

**EMIRATES FINANCIAL MARKET EFFICIENCY POSSIBILITY
CASE STUDY DUBAI FINANCIAL MARKET**

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ABSTRACT

The study aims to measure the Efficiency Emirates Financial Market possibility through using the descriptive analysis method to show the fluctuation of Capital, Volume, Transactions and how these indicators affect Dubai financial market Index. Indeed, an econometric model is conducted to test the main hypothesis; which argue that DFM is an efficient financial market.

The study concluded that while F-number of transactions increased, index and volume started to decline as the global financial crisis. Also, DFM affected by the volume and capital of traded stocks in DFM.

Keywords: stock markets, capital, transactions, DFM

JEL Classification: G140

INTRODUCTION

The financial markets occupies a very prominent influential important role in the international economies; because of their ability to influence the current international economies circumstances, as well as providing benefits through the collection and publishing of information and control over the investments. In addition, it works as a channel that collects savings and provide liquidity to interchange the initial public offered securities at the primary market, and facilitate the collection of cash liquidity for company's growth and assist the governments to collect funds for development projects. Other roles for financial markets are to redistribute wealth and stimulate corporate governance, for further; stocks indices considered as a measurement of the economic performance.

According to that, the financial markets are as a basic essence for the advancement of economies. So interested countries in such regard have to adopt the ways of marketing efficiency; due to its active and influential role in the development and allocation of investments.

The reality is that the financial markets in the Gulf States has been suffering from difficulties and obstacles despite the great polarizing role which played by those markets, but they still need to

apply and develop an efficient and effective system to be able to provide a lot of investment equity to the investors.

1.Previous studies

A study of (Hussein, Jaddeen and Bouziane, 2013) which used the financial markets of Saudi Arabia, Oman, Tunisia and morocco aimed to highlight the efficiency of capital markets in developing countries and clarify the methods of efficient market hypothesis measurement in these countries, The study concluded that the ineffectiveness of financial markets in developing countries and the lack of a favorable investment climate depend on the diversity in financial instruments and diversified financial institutions by using the Unit Root t and Co-integration test. Another study aimed to measure the efficiency of four Asian financial markets: Tokyo, Shanghai, Hang Seng and Mumbai by measuring the efficiency of the overall market index for each of the aforementioned markets by (Patel et. al, 2012)the study concluded that Tokyo and Mumbai's financial markets are inefficient while it was efficient in Hang Sen and Shanghai's financial markets. (Nikita Soekarno,2012) used the same methodology to test the same aim for Indonesia stock market for the years 2008-2011. The result were the Indonesian financial market is inefficient.(Gupta, 2014) found that the current prices do not reflect all earlier information about India's financial market, accordingly; the possibility to use the technical analysis for returns is infrequent. Therefore, the investors have the opportunity to evaluate the current prices of the earlier information.

Runs Test, Kolmogorov -Smirnov Test is another test used as an efficiency test by (Elango& Hussein, 2008) to test the efficiency of financial markets in the Gulf Cooperation Council (GCC) using daily returns of the general indexes for the period from October 2001 until October 2006; the study reject the random walk hypothesis for all GCC financial markets and thus there is a possibility for investors to achieve extraordinary returns through the use of earlier data on prices. (Squalli, 2005) studied if the UAE financial market is efficient, for that the researcher used Runs Test, Co-integration test, Variance Ratio to reach the result of that both banking sector in the DFM and the insurance sector in Abu Dhabi were efficient at the weak level, whereas the tests showed the inefficiency of the remained sectors at the weak level.For (Galani et. al, 2014) concluded that: both iterations tests and connection showed inefficiency as Islamabad Stock Exchange market, but ADF test showed the efficiency of the financial market at a weak level.

1.1Financial markets efficiency and analysis methods

The investment decisions made by stakeholders in financial market considered as a future projections, which depends on the expectations and possibilities. Those expectations based on rationality, for that, they need a large scale of information in terms of size, accuracy and details. Such information form the infrastructure in which attracts investors and motivate them to trade in efficient environment which provides them with opportunities to invest their financial surpluses in liquid and riskless way.

