

## THE IMPACT OF THE FINANCIAL STOCK MARKET CHANGES ON THE VARIATION OF REAL ESTATE MARKET PRICES IN JORDAN

**Dr. Ahmad A. Assaf**  
Associate Professor  
Department of Economics  
Zarqa University, Jordan

**Dr. Ibrahim M. Khrais**  
Associate Professor  
Department of Economics  
Zarqa University, Jordan

**Dr. Ismail Y. Yamin**  
Associate Professor  
Department of Financial  
Banking Sciences  
Zarqa University, Jordan

---

**ABSTRACT:** *The relationship between the Real-estate (R.E.) market and the Financial Stock Market – as two major investment areas within the market of any economy – is of great importance. The purpose of this study is to investigate and determine the relationship between the variation in the prices of the Real-estate market and the Financial Stock market in Jordan for the period 2002 - 2012, taking in to consideration the prevailing economic factors associated with the development of these two markets. The study population consists of all the stocks which are enlisted in Amman stock exchanging (whether related to Real estate corporate or not) during the study period between 2002- 2012. It also consists of all the real estate sales transaction records registered at the Land and Surveying Department in Amman capital city during the same period. Using the descriptive analytical methodology (statistical regression methods) the researchers found first: a statistically significant differences and positive correlation between the size of the real estate market (REM) and the indicators of (GDP at Market Size, Money Supply, Foreign Investment, Credit Facilities). Second: statistically significant differences and correlation between the market value of Real Estate (MRE) and the indicators of (trading volume of (ASE), GDP at Market Size, Money Supply, Foreign Investment, and Credit Facilities). Third: there were no statistically significant correlation between the size of the real estate market (REM) and the indicators of (General Price Index of (ASE), trading volume of (ASE), Expatriate Remittances, and Inflation Rate). Fourth: there were no statistically significant correlation between the market value of Real Estate (MRE) and the indicators of (General Price Index of (ASE), Expatriate Remittances, and Inflation Rate) at the level of the moral question.*

**KEYWORDS:** *Real-Estate Market, Financial Stock Market, Price Variation, economy, Jordan.*

---

### INTRODUCTION

The relationship between the Real-estate (R.E.) market and the Financial Stock Market – as two major investment areas within the market of any economy – is of great importance. The importance of this relation comes from the fact that these two markets have great impact on the investment area of any country. Both market compete within and share the largest chunk of in

the liquidity pool of funds available for investment in the economy of any country. the nature of the relationship between the real estate market ( in its different forms) and the stock market is of great importance especially in Jordan where most of the savings of households, individuals and even some business firms are invested and kept in these two markets.

The most important dilemma for most investors and portfolio managers on the micro-economic level is the assets allocation problem, i.e. how much to invest proportionally between these two different markets, and when and how much to shift between these two markets as time goes on and prevailing economic conditions change. Another important question is about how much correlated are these two markets and consequently how much diversification can they offer for investors and portfolio managers (Reily, 2003). Answering these questions imply the importance of this study on the relationship between the Real estate market and the financial Stock market. As both markets are interlinked within the Jordanian economic environment, the relation between these two markets shall be studied within the prevailing economic factors that may have undergone during each era of the study. The most important foreseen factors expected to effect the relationship are the change or growth in the GDP (gross domestic production) the inflation rate, the money supply, the Interest rate, the credit facilities extended by the banks to the construction and real estate sector, the remittances made by the Jordanian expatriates from outside Jordan, the foreign investment fund pumped to Jordan. Each of these factors will be investigated in terms of its effect on the correlation relationship between the two major markets investigated.

The primary objective of this study is to investigate whether there is a relationship between the Real-estate market and the Financial Stock Market? and within the microeconomic environment of Jordanian economy.

### **Research Problem**

The purpose of this study is to investigate and determine the relationship between the variation in the prices of the Real-estate market and the Financial Stock market in Jordan over the period 2002 -2012, taking in to consideration the prevailing economic factors associated with the development of these two markets.

