1655; Caparelli et al. 2004: 223-224).

CSAD is measured using the following equation:

\[
\text{CSAD}_t = \frac{\sum_{i=1}^{N} |R_{it} - R_{mt}|}{n}
\]

(3)

Chang et al. (2000: 1656) allow for the fact that the relationship between CSAD and the market returns might differ between an extreme condition in a bull and in a bear market. Therefore such relationships are measures using the following regressions:

\[
\text{Bull:} \\
\text{CSAD}_{t}^{\text{Up}} = \alpha + \gamma_{1}^{\text{Up}} |R_{m,t}^{\text{Up}}| + \gamma_{2}^{\text{Up}} (R_{m,t}^{\text{Up}})^2 + \epsilon_t
\]

(4)

\[
\text{Bear:} \\
\text{CSAD}_{t}^{\text{Down}} = \alpha + \gamma_{1}^{\text{Down}} |R_{m,t}^{\text{Down}}| + \gamma_{2}^{\text{Down}} (R_{m,t}^{\text{Down}})^2 + \epsilon_t
\]

(5)
Where $\gamma_1$ and $\gamma_2$ would capture the linear and the non linear relation respectively between CSAD and the market returns. There are many scenarios for $\gamma_1$ and $\gamma_2$. If $\gamma_1$ is negative then this is a concrete evidence of herding. However, if $\gamma_1$ is positive, but $\gamma_2$ is negative then this is an indicator that CSAD is increasing at a decreasing rate with the returns of the market which the CCK model would also interpret as herding. Yet, if $\gamma_2$ is positive, then this is an indicator that the market is inefficient, but herding is not present (Chang et al. 2000: 1656-1657; Caparrelli et al. 2004: 226).

Chang et al. (2000: 1653) used their CCK model to estimate herding in the equity markets for the US, Hong Kong, Japan, South Korea, and Taiwan. They found significant evidence of herding in the two developing markets- South Korea and Taiwan, but none in the rest. The results for herding in the US are consistent with what Christie and Huang (1995: 32) found using the CH model. Also, the study similarly found that there is more dispersion in all five markets during a bull market than in a bear market. Caparrelli et al. (2004: 226) found evidence of herding in the Italian stock market using the CCK model as they found $\gamma_2$ to be significantly negative, which means that the relationship between CSAD and the returns of the market even though increasing, yet it is increasing at a decreasing rate.

However, a very important limitation exists in the CH and CCK models. The dispersions might have a low value because of either intentional or spurious herding. However, what is of concern here is only intentional herding (Caparrelli et al. 2004: 223). Another limitation is that the values of dispersions if no herding is present in the market is unknown (Blasco and Ferruela 2008: 74). Therefore, Blasco and Ferruela (2008: 74) attempt to use familiar stocks, which is defined as stocks that are highly traded, as they claim that for such stocks information is available in the market and thus if herding is available in these stocks then it can only be intentional. Also, the study uses a bench mark of international stock indices with very low correlation to proxy for firm stocks that exhibit no herding patterns (Blasco and Ferruela 2008: 77-78).
The study measures herding in seven countries: Germany, UK, US, Mexico, Japan, Spain, and France. They find evidence of herding in Spain only (Blasco and Ferruela 2008: 82). The results for the US are consistent with Christie and Huang (1995: 32) and the results for US and Japan are consistent with Chang et al. (2000: 1653).

Evidence of herding has been more pronounced in emerging rather than developed markets. Information asymmetry in emerging markets has long been the reason provided for such an observation. This is because if investors do not possess the necessary fundamental information about firms and stocks, then they are likely to trade and invest depending on the trade signals of other investors (Chang et al. 2000:1666).

The comparison of herding levels in the literature between emerging and developed markets support the prior notion. Chang et al. (2000:1653) used the CCK model to compare herding levels between US, Hong Kong, Japan, South Korea and Taiwan. In their study, herding was only present for the two emerging countries; South Korea and Taiwan as a non linear relationship between CSAD and the underlying market return was only present for those countries.