This paper is going to deal with the DFM through the entrance of the financial market efficiency, trying to reach the optimal method in which it is possible to deal therewith. To make the markets more stable and benefit the national economies as a mean of savings mobilizing, allocating resources and investing surpluses.

2. Efficient Capital Market concept

The efficient market is the market where the price of any issued securities reflects any available information thereabout. Whether those information represented in the financial statements, broadcasted by the media, or historical record of the securities prices that used in analyses and reports of the prevailing economic situation. Company's performance or other such information, which may affect the market value of the securities i.e. the stock's price, responds immediately to that information; if so, we can argue the market is an efficient market, and that's mean, the market value of the sock is fair value that reflects fully the real value which generate enough return sufficient to compensate the investor for whatever may contain of risks in investing in that stock.

This means that the efficient market is the one that determines the exact fair price of securities; any price reflects the real value of those securities. The real value of the stock is the amount received by or paid in exchange for this stock by considering the return that can be resulted thereby (Elhendi, 1997). It's known that the efficient market provide that, "prices of all stocks and reflect all available information quickly and accurately" (AL-Dessouki 2000), also it is known as " the market where the exchange of investment instruments traded easily at close prices of the real values - for those tools - where the balance is occurs with the acceptance of both parties (demand and supply) according to those prices "(Zebari 2009). Therefore, we defines the efficient market as the market capability to distribute the returns over investors equitably through optimal allocation of available resources.

The extent of the response of the financial instruments with various types of information leads to many characteristics of the capital market, including: (Abdel Qader 2010)

The market value of the security is approaching to its real value and as the fact that the price of a security absorbed the information simultaneously, and in this context, we say that the market value of a security at a specified date will be considered as a function in the available information of a security in the market in accordance to a prepared equation :

$$[(MV)]_t = f(I, T)$$

Whereas:

(MV) = market value of the security

(t) = time

(I) = available information on the security.

b) The impact of all types of information on immediate financial instruments price.

c) The current prices are not a reflection of historical prices or historical information.

d) Because of information availability related to the security which reach up to all investors at the same time. So the ability to analyze shall be almost same which creates thereof the inability of the stakeholders to obtain extraordinary profits in the sense that no one will achieve profits without the others, but the return shall be acceptable according to the projected risk.

2.1 Indicators of measuring the efficiency of the financial market:

2.1.1 Operational Efficiency:

It means the market's ability to make the transactions costs minimum as it can, that encourages and contributes to increase the demand for on these securities by investors. For examples (financial intermediation costs, and securities conversion costs), therefore; we can say that the success of financial markets depends on a high degree of cost minimizing. Its intended by operating efficiency the extent of the market's ability to create balance between supply and demand, in case of the accessibility of such feature it indicates about the internal efficiency of the financial market(AL-Dessouki2000).

2.2 Price Efficiency:

It means the responding speed of the securities traded for new information reach to investors in the market without a large time interval, and without incurring excessive costs by the dealers to get that information. This feature is an indicator of the efficiency of this overseas market (Alwan,

2009), which means that the financial market where there are efficient pricing for financial assets traded therein at the time of the receipt of information thereto about those financial assets. This also reflects those information without leaving a big space to the investors to seize opportunities by using those information and analyzing them for the purposes of grasping extraordinary returns, and at the same time dealer shall not incur costs to get information, but the information are available to everyone without any exception.

2.3 Allocating efficiency:

That is the ability of the financial market to convert and allocate the available funds for most profitability investment opportunities after subtracting the risk margin, where the investors within this efficiency. Direct their dues to financial assets with the highest net return compared with other assets; as an investor seeks to sell the financial assets with high prices before it starts to fall or the purchase of low financial instruments before they begin to rise (Zebari 2009).

2.4 Efficient market characteristics:

High Transparency, Disclosure, and Liquidity are the most important characteristics of the efficient financial market (Abdulkader, 2010).

2.5 Types of efficient financial markets:

2.5.1 Full efficiency market:

Full efficient market characterizes (Alrawi, 1999):

Availability of information to everyone at the same moment and with seam costs even investors' expectations are identical due to the similarity of the available information to everyone.