### **Research Hypothesis:**

The main General Major Hypothesis is that there is No statistically significant effect at level of significance ( $0.05 = \alpha$ ) for financial stock market on the Real estate market in Jordan taking into consideration the effect of the macro-economic factors. In order to conclude over this major hypothesis following sub-main hypothesis shall be investigated:

### **Sub-main hypothesis:-**

**H<sub>01</sub>:** No statistically significant effect at level of significance ( $0.05 = \alpha$ ) for indicators of (the general index of prices , trading volume, GDP at market prices , money supply , remittances of

expatriates , foreign investment , inflation , and credit facilities ), on the size of the real estate market (REM).

**H<sub>02</sub>:** No statistically significant effect at the level of significance ( $0.05 = \alpha$ ), for indicators of ( the general index of prices , trading volume, GDP at market prices , money supply , remittances of expatriates , foreign investment , inflation , and credit facilities ) , on the market value of Real Estate (MRE).

### **Research Significance and Knowledge Gap:**

On one hand, the booming of world's real estate and stock markets has provided a good opportunity for the investors to make their profitable investment. However, in the past years, many investors in Jordan still have suffered from losses in stock markets and missed the opportunity to invest in real estate market. One of the main reasons for the losses is that the investors may lack the necessary knowledge on these two markets. They are not aware of the specific risks in the two markets, and they are not sophisticated with diversifying their investment portfolios to reduce the risks in their investments. Therefore, by exploring the relationship between these two markets and examine whether there are correlations between them, we hope to familiarize readers with these two capital markets.

One the other hand, compared with developed countries, the real estate and stock markets in the US and European countries for example are more developed and mature, there is a large number of previous researches concentrated on the relationship and diversification effects between the two markets. However, such topics are not under the main concerns of researchers in Jordan. Consequently, we hope to shed some light on this field, and could make our own contribution to the researches in these two important capital markets in Jordan.

## **LITERATURE REVIEW**

Recent literature related to studies on non-Jordanian markets has recognized the need to understand and measure the degree of market correlation and integration between the financial stock markets and the Real estate markets. Much of the evidence which relates to the Real estate and stock markets seems to support the notion that the two markets are segmented (i.e. non-correlated). For example, Schnare and Struyk (1976), Goodman (1978, 1981), Miles, Cole, and Guikay (1990), Liu, Hartzell, Greig, and Grissom (1990) and Geltner (1991) have documented the existence of segmentation within various real estate markets and with stock market. Liu, Hartzell, Greig, and Grissom (1990) find evidence of market segmentation between the real estate and the stock markets when using appraised based returns.

To empirically assess the effect of the real asset ownership on the risk and return for a firm's stockholders, Seiler et al. (2001) estimated a set of two-stage least square equations to examine whether or not real assets (include plant and equipment) provided a diversification benefit due to

corporate real asset ownership, both in terms of systematic risk (beta) and risk-adjusted returns. They suggested further research is necessary to draw any generalizations.

The closest study to our research is that of Zamil, Ahmad Mahmoud and Areiqat Ahmad Yousef (2011) who has examined the relationship between the real estate market and Amman Stock Exchange, through the impact of three macroeconomic factors (GDP, inflation rate, and the population growth rate) and another three factors from the microeconomic indicators (interest rate, remittances of Jordanian expatriates, and the loans provided by the Jordanian banks). The results show that the stock market is more sensitive to the microeconomic indicators than the real estate market, and responds more rapidly than the real estate market for the changes in the microeconomic indicators. Liow (2011) who has examined the correlation relationship between real estate and stock markets at the local, regional and global levels for eight Asia-Pacific public real estate markets (Japan, Hong Kong, Singapore, Australia, China, Malaysia, Taiwan and Philippines) from 1995 to 2009. The author finds that the average correlation between real estate and local stock markets in all eight economies are significantly higher than the corresponding regional and global correlations. This higher correlation between real estate and local stocks can be attributed to the fact that property is a major asset component of many Asian economies and property companies mainly invest in their domestic market. Consequently, integration between real estate and the corresponding stock market has evolved largely at the local level in Asian public real estate markets. Moreover, this result indicates that the global and regional stock markets are able to influence national real estate returns differently, in addition to the country factors (i.e. local stock market).