Similarly, Chiang and Zheng (2010: 1912-1915) also used the CH and CCK model of herding and find significant herding in Asian markets. However, they also find herding in their category of advanced markets in their sample with the exception of US and Hong Kong, yet they find no evidence of herding in their sample of Latin American countries. The results for the US and Hong Kong are like Chang et al. (2000).

In alignment with previous results, Demirer et al. (2007: 5-6) find evidence of herding in the Asian and Middle Eastern countries using the CH and the CCK model. However they do not find any herding in the remaining regions of their sample in their study which are; Western Europe and the U.S., Central and Eastern Europe, Latin America and Africa. The results for the Latin American region obviously contrast with Chiang and Zheng (2010: 1912).
From the above literature, a gap is easily noticed in the research efforts to measure herding in the Middle East and Africa region. Even though Borensztein and Gelos (2003) and Demirer et al. (2007) attempted to lessen this gap, both papers approached the Middle East and Africa as an overall entity without further disaggregating their research efforts towards the specific countries.

In contrast, the U.S. has been thoroughly investigated by researchers. Europe as well has been researched by country, for example; Wermers (1999) studied the U.K. market, Caparrelli et al. (2004) studied the Italian market, and Blasco and Ferreruela (2008) examined the Spanish, French and German stock markets. As for Latin America, the latter study examined the Mexican market as well. Similarly many studies have examined the Asian market such as Kim and Wei (2002) and Choe et al. (1999) who examined the Korean market, Chang et al. (2000) who examined South Korea, Taiwan, Japan and Hong Kong. There is even a study by Chiang and Zheng (2010) which examined many countries in each of the regions above without even tackling the Middle Eastern and African region.

Therefore, the aim of this paper is to initiate efforts towards thorough examination of Middle Eastern and African countries through the examination of the Egyptian stock exchange. Our research question would be: Is herding behavior present in the Egyptian Exchange? From the literature presented above, it is predicted that herding would indeed be present in the Egyptian stock market since it is one of the emerging countries (Grant Thornton 2010: 5).

We answer our research question using daily returns data of the 20 most traded stocks on the Egyptian Exchange from January 2006 till December 2010 and the daily returns of the stock market index EGX 100 during the same period. Using the models developed by Christie and Huang (1995) and Chang et al. (2000), the paper reaches the conclusion that there is no herding detected in the Egyptian stock market during the period under examination of the paper.

The remainder of the paper is organized as follows; the next section comprises the data collection process and the models used to analyze the data. The third section analyzes
and discusses the results obtained; and finally the fourth section concludes the paper and provides some limitations on this study along with opportunities for further research.

2. Methodology

2.1. Data

The data that will be used in this study is the daily returns of the 20 most traded stocks in the Egyptian stock market, which is called the Egyptian Exchange. The data was gathered from the website of Arab Capital Markets Resource Center (http://www.btflive.net). The study follows the notion of Blasco and Ferreruela (2008:74) who assumed that analyzing highly traded stocks which proxy for familiar stocks, would increase the chance that if herding is indeed found, then it is intentional not spurious. The ranking of the stocks was obtained from Mubasher website (http://www.mubasher.info).

It is important to note that some of the stocks in the ranking list were not considered because they were launched in the Egyptian Exchange during the period of the study. Therefore, the data collected was for the 20 most actively traded stocks which had complete data during the period of the study.

The study also gathered data for the returns of the market index EGX 100. The Egyptian Exchange has three indices; EGX 30, EGX 70, and EGX 100. EGX 100 traces the performance of the 100 most active companies in the Egyptian Exchange. It is the most widely representative of the entire market than the other two indices which is why it was chosen in this study to proxy for the returns of the entire market. EGX 100 was launched on January 2nd 2006. The data for EGX 100 was gathered the website of the Egyptian Exchange (http://www.egyptse.com).