Absence of any restrictions on trading, lack of transaction costs, taxes or other costs i. e. any investor shall buy sand sell any value of a stock regardless smallness of its size easily and conveniently.

Despite the presence of large numbers of investors, the absence of any of them shall not affect significantly on securities prices.

Investors characterized by rationality, and then they are turning to maximize the utility of the available resources.

Dealers in the market are entitled to sell or buy any amount of stock they desire unconditionally and easily.

3. Economic efficiency:

It is difficult form to achieve in the practical reality, due to taxes and commissions imposed on the movement of trading inside the financial market as well as the investors in the market differ in their goals and motivations. Consequently; their capability related to analysis, access to information and capability to use different analysis tools differ, for these reasons and other the full efficiency shall not be realized. In light thereof, we enter into a new concept of the efficiency i.e. an economic efficiency, which is the response of any stock prices of Information that shall not occurred at the same moment. Also there is time interval, between the arrival of such information to the market and response of prices to the traded instruments, which means that the market value of the stocks may be lower or higher (Saleh & Fareeda, 2009-2010).

Therefore, we think that the attempt to deduct the significant importance of economic efficiency is not of importance. As the economic efficiency stage is subject to the full terms of efficiency and which has become more flexible to accommodate a lot of information and events that may occur within the financial market and conditions of full efficiency failed to absorb it, as well, we believes that the economic efficiency stage is a theoretical stage only.

4. Various forms for market efficiency (Fama, 1970):

4.1. Weak Form hypothesis:

By such hypothesis it exhibit to us the information's reflected by stock prices are currently acceptable, where it appears that reality opposes theory, which calls for intervention to correct this situation and adjust it according to the theory and attempt to adapt it with reality or progress a step forward. Theoretically, by putting a new stage of efficiency that may characterize by offering new waivers concerning the conditions of efficiency in the market, historical information related to previous changes occurred on the price of the stock and trading volume. Thus, we can say that there is no gain of any attempt to predict the movement of the price in the future. It is worth to mention that this principle rejects the philosophy underlying the financial analysis, which relies on information and analysis of historical data to predict the future price in the sense, that history repeats itself. We herein note that we will examine the extent of efficiency of DFM place of study at the weak level of efficiency.

4.2. Semi Strong Form Hypothesis

The form of stock that reflects the historical and current information called semi strong. Therefore the investor will not be able to take advantage to examine the reports and research

(economic, industry and financial reports, etc.), where the prices were adjusted based on the information quickly, which does not allow the investor to get extraordinary return even if he used fundamental analysis. (Goran, 2013) published information as profits, distributions, and changes that occur in the money supply, and trading volumes on securities. Those studies revealed that stock prices respond quickly for information, which shall not provide an opportunity for any investor to realize a return on the expense of others (Al-dessouki 2000). However, other studies have revealed that the market does not respond as quickly as possible to the available information, and that there is a significant time interval between the time of getting the information and the time of analysis, allowing opportunities to realize returns on the expense of others (Elhendi.1997)

4.3 Strong Form Hypothesis:

Due to this formula, the stock prices reflect all information, regardless of nature, whether they were public or private information. According to this hypothesis, any investor or group of investors cannot use the information for purposes of gaining extraordinary profits, In the financial market because of the availability and displayed information for everyone, at all times which making it difficult to predict the behavior of prices which frustrates attempts by investors to make extraordinary profits(El-Dagher, 2007).

It is worth to mention that efficiency of financial markets theory may be faced many criticisms. The matter that urged the developer of efficiency theory (Eugene Fama) in 1991 to rename the three levels of efficiency of the financial market. He named the first level by Studies of Prediction in the return to include the study of anomalous phenomena, test financial asset pricing model, the impact of seasonal impact as the impact of January, the impact of value and volume. Fama named the second level of efficiency as the Study of Event to include certain political, economic or social events either on both macro or on micro level by an attempt to identify the manner on which the market can absorb the information about a particular event. While Fama preferred to name the third level of efficiency as the Study of Specific Information that are trying to answer the important question which is whether the ability to predict the behavior of prices resulting from the irrational movements in prices (bubbles) or for a rational and huge shifts in expectations of return.

