The Relationship Between the Kuwaiti Banks Share Prices and Their Attributes

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Abstract:

This paper is an attempt to study the relationship between the Kuwaiti Banks' share prices and three of their attributes measured by Earning per share, Book value, and Trade volume during the period from 1980 to 2004 using annual data and a sample of seven banks.

Vector autoregression technique is employed to achieve this goal. Although the results indicate that the three share attributes contribute with varying degrees to the variation in the share prices of the sample banks, on average EP contribute 39% to the variation of share price, followed by BV with an average of 32%, then TV with 17% and P with 12%. The results also indicate that the contribution of both EP and BV is increasing over time, while the contribution of TV and P is declining. According to these results, it seems that trading in Kuwait Stock Exchange is motivated by profitability in the long run and speculation in the short run. These findings may reflect the growing rationality as investors increasingly rely on profitability rather than speculation in their investment decisions.

1. Introduction

Profitability measures are important in formulating investment strategy and improving the predictive ability as well as quantifying appropriate indicator of the bank management' efficiency (Brown and Kennely, 1972), therefore, stock prices in a well functioning stock market should ultimately reflect the profitability of the relevant companies. However, in an emerging stock market that lacks a developed legal and institutional structure, stock prices might be influenced by speculation rather than profitability measures. Despite the importance of this issue, unfortunately, few studies have been conducted to examine this issue in the Gulf Co-operation Council (GCC)¹ markets.

¹ GCC established in May 25 1981 and consist of six countries namely Bahrain, Kuwait, Saudi Arabia, Qatar, Oman, and United Arab of Emirates.



Accordingly, this study is an attempt to assess the role of both profitability and speculation in affecting the behaviour of stock prices in the Kuwait Stock Exchange (KSE)² as an example of an emerging GCC stock market, by taking the listed local banks stocks as an example. This will enrich the literature on GCC stock markets and shed more light on the characteristics of these emerging markets.

The remainder of this study is organised as follows. The next section is a brief overview of the banking sector in Kuwait; the third section reviews the related literature. The fourth section is a review of previous studies on Kuwait and other GCC countries; the fifth section presents data and its statistical properties. The model and empirical results are offered in section six. The paper ends with a conclusion.

2. Main features of the banking sector

Banking sector is one of the most important sectors in the Kuwaiti economy and the most attractive sector to investors. As of the year-end of 2004, six commercial Banks and three specialized banks were listed and traded on the KSE. By the end of 2004 the total assets and net profits of commercial banks were 15.6 and 0.38 billion Kuwaiti Dinar (KD) respectively.

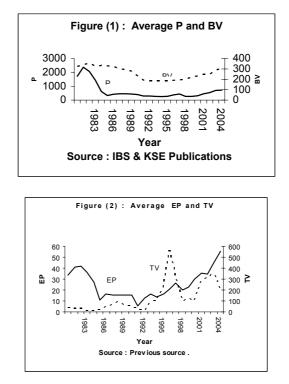
	Kuwaiti Banks Total Assets and Profits in 1980&2004 (Million KD)										
#		Establishment		Assets		Profit					
	Bank Name	Date	1980	2004	1980	2004					
1	National Bank of Kuwait	1952	1373	5572	12.5	150					
2	Gulf Bank	1960	1168	2286	5.82	74.6					
3	Commercial Bank of Kuwait	1960	1005	1825	7.4	62.2					
4	Ahli Bank	1967	1012	1705	4	27.1					
5	Kuwait and Middle East Bank	1971	550	1754	3.5	22.7					
6	Kuwait Real Estate Bank	1973	310	736	4.1	23.5					
7	Burgan Bank	1975	409	1738	1.8	29.5					
	Total	5827	15616	39.1	389.6						
	% Increase	17	6%	89	6%						

Table (1)

Source: Institute of Banking Studies and KSE publications, various issues.

² Kuwait Stock Exchange (KSE) was established on the second of April 1977

As shown in Table (1) all commercial banks listed on the KSE has registered noticeable increase of both total assets and net profit during the period from 1980 to 2004. In 2004, the net profit has reported 390 million KD, an increase of more than 896 % over that of 1980, while total assets increased by 176%, a sign of improving efficiency in utilizing funds by the banking sector.