The study examines the returns of the stocks over 5 years, from 2006 till 2010. Specifically the starting date of data gathering is on January 2nd 2006 and the end date is on December 30th 2010. Intentionally, the period of the study was not extended to cover the year 2011 as well. This is because the Egyptian revolution has taken place during that period and as a result a lot of turbulence has occurred in the Egyptian stock market as a
result. Therefore, so as not to bias our results, the year 2011 was excluded from the sample. Overall, there are 1224 entries of daily returns in the study’s data. We chose to measure the returns of the stocks since 2006 since this is the beginning of the inception of EGX 100 index.

Table 1: Descriptive Statistics of Data

<table>
<thead>
<tr>
<th></th>
<th>Market Return</th>
<th>Stock Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.0266%</td>
<td>0.0666%</td>
</tr>
<tr>
<td>Median</td>
<td>0.1457%</td>
<td>0.0000%</td>
</tr>
<tr>
<td>Maximum</td>
<td>6.1381%</td>
<td>65.7000%</td>
</tr>
<tr>
<td>Minimum</td>
<td>-14.9613%</td>
<td>-78.7600%</td>
</tr>
<tr>
<td>St.deviation</td>
<td>1.6622%</td>
<td>3.7865%</td>
</tr>
<tr>
<td>Skewness</td>
<td>-1.277103836</td>
<td>0.047214675</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>7.439994689</td>
<td>36.24345372</td>
</tr>
<tr>
<td>Observations</td>
<td>1224</td>
<td>1224</td>
</tr>
</tbody>
</table>

Table 1 shows the descriptive statistics of the data gathered. The data for the EGX 100 returns ranges from -14.96% till 6.13% with a mean of 0.0266% and a median of 0.1457%. As for the stock returns, the data ranges from -78.6% till 65.7% with a mean of 0.0666% and a median of 0%.

2.2. Model

The models used to answer the study’s research question will be both the CH model and the CCK model.

Beginning with the CH model, the study first determines the CSSD of returns, using the returns of each of the 20 stocks in the sample and the return of the market index EGX100, for each day in our sample period using equation (1) as described before. Then using equation (2) the CSSD per day is regressed against two dummy variables representing the upper and the lower tail of the market respectively to proxy for extreme market conditions. The regression using equation (2) is implemented twice, once with the dummy variables representing the upper and lower 5% of the market and the other time with the dummy variables representing the upper and lower 1% of the market.
Under rational asset pricing assumptions, $\beta^L$ and $\beta^U$ should be significantly positive, because as explained previously in the literature, rational asset pricing assumes greater dispersion with market returns during market stress due to the different sensitivities of each stock to the market. However, if herding is present, $\beta^L$ and $\beta^U$ should be significantly negative, because herding assumes less dispersion during market stress.

Moving to the CCK model, the CSAD of returns for each day in the sample period is also calculated just like the CSSD of returns before, but with equation (3). The upper 5% returns of the EGX 100 index are calculated and the respective CSAD of returns for the stocks are regressed against them as well as against their squared values using equation (4). The same applies for the lower 5% returns of the EGX 100 index using equation (5). As explained previously in the literature, There are many scenarios for $\gamma_1$ and $\gamma_2$. If $\gamma_1$ is negative then this is a concrete evidence of herding. However, if $\gamma_1$ is positive, but $\gamma_2$ is negative then this is an indicator that CSAD is increasing at a decreasing rate with the returns of the market which the CCK model would also interpret as herding. Yet, if $\gamma_2$ is positive, then this is an indicator that the market is inefficient, but herding is not present.