5. Financial Market Liquidity:

Liquidity means the increased volumes between traders in the financial markets; as well, the liquidity had a critical importance for owners of financial tools and investors. The Increase of the liquidity of the securities makes an increase in investors' appetite for buying that security, which

provides the capability of the issuers of financial tools to increase their issuance consequently to finance their investment activities.

There are many characteristics on which they are available in the financial market shall make it able to market the security easily, for example (Market Depth, Breadth and Speed of Market Reaction).(Hubbard, G. & O'Brien, T.2011).

5.1. Relationship between the liquidity and efficiency of the financial market:

To identify the relationship between the liquidity and efficiency of the market, we must identify what is going on inside the financial market. As there is price movements caused by two types of traders: first type called noise-creating team as they are dealing in the market based on their personal feelings without having information, and the second team is the information owners team they are acting on the basis of having information

Influences of the decisions of noise creating on prices quickly influence the prices, which reflects the state of the financial market efficiency. Those decisions make prices change faster which encourage the Information team to enter the market and interchanging therein by buying and selling (Elhendi, 1997).The effects, that influence the decisions of the working group information on the price, have slowly effects reflecting a lack of efficiency. Through that, prices move slowly to reflect the new information makes it possible for the information team to have an extraordinary profit in the financial market, which makes a contradiction between the concept of efficiency and liquidity (Iatrech, 2009)

6. Impediments for financial market efficiency operation:

There are many obstacles prevent the occurrence of efficiency in the capital market as production capacity, disinformation, weak evaluation, average values, certain periods of time and price sensitivity. (Zebari, 2003)

The financial market is efficient if the financial tools prices has a reflection for all the information available about those tools regardless of the nature of that information. As well the information in the financial market are deemed as a raw material the traders based thereon in making their investment decisions and there is no consensus among whatever are determined by the efficiency theory of the market and whatever are decided by other analysis (technical or fundamental analysis).

7. Hypothesis:

The main hypothesis for this research is going to test “does Emiratis financial markets efficient?”, in order to test our hypothesis the research focus mainly over Dubai financial market and its efficiency as an indicator for Emirates financial markets.

7. The methodology:

While Qualitative data are used in order to describe the theoretical frame among financial markets efficiency; Quantitative data collected mainly from the Arab Monetary Fund AMF reports in a quarterly basis from 2006-2016, the sample consist of 41 trial.

The research is going to use the descriptive analysis method to show the fluctuation of Capital, Volume, Transactions and Index of Dubai Financial Market and how these indicators affect Dubai financial market efficiency.

For the same data and period an econometric model is conducted to test the main hypothesis which argue that Dubai Financial market if an efficient financial market. The econometric model is illustrated as follow:

$$[\text{Index}]_i = \alpha + \beta_1 \text{Volume} + \beta_2 \text{Capital} + \beta_3 \text{Trans} + U_i$$

Index: is Dubai Financial market index.

Volume: volume is the number of shares or contracts traded in Dubai Financial market.

Capital: market value at a point in time of the shares outstanding of a publicly traded company in Dubai Financial market.

Trans : the number of traded transactions in Dubai Financial Market.

α and β : Model parameters.

i: Time.

In order to analyze the model, we are going to use linear multiple regression to test model fitness, parameters, and level of significance in order to

8. Data:

The Following table shows Capital, Volume, Transactions and Index of Dubai Financial Market in a quarterly basis 2006-2016.