Concerning the development of the main share attributes, average share price (P) for the sample banks has witnessed a sharp decline following the stock market crash in 1982, while average book value (BV) has witnessed a decline during the period from 1990 to 1991 as a result of the Iraqi invasion of Kuwait as figure (1) shows. The two variables have been moving closer to each other since 1985 with periods of divergence reflecting intense trading activity. Earning per share (EP), has also declined since 1982 as a result of the market crash fall out, then relatively stabilized during the period from 1985 to 1994, and picked up again

starting from 1995, while trade volume (TV) has increased significantly during the period 1995 to 1997 as a result of the government sale of part of its shares in some Public Companies as figure (2) shows. The figures also show that both P and EP have been increasing since the year 2000, and that EP and TV are in general moving together. Accordingly it might be argued that the four variables are moving closely especially after 1990.

3. Literature review

In the literature there are two methods in evaluating the share price by using either rational process, based on the economic value of the firm, or irrational process, based on anticipatory and speculative factors (Samuels *et al.*, 1995). Empirically, studying the factors behind investing in the share price is divided into two major approaches; the first depends upon a questionnaire survey by asking investors about information items needed for investing in the stock exchanges (Baker and Haslem, 1973; Firth, 1978; Anderson, 1981). It concluded that investors are heterogeneous and they used fundamental and technical analyses in their investment decisions to evaluate the firm's share, however, earning, management quality and financial position are also important ingredients in the investment decision-making process.

The other approach is to examine selected important items of information that might appear in the firm annual reports and have influence on determining the share price (Bernard, 1995; Groenewold and Fraser, 1997; Sing *et al.*, 2002 and Gill, 2003) suggested that investors should pay more attention to the underlying performance of stocks, particularly the earning per share and book value in their stock selection process.

Although these studies raised significant role of earning in investment decision, the evidence is still inconclusive. The general consensus is that share prices are affected by two measures of profitability represented by earning per share and share book value.

4. Previous studies

Numbers of studies have been undertaken on the GCC stock markets to investigate the relationship between share prices and the results of financial statements. While some of these studies examined the impact of several factors that appear in financial statements (Khouja and Said, 1974; Hijazi, 1988; Midani, 1991 and Abdulla, 1993b), others examined the

effect of a single factor on the stock price (Abdulla, 1993a).

Khouja and Said (1974) reported that there is a direct relationship between stock prices and the difference between their respective book value per share. Their study reveals that Kuwaiti investors' valuation of different shares is consistent with the net asset value hypotheses. On the other hand, Hijazi (1988) added that dividend per share plays significant role in determining the stock price of listed firms on the KSE.

Although number of studies showed little information content of the EPS for firm's listed and stock price (Ramadan, 1989), others found that Kuwaiti stock prices are most sensitive to change in company earnings measured by EPS as well as the degree of financial leverage of the company (Midani, 1991). Abdulla (1993a) confirmed the significant role of EPS in determining the share price of the Saudi stock companies in the short run.

It is obvious that the determinants in commercial banks share price in the GCC markets have been mostly ignored from previous studies. Only, Abdulla (1993b) conducted an empirical analysis of the determinants of commercial banks stock prices in Saudi Arabia. He employed regression analysis using EPS, dividends, liquidity, investment and lending expansion, share prices market index and a dummy variable expressing foreign participation in the ownership of commercial bank stocks as independent variables. His study found that dividend plays significant role in determining the stock price.

5. Data and its statistical properties

In order to deal with a homogenous sample of banks, the study included only Kuwaiti commercial banks. Specialized and Islamic banks were excluded. The following seven listed commercial banks are included in the study: National Bank of Kuwait (N), Commercial Bank of Kuwait(C), Gulf Bank (G), Al-Ahli Bank of Kuwait (A), Bank of Kuwait and the Middle East (B), Burgan Bank (BB), Kuwait Real Estate Bank (K).

Regarding the data used, the study will examine the relationship between the Kuwaiti commercial banks share prices and two measures of profitability represented by earning per share and share book value. In addition, the Volume of traded shares is added to the model as a measure for speculation. Accordingly, the study will use the following four

variables: share prices (P), earning per share (EP), book value per share (BV), and Volume of traded shares (TV) the data for which was obtained from KSE and Kuwait Institute for Banking Studies (IBS) publications. Yearly data covering the period between 1980 and 2004 are used in order to track the development of this relation over a long time span.

