Overconfidence, Trading frequency, and Portfolio Size in the Egyptian Stock Market

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Abstract

Using daily trading records data of 744 adult Egyptian Individual investors; acquired from Misr for Central Clearing, Depository and Registry (hereafter, M.C.D.R); we investigate whether the Egyptian individual investors exhibit overconfidence in their investment decisions. In addition, we delineate the effect of overconfidence on trading frequency and portfolio size. The results of our analysis reveal that: There is an over whelming evidence that the Egyptian Investors display overconfidence in their trade. However, investors exhibiting overconfidence don't trade more frequently. In addition, overconfident investors tend to hold small size portfolios.

Introduction

The main difference between modern and behavioral finance is the underlying assumption that governs the behavior of the investor. Modern finance assumes that investors are rational and is concerned with specifying how investors should behave, while trying at the same time to explain their actual decision choice (De Bondt and Thaler, 1995; De Bondt et al., 2008; Miller, 1999; and Shefrin, 2009). Behavioral finance; on the other hand; assumes that investors are normal. It evolves to explain the deviation of the actual human behavior from that is theoretically prescribed by modern finance (Statman, 1999, 2005 and 2010;Shefrin, 2009). Rational investors are not engaged in excessive trading, they trade only for a variety of rational causes as meeting liquidity needs, portfolio rebalancing, changes in risk, tax loss selling, or increasing their expected utility (Barber and Odean, 2001).

While rational investors hold well diversified large portfolios, normal investors; on the other hand; have limited cognitive abilities that hinder their potentialities to rank tens, hundreds or thousands of stocks and prioritize them based on multiple dimensions (Barber and Odean, 2008). Thus, making it impossible for normal investors to keep track of such large portfolios, that is why they are inclined to hold small, undiversified portfolios (Goetzmann and Kumar, 2008; Polkovnichenko, 2003).One of the most common judgment errors that influence the economic behavior of investors is overconfidence. From a Psychological perspective, overconfidence reflects heuristic simplification, which stems from the brain's tendency to make

mental short cuts instead of engaging in lengthy and tiresome analytical processing, resulting in non optimal choice decisions (Chen et al., 2007).

This research fits into the field of "*Behavioral Finance Micro*" that delineates the existence of psychological biases and its impact over the behavior of the investor (Trinugroho and Sembel, 2011). Accordingly, we investigate whether the behavior of individual Egyptian investors reflects overconfidence and the effect of overconfidence on trading frequency and portfolio size. The research is conducted on daily trading records data of sample of 744 adult Egyptian investors from 25 different governorates. A net number of 250,149 daily transactionsare examined during the period extending from January 1st2004 up to and including December 31st 2009. The daily trading records of the sample was purchased from "Misr for Central Clearing Depository and Registry", where all daily trading transactions flow, and it is considered the first time that M.C.D.R offers such data for research purposes. In Egypt investors are allowed to open more than one trading account with different brokerage houses, by obtaining data from (M.C.D.R) we try to alleviate the potential problem that the psychological bias might show in only one of the investor's trading accounts. The results of our analysis strongly support that the Egyptian individual investors display overconfidence in their trading activities; yet; overconfident investors don't necessarily trade more frequently. In addition, they are inclined to hold small size portfolios**.**

Overconfidence is the most common characteristic found in humans (Skata, 2008).It refers to the tendency of individuals to think that they are better than what they actually are regarding their own abilities and /or the precision of their knowledge (Frank, 1935; Fischhoff et al., 1977; Odean, 1999; Barber and Odean 1999, 2001 and 2002, Chen et al., 2007; Grinblatt and Keloharju, 2009).Some researchers argue that investors grow overconfident as a result of successful past trades which make them overestimate the quality of their own private knowledge (e.g., Prosad et al., 2013; Boussaidi, 2013; Merkle, 2013).Overconfidence is a two-sided weapon. On the one side, believing that one is better than what he is in reality is advantageous, because it has the ability to raise ambition, enthusiasm, insistence, and/ or the credibility of deception. Thereby, by continuously reinforcing overconfidence the potentiality of success will increase (Wrangham, 1999; Trivers, 2009; McKay and Dennett, 2009). On the other side, overconfidence is associated with many judgmental errors that severely reduce the quality of the decisions undertaken. Firstly, overconfident individuals are more inclined to rely on simple information search and overweigh information they collect by themselves (Daniel, 1998, and Walther, 2013).