Table -1-

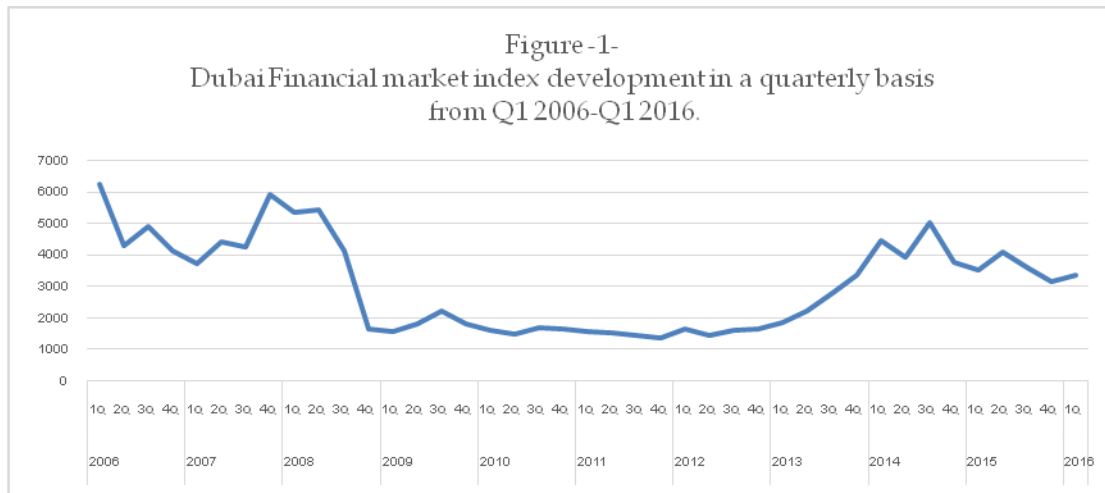
Capital, Volume, Transactions and Index of Dubai Financial
Market in a quarterly basis 2006-2016

year	quarter	CAPITAL	VOLUM	TRAN.	INDEX
2006	Q1	103484	27940	8760	6253
	Q2	83589	31525	12989	4277
	Q3	91323	24400	9455	4886
	Q4	86895	13734	6616	4127
2007	Q1	85450	11763	8554	3727
	Q2	95963	22638	23247	4409
	Q3	100653	14913	20588	4233
	Q4	138179	53983	52868	5932
2008	Q1	128890	34149	26337	5352
	Q2	137166	21281	18257	5444
	Q3	110357	17425	15936	4128

	Q4	63099	10241	15979	1636
2009	Q1	57563	7515	22688	1569
	Q2	60998	16005	41246	1785
	Q3	66468	10616	23088	2191
	Q4	58095	13103	23663	1804
2010	Q1	53963	4997	10272	1593
	Q2	52259	5370	10099	1462
	Q3	55492	2459	5534	1684
	Q4	54692	3249	7659	1631
2011	Q1	53045	2971	7438	1556
	Q2	53057	3126	9643	1517
	Q3	51200	1418	4304	1432
	Q4	49033	1221	3779	1353
2012	Q1	52894	2604	7854	1649
	Q2	47380	3223	8796	1452
	Q3	49360	2216	6825	1579
	Q4	49523	2216	7310	1623

2013	Q1	55605	5672	16361	1829
	Q2	58113	10348	28531	2223
	Q3	67810	13346	41543	2763
	Q4	70686	14162	40746	3370
2014	Q1	88949	29994	58412	4451
	Q2	79695	34548	41904	3943
	Q3	97364	21357	31841	5043
	Q4	87832	17970	28376	3774
2015	Q1	86746	10402	23962	3514
	Q2	100562	17747	41199	4087
	Q3	94983	7865	18006	3593
	Q4	83873	5204	15064	3151
2016	Q1	88864	11050	33436	3356
Source: Arab monetary fund AMF reports Q1 2006-Q1 2016, combined by the researcher					

Figure -2- represent Dubai Financial market index development in a quarterly basis from Q1 2006-Q1 2016.



Source: prepared by the researcher relying upon Arab Monetary Fund AMF reports data Q1 2006-Q1 2016.

The above figure shows that Dubai financial market index started to decline as the global financial crisis started in 2007 at USA, this decline stopped at the last quarter of 2008, after this period an approximately zero index growth rate maintained until the 3rd quarter of 2012.

The index started to grow up from 2013 till now as the global economic situations recovered.

The Following figure shows the Dubai Financial market capital development in a quarterly basis from Q1 2006-Q1 2016.