5.1. Stationarity test:

To avoid the problem of spurious regression, the variables are first tested for stationarity to ensure that all variables are stationary and are integrated of the same order. Augmented Dickey-Fuller test and Philips-Perron test are used .The results as shown in tables (2) and (3) are mixed , accordingly the study will consider all variables as first-difference stationary.

_	Dickey-Fuller Test											
			LEV	/EL		1 ST DEFFERENCE						
		P EP BV T				Р	EP	BV	TV			
	Ν	-5.3*	-2.5	-1.7	-2.3	-	-3.6**	-3.4**	-4.4*			
	С	-5.7*	-2.6	-1.7	-2.9	I	-3.3**	-3.3**	-4.7*			
	G	-8.6*	-2.6	-1.8	-2.1	I	-4.7*	-3.2**	-4.1*			
	А	-8.2*	-2.8	-1.8	-2.2	I	-4.7*	-3.1**	-3.4**			
	В	-5.9*	-1.9	-1.9	-2.9	I	-3.2**	-3.3**	-4.9*			
	BB	-4.3*	-3.1**	-1.5	-0.6	-	-	-3.1**	-3.1**			
L	K	-12.1*	-2.3	-1.5	-0.1	-	-4.2*	-3.5**	-2.4			

 Table (2)

 Diakay Fuller Test

Table (3) Philips-Perron Test

Philips-Perion Test												
		LEV	EL		1 st DEFFERENCE							
	Р	EP	BV	TV	Р	EP	BV	TV				
Ν	-1.8	-2.01	-1.6	-2.1	-4.4*	-4.7*	-4.7*	-4.6*				
С	-2.3	-1.7	-1.4	-2.9	-3.1**	-4.5*	-4.7*	-5.4*				
G	-2.09	-2	-1.7	-2.3	-4.1*	-5.01*	-4.7*	-5.6*				
Α	-1.8	-1.4	-1.6	-2.5	-4.1*	-4.1*	-4.3*	-5.5*				
В	-2.7	-2.2	-1.5	-4.4*	-3.1**	-5.1*	-5.07*	-				
BB	-1.5	-1.7	-1.8	-1.1	-3.5**	-7.06*	-4.7*	-5.4*				
Κ	-1.6	-1.7	-1.5	-1.8	-5.7*	-5.8*	-5.07*	-5.7*				
* .::C	significant at 10/ . ** significant at 50/											

* significant at 1%; ** significant at 5%

5.2. Cointegration test:

Since all variables are first difference stationary, then the next step is to test for possible long-run equilibrium relation between the dependent and the relevant independent variables using the cointegration test developed by Johansen (1991).

	# of cointegrated vectors	Likelihood Ratio
А	1	68.4*
В	1	85.3*
BB	1	56.1*
С	1	84.2*
G	1	76.7*
Κ	1	54.9*
Ν	1	79.6*

Table (4) Cointegration Results

*significant at 1% level.

The results in table (4) indicate the existence of cointegration between stock price and the three variables for all banks indicating the existence of a long run relationship.

6. Model development and empirical results

Vector autoregression technique is employed to examine the effect of these three variables on share prices, it requires ordering the variables from the least to the most affected by the others. Therefore, the variables are ordered as follow: EP, BV, TV, P, and the model is estimated by a system of equations equals the number of variables in the model where each variable is regressed on it's lagged values and the lagged values of the other variables in the system, the number of lags are usually determined by Akaike criterion, which indicates that 4 lags is the optimal lag length for the seven banks, thus the model will be estimated using 4 lags for each variable. In addition, since the variables are integrated of the same order and are cointegrated then the model will be estimated using the variables in their level in order to capture the long run relation among them (Engle and Granger, 1987).