Secondly, overconfident investors are more inclined to ignore information that lowers their self-esteem and believe only in that which allows them to maintain their confidence. Third, based on the "*Dual Processing Theory*"; discussed through the work of Evans (2003 and 2008), Stanovich and West (2000), and Kahneman (2003); overconfident individuals are more prone to rely on system (1), rather than system (2) in making decisions. That is they rely on quick and intuitive mental shortcuts rather than being engaged in lengthy and time consuming rational reasoning. Last but not least, overconfidence leads to overestimating one's capabilities and/ or underestimating the difficulty of the task or possible risks (Johnson and Levin, 2009).

Overconfidence can manifest itself in four different forms, miscalibration, better than average, unrealistic optimism, and illusion of control (Russo and Schoemaker, 1992; Skata, 2008; Glaser and Weber, 2006). Miscalibration refers to the tendency of

the individual to incorrectly assess the amount of mistakes he makes. Second, better than average, refers to the tendency of individuals to develop unrealistic positive view of themselves and regard themselves better than others evaluate them (Greenwald, 1980; Taylor and Brown, 1988).Third, unrealistic optimism refers to the tendency of individuals to believe that positive events are more likely to happen to them than to others, while the opposite is valid for negative events (Weinstein, 1980). Lastly,Taylor and Brown (1988) pointed out that the illusion of control refers to the tendency of individuals to perceive that they can influence events which in fact are governed mainly or purely by chance. Evidence supporting the existence of illusion of control has repeatedly been proven experimentally. In which participants are convinced that their own skills or past experience can influence the outcome of the task (Langer and Roth, 1975; Qadri and Shabbir, 2014).

Studying overconfidence within the domain of finance is performed in different stock markets and the results strongly support the notion that overconfidence seems to spread between individual investors. These studies take different research routes, as daily trading data, market data, surveys and experiments. It was the studies of Odean (1999), and Barber; his co-author (1999, 2001 and 2002) which relied on analyzing the trading data of individual investors, that allowed overconfidence to evolve from a neglected psychological side-effect to a widely accepted factor influencing investors' behavior, and consequently financial markets. Daily trading records data was also utilized in France (e.g., Boolell-Gunesh and Merli, 2010), Estonia (e.g., Cekauskas and Liatukas, 2011), China (e.g., Chen et al., 2007), and India (e.g., De et al., 2011). Other researchers utilized market data, as Prosad et al. (2013) in India, and Boussaidi (2013) in Tunis.Surveys were also utilized to infer that individual investors display overconfidence in theirinvestment decisions, as Merkle (2013) in U.K, Tourani-Rad and Kirkby (2005) in New Zealand, Alemanni and Franzosi (2006) in Italy, and Chitra and Jayashree (2014) in India, Qadri and Shabbir (2014) inPakistan. Surveys are also employed in Malaysia (e.g., Chun and Ming, 2009), Vietnam (e.g., Nogoc, 2014, Phan and Zhou, 2014), Iran (e.g., Esmaeilzadeh, 2015), Gordon (e.g., Alrabadi et al., 2011), Bahrain (e.g., Abdul- Rauf, 2014). Some researchers combine surveys with face to face interviews as Zaiane(2013 a) in Tunis. Experiments are also used to test overconfidence, as Tringugroho and Sembel (2011) in Indonesia. We test overconfidence using daily trading records data of a sample of adult Egyptian investors and we develop our first research hypothesis as:

H₁: Egyptian investors exhibit overconfidence in their trades.

Trading Frequency

When the rationality assumption is fully activated for all market participants any attempt to speculate based on private information may result in that the new information will be quickly incorporated in stock prices making the achievement of profits out of trade absolutely impossible (Milgrom and Stokey, 1982). Thereby, creating no incentive for rational investors to collect costly private information on which they will not be financially rewarded (Grossman, 1976; Grossman and Stiglitz, 1980). However, trading is primordial for the continuity of stock markets. From an economic perspective trading allows investors to get in the market by buying from those willing to sell, and get out by selling to those willing to buy. Trading facilitates the transfer of assets between the parties involved. From a social perspective, trading plays the social function of incorporating information in asset prices (Dorn et al., 2008).Yet; it becomes a well-established fact that stock markets experience high

trading volume, De Bondt and Thaler (1995) pointed out that the observed excessive trading phenomenon is the single most embarrassing fact to the modern finance paradigm. This point of view is supported by the following three documented facts. Firstly, stocks in the U.S change hands roughly once per year (Dorn et al., 2008). In the same vein, Zhu (2010) pointed out that the annual share turnover rate in the early 2000s on the NYSE was close to 100% amounting to a total trading volume of about 350 billion shares per year.