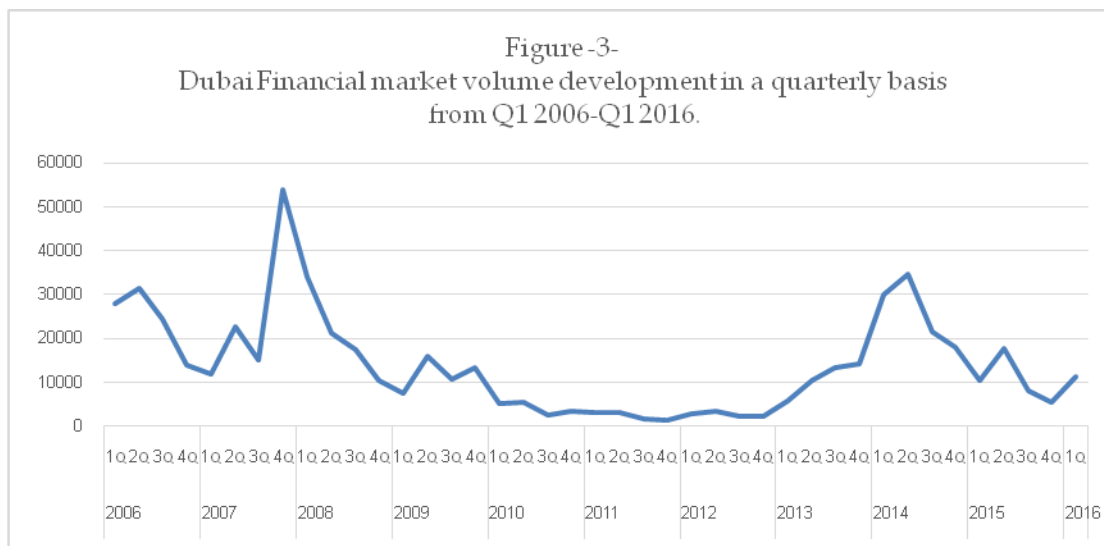


Source: prepared by the researcher relying upon Arab Monetary Fund AMF reports data Q1 2006-Q1 2016.

Figure -2- shows three main periods that has different characteristics for Dubai Financial market capital development, the first period stopped at the 2nd quarter of 2008, a continuous growth has been stopped as a result of the global financial crisis which started at USA in 2007 and extend for several years later.

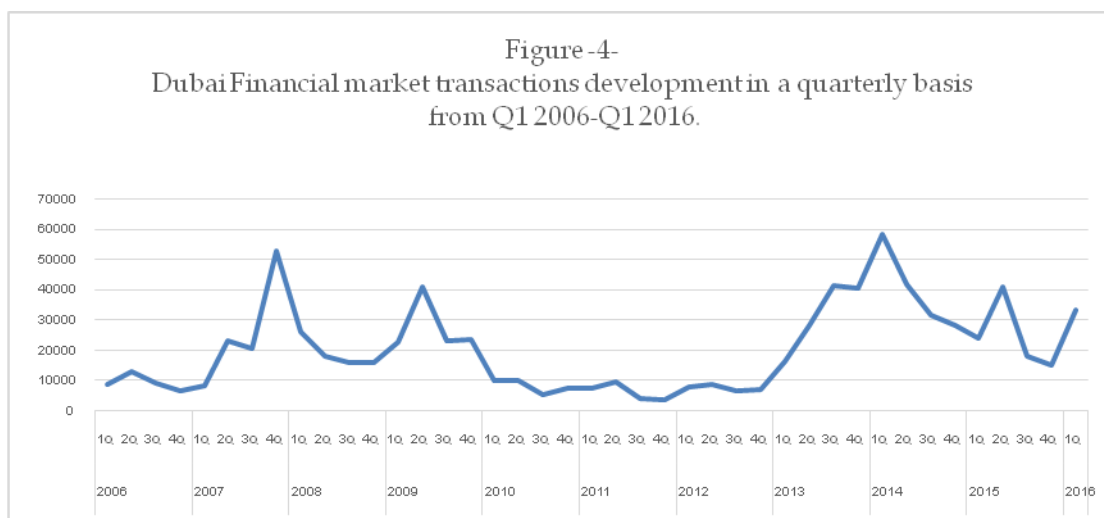
The second period, extend from the 1st quarter of 2009 till the same quarter of 2013 were capital growth rate did not change, the third period, started from the 1st quarter of 2013 till now where capital growth rate started to increase according to an economic recovery.