3. Analysis of Results

3.1. CH Model

Table 2: Descriptive Statistics of CSSD & CSAD

<table>
<thead>
<tr>
<th></th>
<th>CSSD</th>
<th>CSAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.003592</td>
<td>0.000336</td>
</tr>
<tr>
<td>Median</td>
<td>0.003129</td>
<td>0.000298</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.027099</td>
<td>0.001655</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.000741</td>
<td>7.66E-05</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.002228</td>
<td>0.000175</td>
</tr>
<tr>
<td>Skewness</td>
<td>3.959063</td>
<td>2.593095</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>29.06155</td>
<td>14.69057</td>
</tr>
<tr>
<td>Observation</td>
<td>1224</td>
<td>1224</td>
</tr>
</tbody>
</table>
Table 2 shows the descriptive statistics of the CSSD of returns for the 20 stocks in the sample. The CSSD of returns for the sample ranges from 0.000741 till 0.27099, with a mean of 0.003592 and a median of 0.003129. The distribution of CSSD of returns across the sample period is shown in figure 1. It is obvious from figure 1 that the highest peak of CSSD was reached during 2008.

The results of the tests of herding using the CH model are given in Table 3. It is obvious from the results that using both the upper and lower 5% and 1% of the market returns respectively to proxy for periods of market stress, $\alpha$, $\beta^L$ and $\beta^U$ are highly significantly positive, with the exception of $\beta^U$ under the 1% criterion. Therefore, the CH
model estimates that there is no herding in the Egyptian Exchange and that rational asset pricing is prevalent.

In comparison with previous studies, the results of this study are similar to those of Christie and Huang (1995: 34) for the U.S. stocks which also found no evidence of herding for all three coefficients under both the 5% and 1% criterion. Similarly, Caparrelli et al. (2004: 225-226) found no evidence of herding using the CH model in the Italian stock market. Finally, Demirer et al. (2007: 11, 18) find no evidence of herding using the CH model in each of the regions of their sample; Africa, Asia, Developed countries, Eastern Europe, Latin America, and the Middle East.

3.2. CCK Model

Figure 2: Distribution of CSAD from January 2006 till December 2010

Table 4: Results of Regression using CCK Model during Bull and Bear Markets

<table>
<thead>
<tr>
<th></th>
<th>Bull Market</th>
<th>Bear Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>γ_1^{Up}</td>
<td>γ_2^{Up}</td>
</tr>
<tr>
<td>0.000255</td>
<td>0.009675</td>
<td>-0.098063</td>
</tr>
<tr>
<td>(0.000348)</td>
<td>(0.009675)</td>
<td>(0.247157)</td>
</tr>
</tbody>
</table>

(Parameter Significance level of 1% indicated by ***, of 5% by **, of 10% by *)
Table 5: Results of Regression using CCK Model for the Full Sample

<table>
<thead>
<tr>
<th></th>
<th>Full Sample</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Y1</td>
<td>Y2</td>
<td>R²</td>
<td></td>
</tr>
<tr>
<td>0.000286***</td>
<td>0.003468***</td>
<td>0.032640***</td>
<td>0.139659</td>
<td></td>
</tr>
<tr>
<td>(7.63E-06)</td>
<td>(0.000682)</td>
<td>(0.009515)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Parameter Significance level of 1% indicated by ***, of 5% by **, of 10% by *)

Table 2 shows the descriptive statistics for the CSAD of returns. For the sample in this study, the CSAD ranges from 7.66E-05 to 0.001655, with a mean 0.00336 and a median of 0.000298. Figure 2 shows the distribution of CSAD over the study’s sample period. Again, it is obvious that the CSAD peaks during the year 2008. This is actually not a surprising result since both the CSSD and the CSAD essentially convey the same information.

The result of the regression using the CCK model is shown in Table 5. From the results it is obvious that when the market was peaking (the bull market), \( \gamma_1^{Up} \) was positive which means that the linear relationship between CSAD and the returns of the market when the market was peaking is increasing which is compatible with the rational asset pricing model and negates the presence of herding in the Egyptian Exchange. This is the same conclusion reached when the study used the CH model. Yet, since \( \gamma_2^{Up} \) is a negative number, this means that though the relationship between CSAD and \(|Rm|\) is increasing, shown by \( \gamma_1^{Up} \), it is increasing at a decreasing rate. This should be considered an evidence of herding in the Egyptian Exchange. However, since both \( \gamma_1^{Up} \) and \( \gamma_2^{Up} \) are not statistically significant, the study cannot determine the presence of herding during up market conditions for sure.