Secondly, evidence of excessive trading is not only witnessed in the U.S alone, but in other countries as well, in this respect, Boolell-Gunesh and Merli (2010) pointed out that on average 1.5 million securities have been traded every day in Europe in 2009. Thirdly, trading volume is concentrated among a small number of market participants. That is to say, not all investors are aggressive traders, because some investors do not conduct one single trade in a given year (Barber and Odean, 2001).The role of overconfidence in explaining the excessive trading volume was first noted by De Bondt and Thaler (1995), who posited that overconfidence is the keybehavioral factor needed to understand the trading puzzle. Consistently, empirical studies reported that overconfident individuals in general and traders in particular, who have been successful in the past may overestimate the degree to which they were responsible for their own success, and therefore grow increasingly overconfident leading to more trading on behalf of them (Langer and Roth, 1975; Miller and Ross, 1975; Odean 1999)

What is more, overconfident investors are more inclined to believe that they will win the zero sum game of trade; they concern themselves less with the beliefs of others, which intensify differences in opinions necessary for trading between the parties involved (Varian, 1989; Harris and Raviv, 1993; Odean, 1999). Another possible behavioral explanation for the observed relationship between overconfidence and excessive trading argues that overconfident investors rely on "Naïve Reinforcement Learning" (Chen et al., 2007), that is they extrapolate their current investment returns to develop future return expectations, because recent return experience are volatile. Overconfident investors change their beliefs more strongly; thus; providing them with more reasons to trade (Hoffmann and Post, 2013).

In the U.S, Odean (1999) provided the first study on the impact of individual investor overconfidence on trading frequency. Odean concluded that the higher is the degree of overconfidence, the higher is the trading frequency. Similar results are also obtained by Barber and Odean (2002). Using daily trading records of individual investors, same results are acheived in Finland (e.g., Cohn-Urbach and Wesrerholm, 2006; Grinblatt and Keloharju, 2009; Anderson, 2013), U.K (e.g., Merkle, 2013), New Zealand (e.g., Tourani-Rad and Kirkby, 2005), France (e.g., Boolell-Gunesh and Merli, 2010), Germany (e.g., Glaser and Weber, 2007a) and China (e.g., Chen et al., 2007). The positive impact of overconfidence on trading frequency was also witnessed through studies that relied on surveys (e.g., Abreu and Mendes, 2012),experiments (e.g., Tringugroho and Sembel, 2011) Market data was also utilized and similar results are obtained (e.g., Zaiane, 2013a and b; Adel and Mariem, 2013). Based on the prevailing literature, our second research hypothesis is:

H_2: *The higher is the degree of overconfidence, the higher is the trading frequency.*

Portfolio Size

Harry Markowitz (1952) set the premises of *"Modern Portfolio Theory"* that is regarded as one of the main pillars of modern finance (Statman, 1999). According to the *"Modern Portfolio Theory"* the rational risk averse investor should be concerned with only two aspects of his portfolio, the mean (expected returns) and the variance (total risk). The total risk of the portfolio is highly determined by the correlations between stocks of the portfolio. That's why investors are advised to hold well diversified large portfolios with low correlations between the stocks, because when the correlations are considered the total risk of the portfolio is lower than the risk of individual stocks summed together (Mitra, 2003).However, normal investors; as opposed to the rational ones; rarely do they take correlations between individual stocks into their account (e.g., Goetzmann and Kumar, 2008) nor do they hold large diversified portfolios. It seems worthy to mention that researchers highly depend on the average number of stocks held by the investor as a proxy for diversification. Goetzmann and Kumar (2008) pointed out that the most common manifestation of the lack of diversification is holding small size portfolios within this context Anderson (2004) stated that the median number of stocks in the portfolios of the sampled investors was two. In the same vein, Goetzmann and Kumar (2008) clarified out that the mean number of stocks in the portfolios of investors was 4 and the median was 3.