In the developing world, Cheong and Kim (1997) investigated a Yearly cross-sectional model on Korean CRE during 1987-1991. Their study examined the relationship between common stock returns, systematic risk (beta) of stock returns and ratio of equity to real estate holdings of non-real estate companies. Their results suggested that the ratio of real estate holdings did not affect stock returns of the firms. In addition, they found that the higher the debt ratio, the larger the loss of the growth opportunity value due to real estate.

An initial research on the Singapore CRE was reported by Liow (1999) Covered 10 year period between 1987 and 1996. There was strong evidence to suggest that CRE affected the assets structure and stock market valuation of non-real estate firms that owned at least 20 percent property in their assets structure. From the stock market perspective, Liow's (2001a) "three-index" model found that the market risk for CRE was a factor in a capital asset pricing, and that property markets risk was reflected in an ex ante premium in the stock market. However, this risk premium was only significant in periods characterized by a high risk-high return market profile. Additionally, Liow (2001b) found that the proportion of CRE assets positively affected common stock returns due to the growth opportunities presented by real estate. However, it remained unclear in the study as to whether the real estate impact was highly significant. This is because the influence of other real estate related factors such as debt ratio and firm size has to be

jointly considered in stock market valuation. Abdelgalil, Eisa, (2006) tried to investigate whether there is a relationship between real estate sector and financial sector at the macroeconomic level of Dubai economy and at the microeconomic level of Dubai Financial market. Empirical evidence has shown that such a relationship does exist in Dubai, at both the macro and the microeconomic levels. Stephen J. Larson, (2005) suggested stock price reversals are associated with extreme stock price declines for REITS. Hence, it appears that the market overreacts at the time unfavorable information about REITS is disseminated. The degree of reversals across the sample is assessed according to variables such as the initial price decline (day 0), prevent leakage (day j1), size (capitalization), the type of real estate investment trust, and relative trading volume. Piet M.A. Eichholtz (2005) investigated the effectiveness of international real estate diversification relative to international diversification of stock and bond portfolios. Tests of international correlation matrix of real estate returns, common stock returns, and bond returns indicate significantly lower correlation between national real estate returns than between common stock or bond returns. The implication is that international diversification reduces the risk of a real estate portfolio more than that of common stock and bond portfolios. Patrick J. Wilson & John Okunev, (2007) said that the literature is not clear on whether there are co-dependencies domestically across real estate and stock markets, nor whether there are international co-dependencies for these asset classes, despite the importance of this question for portfolio diversification strategies. They used a non-linear technique to search for co-dependence over the long term. We find no evidence to suggest long co-memories between stock and property markets in the United States and the United Kingdom, but some evidence of this in Australia. In an international context, if we take whole of sample period data, they found no evidence of long co-memory effects, however if we sample on either side of the 1987 market correction we find evidence of long co-memory. Jim Clayton & Creg Mackinnon (2003) examined the link between REIT, financial asset and real estate returns, and whether it changed subsequent to the "REIT boom" of the early 1990s. The main focus is on answering the question do REIT returns now better reflect the performance of understanding direct (unsecuritized) real estate? They also developed and implemented a variance decomposition for REIT returns that separates REIT return variability into components directly related to major stock, bond, an real estate-related return indices as well as returns to size and property – type based REIT portfolios. Their results show that the REIT market went from being driven largely by the same economic factors that drive large cap stocks through the 1970s and 1980s to being more strongly related to both small cap stock and real estate-related factors in the 1990s. There is also steady increase over time in the proportion of volatility not accounted for by stock, bond or real estate related factors. It was found that small cap REIT at least over the 1993 – 1998 period. They argue that this could be a result of the institutional ownership of larger cap REITs that took place in the 1990s. Xiaofang & YAN Jinming, (2007) in their study titled Relationships between Chinese Real Estate and Stock Market, which aimed to explore the relationships between the Chinese real estate and stock market by comparing the fluctuation of stock index with that of real estate index from 1998 to 2006. The results from this study show three specific outcomes that extend the current literature on real estate finance. First, it is shown that fluctuation of real estate index lead