During down market conditions, \( \gamma_1^{Down} \) is a negative number which means that CSAD of returns, in other words dispersion, decreases when the market is down. This could be an indicator of herding behavior, however since the value is statistically non significant, then we cannot confidently reach this conclusion. Table also shows that \( \gamma_2^{Down} \) is statistically significantly positive. Since this is the non linearity coefficient, then it can be confidently interpret that the market during down conditions does not follow the rational
asset pricing model which assumes only linearity between dispersions of the returns of stocks and the market return. Therefore, it could be concluded that the Egyptian Exchange is inefficient during down market periods, but not necessarily displaying herding behavior.

In comparison with other studies, Chang et al. (2000: 14) found significant negative values for \( \gamma_{2\text{Up}} \) in South Korea and Taiwan only during the up market conditions, while during down market conditions they found significant negative values for \( \gamma_{2\text{Down}} \) for those two countries as well as Japan. The study did not find any evidence of herding for either U.S. or Hong Kong during both up and down market conditions. Caparrelli et al. (2004: 227) also finds evidence of herd behavior in the Italian stock market during both up and down market conditions since their study finds a significant negative value for \( \gamma_{2} \) during both up and down conditions.

However, the most relevant study to compare our results with is that of Demirer et al. (2007: 20) since it includes the Egyptian market in its African region. However, the study uses a different version of the CCK model as it does not consider up and down market conditions. Therefore, we run a regression of the CSAD against the whole sample of market returns and obtain the results shown in Table.

Our results are different from Demirer et al. (2007:20) in that our sample gives positive highly significant values for both \( \gamma_{1} \) and \( \gamma_{2} \) which further confirms our conclusion that there is no herding in the Egyptian Exchange. However, in their study they detect a significantly negative value for \( \gamma_{1} \) in the African region. Yet, the study still concludes absence of herding in the African region. Nevertheless since Demirer et al. (2007: 20-21) uses MSCI and S&P 500 as the market indices respectively in their results, it is with doubt that we deduce that both studies are comparable.

4. Conclusion

In this paper, we have attempted to review some of the literature provided on the concept of herding in financial markets. In addition, we also attempted to examine the herding behavior in the Egyptian stock market as a step towards lessening the gap in
herding research in the Middle East and Africa. Our study used data on the daily stock returns of the 20 most traded stocks in the Egyptian Exchange as well as the returns of the market index EGX 100 during a period of five years from January 2006 till December 2010. The study concluded that there is no herding present in the Egyptian stock market using the CH and the CCK model during the period under examination of the paper.

However, there are many limitations underlying this study. In addition to the limitations of the CH and the CCK model already discussed in the literature, there are some limitations specific to this study. One of the important limitations of our data is the usage of a sample of 20 stocks only. This is because all of the other researches reviewed in this literature which used the CH and the CCK model, used the entire data for stocks in their respective country sample with the exception of Blasco and Ferreruela (2008:74).

Even though this study has concluded that there is no herding in the Egyptian Exchange as a whole as evidenced by the dispersions of stock specific returns from that of the market. However, this does not exclude the possibility of herding by a certain group of investors for example foreigners or institutional investors. This could be discovered through a study implementing another measure of herding such as that developed in Lakonishok et al. (1992).

Another possibility for further research is to measure dispersions in stock returns, whether CSSD or CSAD, not in relation with EGX 100 returns, but to the returns of other indices and other commodity prices like Demirer et al. (2007: 18-21). Also, the CCK model could be developed to include the returns of other markets like the U.S. market as in the study by Chiang and Zheng (2010: 1915).

Nevertheless, the result of this study is adverse to the one that would have been expected given that Egypt is an emerging market with information asymmetry. Therefore, perhaps additional research should be conducted to investigate the reasons why herding behavior is not present in Egypt and what other behavioral biases are present in the Egyptian stock exchange.
References