Overconfidence can explain the lack of diversification puzzle in two ways. On the one hand; when the investor is involved in the investment decision and makes his own choices he may develop a false sense of control and familiarity with certain sets of stocks. Overconfident investors choose not to diversify because they believe they possess unique stock picking abilities that are superior to the market (Kelly, 1995, and Mitra, 2003). On the other hand, other group of researchers argues that overconfident investors underestimate the impact of risk and attribute their survival in the stock market to their willingness to take on more risk resulting in under-diversification of their portfolio holdings (e.g., Hirshleifer and Luo, 2001).The negative impact of overconfidence on portfolio size is witnessed in the studies conducted on daily trading data on German investors (e.g., Glaser and Weber, 2007b), Chinese investors (e.g., Chen et al., 2007), British investors (e.g., Merkle, 2013), and Swedish Investors (Anderson, 2013). Accordingly, we develop the following third research hypothesis:

H₃: The higher is the degree of overconfidence, the smaller is the portfolio size.

DataDescription

We rely on daily trading records data of sample of 744 adult Egyptian investors (age≥21) to ensure that their trading behavior reflects their own decisions. The sample is selected from 25 different Egyptian governorates to ensure the representativeness of the results of the study for the behavior of Egyptian investors. All investors in the sample opened their trading records at least one year before the start of the study period to ensure that if the psychological bias is detected it is not related to the lack of the trading experience. The daily trading data for the sampled investors is purchased from M.C.D.R, and it is considered the first time that M.C.D.R offers data for research purposes. The study period extended from January 1ˢᵗ, 2004 up to and including December 31ˢᵗ, 2009. January31ˢᵗ, 2004 is selected as the start of the study period, because prior to 2004 the database including the trading records has restricted access in M.C.D.R. While, December 31ˢᵗ ,2009 is selected to be the last day of the study period; a whole year before January 2011 revolution; to hedge against any change in the behavior of the individual investors due to the escalation of socio/political and economic events that led to the revolution.

To meet our research objectives two data sets are employed; firstly; the daily trading records data which includes for each investor, trading activities (stocks bought and sold),the number of stocks bought and sold, transaction dates, prices, portfolio size can be inferred from the number of stocks in the portfolio. Secondly, daily stock prices and daily returns on the "Egyptian Stock Market Index" are obtained from *MetaStock.* In Egypt there is no discrimination in transaction costs between buying and selling transactions.Data supply from M.C.D.R extended over one and a half year period extending from December 2012 till June 2014. Since individual investors trading records data are purchased in a print out format, therefore three steps are applied for data preparation before statistical analysis. Firstly,data is fed manually to the computer in excel sheet format for thesix years study period,resulting in a total of 274,640 trading transactions.The second step is to acquire the closing prices for each stock traded by the sample of individual investors from *MetaStock*. This process resulted in detecting 19 companies on which trades were conducted by the investors but have no closing prices on *MetaStock*, because they were delisted or subject to OTC sales. We deleted the transactions conducted on these companies, resulting in reducing the total number of transactions conducted during the study period from 274,640 to 250,149.As a final step, a special computer program is developed to calculate each research variable.Summery statistics of the employed data is presented in table (1) below.

Table (1): Descriptive Statistics of Major Events

Event	Descriptive Statistics
Sample size	744 investors
Total number of companies on which trades are conducted	224
Net number of companies included in the current study	205
Total number of transactions conducted during the study period	274,640
Net number of transactions analyzed in the current study	250,149
Net number of purchase transactions done through the sampling period	126,467
Net number of selling transactions	123,682
Average number of transactions done by the investors	41,693
Maximum number of transactions conducted by an investor during the study period	1,298
Minimum number of transactions conducted by an investor	1
Total number of same day buy and sell transactions on the same stock(s)	15,067
Total transaction value during the study period	L.E 8,417,222,814
Total value of all purchase transactions	L.E 4,146,998,820
Total value of all selling transactions	L.E 4,270,223,994
Average Transactions value during the study period	L.E 1,402,870,469
Maximum transaction value conducted by an investor during a year of the study period	L.E 8,542,508
Minimum transaction value conducted by an investor during a year of the study period	L.E 1.04

Tests and Findings

In measuring overconfidence, we apply the method first proposed by Odean (1999) and followed by Barber and Odean, 1999 and 2001; Chen et al., 2007; Grinblatt and Keloharju, 2009; Boolell-Gunesh and Merli, 2010 among others.