that of stock index between 1998 and 2006. Because of financing market structural problem, Chinese real estate market is more sensitive to economy than stock market. Second, the results also indicate that wealth effect in real estate market is more than stock market in China. The reason is that the scale of stock market is small and the fluctuation of stock price is uncertain. Finally, rising of stock price would reduce the rate of real estate price increasing. These results appear to have important implications for managing property assets in the funds management industry and also for the pricing efficiency within the Chinese property market. It is also useful for policy makers in making decisions with regard to economy safety. Kim Hiang Liow & Hai Shan Yang (2007) also found reasonable support for fractional co-integration (characteristic of a long memory process) between securitized real estate price, stock market price and key macroeconomic factors in some economies. The implication is that where fractional co-integration prevails, securitized real estate and common stocks are substitutable assets over the long run and these assets may not be held together in a portfolio for diversification purpose. Furthermore, short-run analysis indicates that the speed of adjustment towards the long-run equilibrium is faster for fractional integrated vector error correction model (FIVECM) than VECM as the former incorporates a long history of past co-integration residuals. Additional comparisons of the two models' forecasting accuracy show that incorporating fractional co-integration in a VECM model improves the forecasting performance over conventional VECM models. Their results also reinforce the notion that co-integration, fractional co-integration and short-run adjustment dynamics are important in understanding market integration / segmentation. Elias Oikarinen (2006) supposes that there are a number of reasons to assume that significant interdependence exist between the financial asset markets and the housing market. Identifying the linkage between stock, bond and housing markets may improve return forecast in different assets markets. Interdependence and predictability of different asset prices is of importance concerning portfolio diversification and allocation, especially from long-term investors' point of view. Furthermore, linkages between asset classes are likely to have significant policy implications. The purpose of this paper is to study the long-and the short-term dynamic interdependences between stock, bond and housing markets using time series econometrics and utilizing a quarterly dataset from Finland over 1970-2005.

## **METHODOLOGY AND PROCEDURES**

The study used the descriptive analytical methodology; the case described and defined through referring to the literature and previous studies in Arab and foreign contexts that examined the real estate market and the factors affecting it focusing on its relation with the Stock financial market. The study also examined the strength of correlative the relationship between the RE and the stock market as well as the other macro-economic factors affecting this relationship.

This study used statistical regression methods, and by using (SPSS) software. Data analyzed in order to help to predict the Real estate market trends in the future in Jordan.

### **Research Population:**

The study population consists of all the stocks which are enlisted in Amman stock exchanging (whether related to Real estate corporate or not) during the study period between 2002- 2012. It also consists of all the real estate sales transaction records registered at the Land and Surveying Department in Amman capital city during the same period.

### **Research Sample:**

The study chooses all Real estate companies that are enlisted at Amman Financial market which have relevant available data.

And relevant to the study also, chooses all land & real estate estimated / registered buy and sell transaction prices of real assets that are available for Amman city areas (North Amman, South Amman, West Amman, and East Amman).

### **Data Sources and Tools:**

The study will rely on available data published and announced by formal authorities in Jordan such as the Central Bank of Jordan (CBJ), the Statistic Department and Amman Stock Exchange (ASE) records, as well as the information provided by previous studies which discussed real estate market and factors that affect it. The main Real estate assets actual buy and sell transactional prices data has been taken from the Sales Registers of the Land and Surveying department of Jordan. The Real estate ASE market listed companies close prices yielding the market value of these stocks will be utilized from the published records of Amman Stock Exchange.

### **Research Procedures**

#### **Conceptual Framework and Variable Measurement**

The study has two groups of variables (**Dependent** variables, independent variables) as follows:

#### **Dependent Variables:**

The dependent variables are those related to the real estate market expressed by the following indicators:

- The change in real estate sales transaction prices of the Land Plots and the Residential apartment buildings as registered in the Land and surveying department during the study period.
- The change in the market value of the real estate stocks that are enlisted at Amman financial market (ASE) as published by ASE.