Accordingly the following VAR system of equations will be estimated by OLS for each of the seven banks using E-Views statistical software:

$$EP_{t} = C_{1} + \sum_{i=1}^{4} \alpha_{1i} EP_{t-i} + \sum_{i=1}^{4} \beta_{1i} BV_{t-i} + \sum_{i=1}^{4} \tau_{1i} TV_{t-i} + \sum_{i=1}^{4} \pi_{1i} P_{t-i} + U_{1} \quad (1)$$

$$BV_{t} = C_{2} + \sum_{i=1}^{4} \alpha_{2i} EP_{t-i} + \sum_{i=1}^{4} \beta_{2i} BV_{t-i} + \sum_{i=1}^{4} \tau_{2i} TV_{t-i} + \sum_{i=1}^{4} \pi_{2i} P_{t-i} + U_{2} \quad (2)$$

$$TV_{t} = C_{3} + \sum_{i=1}^{4} \alpha_{3i} EP_{t-i} + \sum_{i=1}^{4} \beta_{3i} BV_{t-i} + \sum_{i=1}^{4} \tau_{3i} TV_{t-i} + \sum_{i=1}^{4} \pi_{3i} P_{t-i} + U_{3} \quad (3)$$

$$P_{t} = C_{4} + \sum_{i=1}^{4} \alpha_{4i} EP_{t-i} + \sum_{i=1}^{4} \beta_{4i} BV_{t-i} + \sum_{i=1}^{4} \tau_{4i} TV_{t-i} + \sum_{i=1}^{4} \pi_{4i} P_{t-i} + U_{4} \quad (4)$$

Then two tools are utilized to measure the size, nature, and duration of the impact of each attribute on share price, those tools are variance decomposition and impulse response function respectively.

The VAR model requires that all variables are stationary; if not then they must be converted into stationary series. Now, since the variables used in this study are non stationary but integrated of the same order, and they are cointegrated, then their level rather than their difference form can be used in the estimation process in order to capture long run relationship among them (Engle and Granger, 1987).

6.1. Variance decomposition

This tool measures the relative effect of each variable on itself and the others in the system, thus indicating the contribution, out of 100%, of each variable on the variation of itself and the others. The results as shown in table (5) indicate that the relative importance of each variable on explaining the behaviour of stock price varies across the sample banks. It may be argued that, on average, V1 % of the variation in stock prices is due to variation in EP and BV, while 29% is due to variations in itself and TV.

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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3.1	87.9	0.6	8.5	24.0	28.2	43.5	4.3	47.5	24.5	27.9	0.1
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$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	92.9	5.3	1.5	0.2	61.3	2.0	26.1	10.6	41.4	19.1	25.3	14.2
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	88.0	5.9	6.0	0.1	23.9	62.2	9.8	4.1	50.0	12.6	23.6	13.8
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	86.2	7.3	6.4	0.1	24.0	66.2	7.7	2.1	68.6	8.0	14.6	8.8
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	85.3	8.6	6.0	0.1	36.1	54.3	8.0	1.7	70.8	7.6	13.5	8.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	84.7	7.8	7.3	0.1	42.4	47.7	8.4	1.5	70.5	7.9	13.5	8.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	81.1	11.1	7.7	0.1	53.3	37.8	7.7	1.2	70.4	8.1	13.5	8.0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	81.0	11.6	7.3	0.1	56.2	35.4	7.3	1.1	70.2	8.2	13.5	8.1
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	77.1	15.6	7.2	0.1	56.1	35.5	7.4	1.1	69.9	8.3	13.6	8.1
N P Observe Observe <td>76.5</td> <td>16.2</td> <td>7.0</td> <td>0.2</td> <td>56.2</td> <td>35.4</td> <td>7.3</td> <td>1.1</td> <td>69.9</td> <td>8.4</td> <td>13.7</td> <td>8.1</td>	76.5	16.2	7.0	0.2	56.2	35.4	7.3	1.1	69.9	8.4	13.7	8.1
EP BV TV P Image: Constraint of the stress of the s	73.8	19.2	6.8	0.2	55.6	36.0	7.3	1.1	69.6	8.7	13.6	8.1
11.6 1.3 0.3 86.7 <		Ν	N									
8.2 20.1 7.1 64.6 <	EP	BV	TV	Р								
7.7 21.5 12.1 58.7	11.6	1.3	0.3	86.7								
6.1 25.2 9.1 59.7 <	8.2	20.1	7.1	64.6								
4.6 40.7 9.3 45.4 <	7.7	21.5	12.1	58.7								
5.2 38.7 9.1 47.1 <	6.1	25.2	9.1	59.7								
7.3 42.5 8.5 41.7	4.6	40.7	9.3	45.4								
18.6 34.9 8.3 38.1	5.2	38.7	9.1	47.1								
34.2 28.3 7.0 30.4	7.3	42.5	8.5	41.7								
34.2 28.3 7.0 30.4	18.6	34.9	8.3	38.1								
	35.7	27.1	7.2	30.0								