Overconfidence refers to the tendency of individual investors to overestimate the precision of information (OV$_2$) and/ or their ability to interpret information (OV$_1$)**.**

a. Testing for Overconfidence in the Precision of Information:

   The investor is overconfident when:

 (The average returns to securities bought – The average returns to securities sold) < round trip trading costs………………………………(Equation 1)

b. Testing for Overconfidence in the Ability to Interpret Information:

The investor is overconfident when:

(The average returns to securities bought < the average returns to securities sold)……(Equation 2)

For every year in the sampling period, the average returns on stocks bought (ARB) and sold (ARS) by each investor are calculated. (OV$_1$) is verified for the year if (ARB –ARS) equals a negative value, and (OV$_2$) is verified when (ARB- ARS – Round trip trading costs) equals a negative value. The investor is said to display overconfidence (OV) for the year if (OV$_1$), or (OV$_2$), or both (OV$_{and}$) are verified for the year. Since stock returns data is not available in Egypt, stock pricesare converted into returns using the following identity, following Aharony and Swary (1980), Kane et al (1984), and Lonie et al (1996).

R$_{it}$ =Ln (P$_{it}$/ P$_{it-1}$)………………………………………………….. (Equation 3)

Where:

R$_{it}$: Actual return for stock i at day t.

P$_{it}$: The per share price of stock i at day t.

P$_{it-1}$: The per share price of stock i at day t-1

To calculate the *"Yearly Portfolio Turnover"*, the current study employs the *"Monthly Portfolio Turnover"* for each trading account. Monthly turnover is estimated as: one-half of the total value of all transactions done by the investor (purchases and sales) during the month divided by the total value of the investor's portfolio at the beginning of the month. Adding up the monthly portfolio turnover for each account generates the *"Yearly Portfolio Turnover"* (Barber and Odean, 1999 and 2001; Chen et al., 2007). To examine the potential for holding under-diversified portfolios, the current study utilizes the mean number of stocks in each account (Chen et al., 2007).Table (2) provides a summary of the descriptive statistics of the research variables.

Table (2): Summary of the Descriptive Statistics of the Research Variables

Variables	Mean	Median	St.Dev
TF	121.75	9.085	1183.60
PS	17.38	15.29	11.138
OV	2.220	2.00	1.322

Based on table (2) above the mean (TF) trading frequency 121.75 which means that on average, investors turnover 121.75% of their portfolio holdings annually. The mean (TF) is much larger than its median (9.085%) over the median 9.085 indicates that there are few cases of excessive trading (st.dev = 1183.60). Figure (1), below

presents the average trading frequency during the study period. As evidenced from the figure, the lowest average (TF) during the study period was 27.64% in year 2005, while the highest average (TF) was 278.22% in year 2008. In addition, the mean number of stocks held by the investor in his portfolio is 17.38 stocks and the median is 15.29 stocks. The maximum portfolio size (PS) held by an investor is 85 stocks detected in year 2009, while the minimum (PS) held by an investor during the entire study period is 1 stock. Figure (2) shows the maximum, minimum and average portfolio size during the study period. What is more, the mean and median values of overconfidence (OV) are relatively close during the study period is 2.220 and 2.000; respectively; with st.dev =1.322.

Table (3) below shows the frequency and the relative frequency of overconfidence during the study period; in addition; figure (3) provides a graphical illustration of the different forms of overconfidence during the study period. As can be easily inferred from the aforementioned table and graph, the levels of the different forms of overconfidence (OV1, OV2, OVand) are increasing during the study period. So that year 2009 has the highest levels of OV1, OV2, OVand. Table (4) below shows that 50.9% of the 3224 cases studied exhibit overconfidence. During the study period the average returns to securities bought (ARB) is lower than the average returns to securities sold (ABS) which is consistent with (OV1), as depicted from table (5) below.

Table (3): Frequency and Relative Frequency of the Different forms of Overconfidence

Year	OV$_1$	OV$_2$	OV	OV and	% of OV
2004	89	82	89	82	52.35%
2005	281	226	226	226	64.45%
2006	243	209	243	209	44.42%
2007	256	222	256	222	40.70%
2008	341	310	341	310	47.96%
2009	430	351	430	351	58.82%