The Following figure shows the Dubai Financial market volume development in a quarterly basis from Q1 2006-Q1 2016.



The term volume refers to the number of shares which traded in Dubai financial market during a specified period, the number of traded shares were affected negatively according to the global financial crisis of 2007, this decline continued till 2010, in the 1st quarter of 2013 the volume curve started to grow up again.

The Following figure shows the Dubai Financial market transactions development in a quarterly basis from Q1 2006-Q1 2016.



The above figure shows the number of transactions that executed in Dubai financial market for the givens period, the number of transactions increased as the financial crisis started after that it

declined as the economic crunch held place in the global market as well as in Dubai financial market, an average semi-zero growth of transactions dominate the markets from 2010-2012, in 2013 the market recovered again and number of transactions increased.

The econometric model:

The model

In this research we are going to use the multiple regression method to analyze the selected data in order to test the main hypotheses which is about “does Emiratis financial markets efficient?”

So our model is:

$$\text{Index} = f(\text{Volume}, \text{Capital}, \text{Trans}) \dots (2)$$

Where:

Index is Dubai market index

Volume : is the number of traded stocks in Dubai financial market.

[[capital]]_t: is the capital of Dubai financial market.

Trans: is the number of executed transactions in Dubai financial market.

For that, the linear equation form of the model is:

$$[[\text{Index}]]_{t_i} = \alpha + \beta_{1i} \text{Volume} + \beta_{2i} \text{Capital} + \beta_{3i} \text{Trans} + U_{t_i}$$

Where, t: is time.

U is the random variable.

β_{1i}, β_{2i} & β_{3i} are Volume, Capital and Trans coefficients.

SPSS Outcomes:

Figure -5-

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.951 ^a	.904	.896	475.60351	.713

a. Predictors: (Constant), volume, trans, capital

b. Dependent Variable: index

The determinant coefficient of the model is 0.951, the value of determinant coefficient should lie between 0 and 1. This means, the model explains 95% of the variability of the response data around its mean.

The value of Durbin Watson test is 0.713 which mean we have to reject the null hypotheses and accept the alternative hypotheses which say that there is no autocorrelation problem in the model.

Figure -6-

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78835973	3	26278657.70	116.175	.000 ^a
	Residual	8369352	37	226198.694		
	Total	87205325	40			

a. Predictors: (Constant), volume, trans, capital

b. Dependent Variable: index

according to annova test , the modle is fit F is lagre enough at level of significance equals to 1%.

Figure -7-

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-552.803	300.163		-1.842	.074		
	trans	-.010	.007	-.099	-1.507	.140	.599	1.669
	capital	.042	.005	.708	8.670	.000	.389	2.572
	volume	.044	.012	.342	3.601	.001	.287	3.481

a. Dependent Variable: index

to test the multicollinearity problem, according to the VIF numbers we conclude that all VIF numbers less than 5, which mean we have to reject the null hypotheses and accept the alternative one which argue that there is no multicollinearity problem.

The independent variable “transaction” is not significate, so there is no clear relationship between number of transactions and DFM index.

The second independent variable is “capital “, there is a significant effect of capital over DFM index, thus an increase in capital by 100% lead to an increase in the index by 4.2%.

The third independent variable is “Volume”, there is a significant effect of volume over DFM index, thus an increase in volume by 100% lead to an increase in the index by 4.4%.

Conclusion:

While Dubai financial market index and volume started to decline as the global financial crisis started in 2007 at USA, the number of transactions increased for the same period, the increase in number of transactions due to the fear of stock prices collapse.

Dubai market index affected by several factors, as our model it is affected by the number of traded stocks in Dubai financial market, the capital of Dubai financial market.

The study found that there is no clear relationship between number of transactions and DFM index. And there is a significant effect of capital over DFM index, thus an increase in capital by 100% lead to an increase in the index by 4.2%. alsothere is a significant effect of volume over DFM index, thus an increase in volume by 100% lead to an increase in the index by 4.4%.

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