Table (5)Variance Decomposition of Stock Price

In a more detailed analysis, EP has the highest effect on P averaging 39%, followed by BV with an average of 32%, then TV with an average of 17%, and P with an average of 12%. In addition, the results show that the contribution of both TV and P decline over time while the opposite is true for EP and BV. On average, EP has the highest effect on P for 4 banks (BB, C, G, and K), BV has the highest effect for one bank (A), TV has the highest effect for one bank (B), and P has the highest effect for one bank (N). The second highest effect on share price is attributed to BV in the case of four banks (B, C, G, N), and to TV in the case of 2 banks (BB, K), and to P in the case of one bank (A). The third highest effect on share price is attributed to EP in the case two banks (A, B), while BV has the third highest effect in the case of 2 banks (BB, K), and TV in the case of two banks

(C, G).

6.2. Impulse response

Now, turning to the nature and duration of the impact of each variable on the behaviour of stock price in the sample, the results, in general, indicates on average a positive and long term effect as table (6) shows. However, in a closer inspection, the results indicates that TV has almost zero effect, on average, reflecting the mixed nature of this variable as trade volume may increase in response to both anticipated increase or decrease in share price. The results show that six bank have positive average effect of EP and one bank has a negative average effect (G), for BV three banks have positive effect (A, B, G), one bank has zero effect (N) and the rest have negative effect, for TV three banks have positive effect (A, B, C), two banks have zero effect (G, K), and the rest have negative effect. Finally, P has a positive effect on itself for two banks (A, K), and zero effect for the rest.

Therefore, based on the previous discussion, it may be argued that trading in the stocks of the sample banks is motivated by profitability rather than speculation, especially in the long run.

	<u>A</u>				В				BB			
EP	BV	TV	Р	EP	BV	TV	Р	EP	BV	TV	Р	
0.01	0.13	0.03	0.06	0.05	0.06	0.12	0.03	0.08	0.00	0.07	0.01	
0.06	0.13	0.02	0.03	0.04	0.11	0.06	0.01	0.05	0.06	0.07	0.00	
0.07	0.23	-0.01	0.06	0.01	0.02	0.00	-0.02	0.04	0.01	-0.01	0.00	
0.06	0.23	0.00	0.07	0.02	0.04	-0.04	-0.02	0.06	-0.04	-0.04	0.00	
0.02	0.27	0.01	0.08	-0.07	0.00	-0.04	-0.01	0.05	-0.09	-0.07	0.00	
0.03	0.27	0.00	0.08	-0.01	0.00	-0.01	0.01	-0.07	-0.05	-0.04	0.00	
0.02	0.27	0.02	0.09	0.01	0.00	0.03	0.02	-0.08	0.00	0.02	0.00	
0.03	0.23	0.02	0.08	0.08	-0.02	0.07	0.02	-0.06	-0.01	0.02	0.00	
0.06	0.23	0.01	0.06	0.04	-0.02	0.05	0.01	-0.02	-0.01	0.00	0.00	
0.08	0.21	0.00	0.06	0.02	-0.05	0.01	0.00	0.05	0.02	0.01	0.00	
	0	2			(J			ŀ	K		
EP	BV	TV	Р	EP	BV	TV	Р	EP	BV	TV	Р	
0.13	0.03	0.02	0.01	0.03	-0.01	0.02	0.01	0.17	-0.12	-0.13	0.10	
0.17	0.05	0.05	0.00	-0.01	0.05	0.00	0.00	0.16	0.00	-0.09	0.07	
0.13	-0.05	0.04	-0.01	-0.05	0.08	-0.03	-0.01	0.27	0.03	-0.04	0.04	
0.07	-0.04	-0.01	0.00	-0.06	0.04	-0.02	-0.01	0.14	0.03	0.03	-0.02	
0.09	-0.01	0.04	0.00	-0.05	0.01	-0.02	0.00	0.03	0.03	-0.01	0.01	
	-0.06	0.02	0.00	-0.08	0.01	-0.02	0.00	-0.01	-0.02	0.00	0.00	
	-0.04	0.02	0.00	-0.04	0.00	-0.01	0.00	0.00	-0.02	-0.01	0.01	
-0.02	0.07	0.02	0.01	0.00	-0.01	0.00	0.00	-0.01	-0.01	0.02	-0.01	
0.08	0.05	0.02	-0.01	0.01	0.01	0.00	0.00	0.02	-0.01	-0.01	0.01	
0.00	-0.07	-0.01	0.00	0.00	0.02	0.00	0.00	-0.04	0.03	0.01	-0.01	
	N	1										
EP	BV	TV	Р									
0.02	-0.01	0.00	0.06									
0.02	-0.04	-0.03	0.05									
-0.01	-0.02	-0.02	-0.01									
-0.01	0.04	0.02	-0.06									
0.00	0.07	0.02	-0.01									
-0.01	-0.01	-0.01	0.03									
0.03	-0.05	-0.01	0.01									
	-0.01	0.02	-0.04									
	0.02	0.01	-0.01									
	-0.01	-0.02	0.02									