Figure (1): Average Trading Frequency during the Study Period
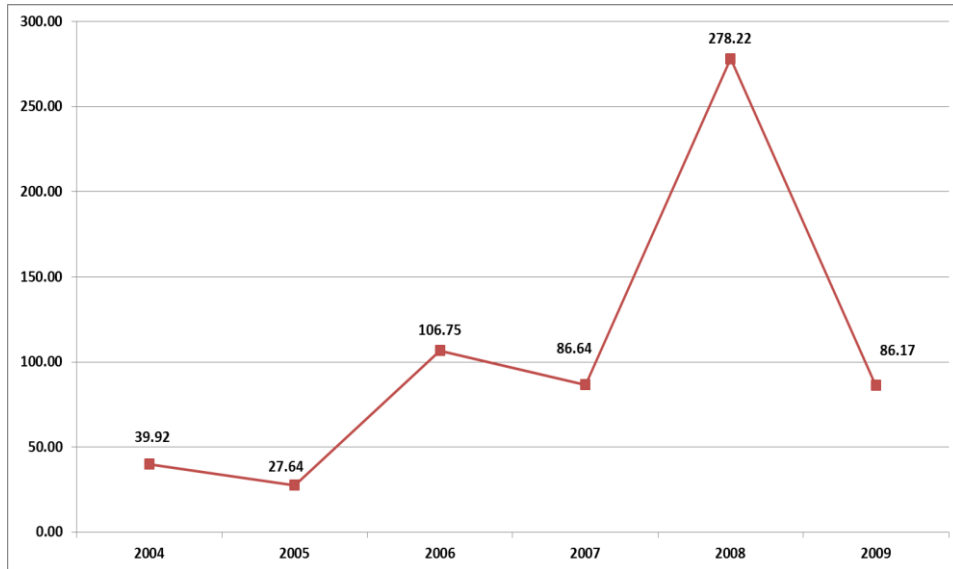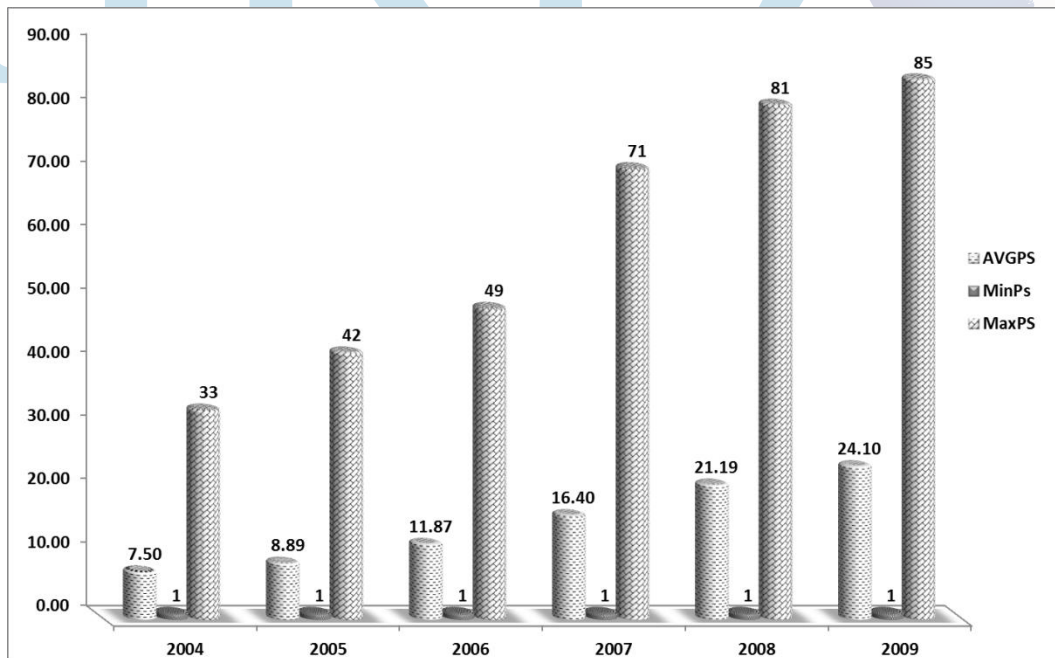
Figure (2): Portfolio Size during the Study Period

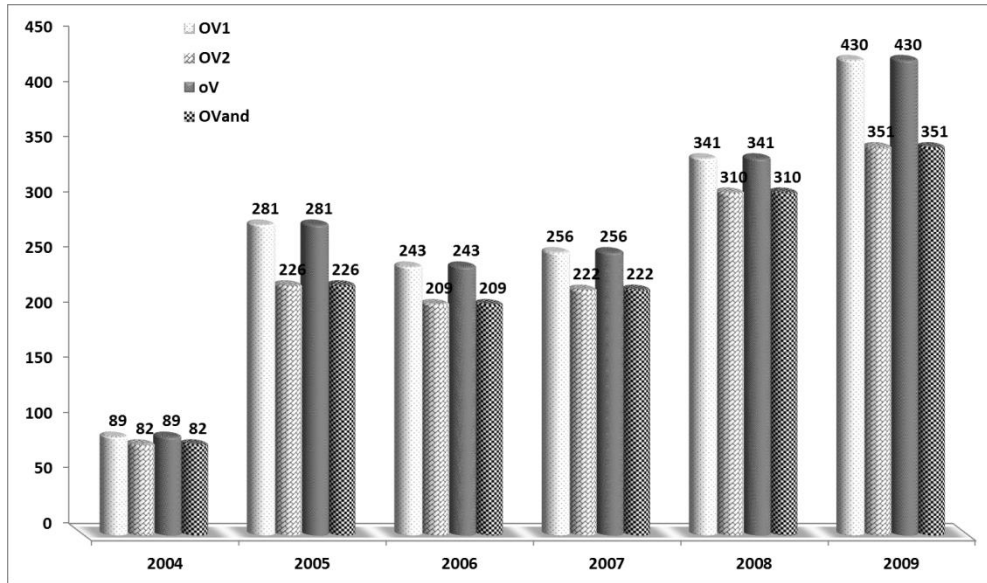**Figure (3): Different Forms of Overconfidence during the Study Period**

Table (4): Cumulative Percentage of the Cases Displaying Overconfidence.

OV			
	Frequency	**Percent**	**Cumulative Percent**
0	1584	49.1	49.1
1	1640	50.9	50.9
Total	3224	100.0	100

Table (5): ARB and ARS During the Study Period

year	ARB	ARS	Difference
2004	0.243978	0.537979	-0.294
2005	0.246494	0.472898	-0.2264
2006	0.310379	0.576679	-0.2663
2007	0.312265	0.47693	-0.16467
2008	0.25964	0.435995	-0.18536
2009	0.137603	0.241074	-0.10347
Total	**0.238401**	**0.42398**	**-0.18558**

Overconfidence Hypotheses Testing

In the current study overconfidence is measured on two dimensions, OV_1 and OV_2. While OV_2 refers to the tendency of investors to overestimate the precision of information they possess, OV_1refers to the tendency of investors to overestimate their ability to interpret such information. The investor is regarded as overconfident for the year if OV_1or OV_2or OV_{and}(the two measures of overconfidence are available in the trading record of the investor during the year) is detected.Wilcoxon signed rank test is

utilized to test whether the Egyptian individual investors display overconfidence, where:

H_0: OV= 0.00

H_1: OV$\neq$ 0.00

    H_0 is accepted if P-value is greater than 0.05 and is rejected otherwise. According to table (6) below, since P-value is 0.000; therefore; H_0 is rejected and H_1 is accepted. Indicating that there is an over whelming evidence that the individual Egyptian investors exhibited overconfidence in their trades, consequently the first overconfidence hypothesis is accepted.

Table (6) Wilcoxon Signed Rank Test: Overconfidence

	$Test\,of\,OV = 0.0$ $versus\,OV \neq 0.0$		
OV	Wilcoxon Statistic	p-value	Median
	228150.0	0.000	2.000

    Based on table (7) below, the correlation analysis reveals that there is an insignificant negative relationship between overconfidence and trading frequency (r = 0.002, and P-value = 0.905). The simple linear regression between overconfidence (independent variable) and trading frequency (dependent variable) shows that beta coefficient has a negative value that equals - 0.002, meaning that there is a negative effect of overconfidence on trading frequency. The P- value =0.905 > 0.005, indicating that such effect is not significant. Also, R-squared is shown to be 0.00, which means that the percentage of explained variation in trading frequency by overconfidence is 0.00%. Thus, the second hypothesis is rejected.

The regression equation can be stated as follows:

TF = 124.293 - 4.993* OV

    From table (7) below, there is a significant negative relationship between overconfidence and portfolio size (r = -0.062, P-value = 0.000). The results of the regression analysis shows that the beta coefficient has a negative sign value (-0.062), meaning that as overconfidence increases the portfolio size decreases. The P- value = 0.000 < 0.05, revealing that there is a significant negative relationship between overconfidence and portfolio size.R-squared is shown to be 0.004, which means that the percentage of explained variation in portfolio size by overconfidence is 0.4%, which is a relatively very small percentage.Consequently, the results of the current study accept H_3.