 Table (6)

 Response of Stock Price to Shocks in other variables

Conclusion:

This study has attempted to analyze the relative contribution of earning per share (EP), share book value (BV), and volume of traded shares (TV) to the behaviour of Kuwaiti commercial banks' share prices during the period from 1980 to 2004 using annual data. Vector autoregression technique is employed to achieve this goal. The results indicate that on average, 1% of the variation in stock prices is due to variation in EP and BV, while 29% is due to variations in itself and TV.

EP has the highest effect on P averaging 39%, followed by BV with an average of 32%, then TV with an average of 17%, and P with an average of 12%. In addition, the results show that the contribution of both TV and P decline over time while the opposite is true for EP and BV. Concerning the nature and duration of the impact of each variable on the behaviour of stock price in the sample, the results, in general, indicate on average a positive and long term effect except for TV which has almost zero effect reflecting the mixed nature of this variable as trade volume may increase in response to both anticipated increase or decrease in share price.

The results show that the effect of the three variables on share prices vary across the sample banks. This variation in the results may reflect the characteristics of both shares and traders in these shares. It seems, however, that trading in banks shares traded in KSE is motivated by profitability in the long run and speculation in the short run. These findings may reflect the growing maturity of KSE as investors increasingly rely on profitability rather than speculation in their investment decisions, a trend enhanced by the significant institutional developments that marked KSE especially following the after math of the cash of 1982.



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العلاقة بين أسعار أسهم البنوك الكويتية وخصائصما

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الملخص:

تهدف هذه الدراسة إلى محاولة التعرف على العلاقة بين أسعار اسهم البنوك التجارية الكويتية وخصائصها ممثلة في العائد على السهم، والقيمة الدفترة للسهم، وحجم التداول خلال الفترة من عام ١٩٨٠ إلى عام ٢٠٠٤ ، باستخدام بيانات سنوية وعينة من سبع بنوك.

ولتحقيق ذلك قامت الدراسة باستخدام اسلوب الأرتداد الذاتي للكمية الموجهة (VAR). وتشير النتائج إلى أن المؤشرات الثلاث المستخدمة تساهم بدرجات متفاوته في تفسير سلوك أسعار الأسهم لعينة البنوك المستخدمة، إلا أن النتائج تشير في المتوسط إلى أن العائد على السهم يأتي في المقدمة وبنسبة ٣٩٪ يليه القيمة الدفترية للسهم بنسبة ٣٢٪ ثم حجم التداول بنسبة ١٧٪ ، وأخيرا سعر السهم نفسة وبنسبة ١٢٪ . كما تشير النتائج إلى أن أثر كل من العائد على السهم والقيمة الدفترية للسهم يتزايد مع مرور الزمن، في حين يتناقص أثر كل من حجم التداول وسعر السهم نفسة. هذه النتائج قد تشير إلى تطور وعي المستثمرين في سوق الأسهم وذلك باعتماد قراراتهم الاستثمارية بصورة متزايدة على معايير الريحية بدلا من المضاربة.