The regression equation can be stated as follows:

PS = 17.871 – 1.816* OV

Table (7) Testing the Relationship between Overconfidence, Trading Frequency, and Portfolio Size.

Statistics	Trading Frequency	Portfolio Size
Correlation Analysis	r=0.002	r=-0.062

	P-value =0.905	P-value =0.000
Regression Analysis	β=-4.993 Standardized Beta =- 0.002 P-value =0.905 R-squared=0.000	β=-1.816 Standardized Beta = -0.062 P-value=0.000 R- squared= 0.004

Table (8): Mean Trading Frequency and Portfolio Size Associated with Overconfidence.

OV			TS	PS
0.00	N	Valid	1584	1584
		Missing	0	0
	Mean		**124.293**	**17.8712**
1.00	N	Valid	1640	1640
		Missing	0	0
	Mean		**119.300**	**16.0555**

Table (8) shows that relative to investors who don't show overconfidence, overconfident investors tend to trade less frequently, overconfident investors turnover 119.30% of their portfolio holdings annually. In addition, overconfidentinvestors have smaller portfolio size (16 stocks)

Discussion of the Results

he current study provides an over whelming evidence that the Egyptian investors exhibit overconfidence in their trades. About 50.9% of the 3224 cases studied (each investor had at maximum six overconfidence values) showed overconfidence. The researchers found out that during the study period, the ARB was 0.23840, while the ARS was 0.42398, with a difference equals -0.18558. This result is in line with the results obtained from previous studies that revealed that ARB is lower than ARS. In this context, Odean (1999) reported that the difference between the returns on stocks bought and sold by individual investors in the U.S was -0.033. In the Same Vein, Chen el al (2007) concluded that the ARB was 0.1124 and ARS was 0.1371, making a difference of -0.0246 for Chinese individual investors.

In contrast to theory and literature, the researchers found evidence of negative insignificant impact of overconfidence on trading frequency, Egyptian investors displaying overconfidence turnover their portfolio holdings 119.3% annually. Yet; the positive over whelming impact of overconfidence on trading frequency is detected in different developed stock markets as the U.S (e.g., Odean, 1999; Barber and Odean, 2000 and 2002), U.K (e.g., Merkle, 2013), France (e.g., Boolell- Gunesh and Merli, 2010). Such positive impact is detected in developing markets as well, as China (e.g., Chen et al., 2007, andZaiane, 2013b), and Tunis (e.g., Zaiane, 2013a; Adel and Mariem, 2013). Chen et al (2007) pointed out that overconfident investors turnover 327% of their portfolio holdings annually. The researchers explain their results by arguing that the Egyptian investors may have ARB lower that the ARS as a proxy for OV_2 that is not related to excessive trading. That is to say, investors may make bad

investment choices that make them sell winners and acquire losers without trading excessively.Yet; as consistent with theory and literature; the current research provides an over whelming evidence that overconfident investors tend to hold small size portfolios. The researchers found out that the average portfolio size held byoverconfident Egyptian individual investors is 16 stocks, as compared to 2.60 stocks in China (Chen et al., 2007) and 15.7 stocks in U.K (Merkle, 2013). However, such relatively large portfolio size is still less than what is theoretically required to hold a well diversified portfolio.

Conclusions

The current research utilized the daily trading records of a sample of 744 Egyptian adult individual investors from 25 different Egyptian governorates, purchased from M.C.D.R. during the six years period extending from January 1st, 2004 up to and including December 31st, 2009. The study found; firstly; there is an over whelming evidence that the trading behavior of the individual Egyptian investors exhibits overconfidence. Investors displaying overconfidence don't trade more frequently. What is more, investors showing overconfidence hold small size portfolios.

It seems worthy to reveal that, overconfidence is imported from the field of psychology to the behavioral finance domain. Therefore, the results obtained regarding whether investors exhibit overconfidence is highly dependent on the method utilized in measuring the psychological bias. The current research utilized a quantitative approach to measure overconfidence, which is a qualitative human psychological feature. Better results in this domain could have been achieved if surveys or experiments were employed to detect such psychological bias. Yet, this was impossible to be implemented, because all investors are anonymous to the researchers since all private data is hidden by M.C.D.R; on the one hand. In addition, applying surveys or experiments will reduce the sample size and thus limit the generalizability of the results obtained.

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