#### **Independent Variable:**

The Independent Variable those related to the financial stock market of ASE. The researcher depends on several indicators within this market.

- The change in the Trading volume of the stock that are enlisted in Amman financial market.
- The General Price Index of the ASE stock market as published.

**Other Independent Variable of economic nature:**

- The change in the Gross Domestic Product (GDP).
- The changes in inflation rate.
- The changes in financial credit facilities extended to the construction and Real estate sector by the banks in Jordan.
- The changes in the Money Supply.
- The change in Remittances of Jordanian expatriates.
- The change in Foreign Investment.

These Variables will be utilized for statistical analysis as shown hereinafter.

**Data analysis and hypothesis testing:**

Before examining hypotheses of the study, we should check out some of the tests that should be performed on the data of the study as follows:

**1. (T) Test:**

This test was used to verify the homogeneity of data variables of the study. Table (1) shows the results of this test:

**Table 1: Results of the (t) test to verify the homogeneity of data variables of the study****One-Sample Test**

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
GPI: General Price Index of (ASE)	14.747	6	.000	5622.7143	4689.7807	6555.6479
TV: Trading Value of (ASE)	3.941	6	.008	9722.8571	3685.4732	15760.24
GDP at Market Size	11.107	6	.000	16771.286	13076.44	20466.13
MS: Money Supply	12.683	6	.000	19915.000	16072.75	23757.25
ER: Expatriate remittances	25.851	6	.000	2289.1429	2072.4686	2505.8171
FI: Foreign Investment	8.175	6	.000	1587.5714	1112.4011	2062.7417
IR: Inflation Rate	3.243	6	.018	5.4286	1.3321	9.5250
CF: Credit Facilities	8.862	6	.000	2670.5714	1933.1875	3407.9554
REM: Real Estate Market Size	22.466	6	.000	5806.1429	5173.7592	6438.5265
MRE: Market Value of Real Estate	4.328	6	.005	2261.5714	982.8078	3540.3350

The results of table (1) shows the homogeneity of data variables of the study, supported by the values of the standard (t) test of the indicators of ( the general index of prices, trading volume, GDP at market prices, money supply, remittances of expatriates, foreign investment, the rate of inflation, credit facilities, the size of the real estate market, and the market value of properties), the value of ( 14.747, 3.941, 11.107, 12.683, 25.851, 8.175, 3.243, 8.862,



22.466 , 4.328 ), respectively , as well as the calculated values of all statistical significance (Sig.) for the variables listed are less than the value of the level of significance ( $\alpha = 0.05$ ). Thus it has become possible to measure the impact of the indicators mentioned on (the size of the real estate market (REM), and the market value of Real Estate (MRE)).

### One-Sample K-S Test:

This test was used to verify that the data variables of the study are subject to the normal distribution or not, through the examination of the following statistical hypothesis:

H<sub>0</sub>: data variables of the study are subject to the normal distribution.

H<sub>1</sub>: the data of the study are not subject to the normal distribution.

The table (2) below, shows the results of testing the hypothesis of normal distribution:

**Table 2: Results of the (One-Sample K-S Test)**

Variables	N	Kolmogorov - Smirnov (Z)	Asymp. Sig.
General Price Index of (ASE)	7	0.674	0.754
Trading Volume of (ASE)	7	0.369	0.999
GDP at Market price	7	0.364	0.999
Money Supply	7	0.387	0.998
Expatriate Remittances	7	0.765	0.602
Foreign Investment	7	0.580	0.889
Inflation Rate	7	0.809	0.529
Credit Facilities	7	0.429	0.993
Real Estate Market Size	7	0.446	0.989
Market Value of Real Estate	7	0.405	0.997

Critical value of (Z) equal to (1.96) at ( $\alpha = 5\%$ ).

T

he results of Table 2 shows that all the values of calculated (Z) for the study variables of (the general index of prices , trading volume, GDP at market prices , money supply , remittances of expatriates , foreign investment , inflation , credit facilities , the size of the real estate market , and the market value of the property ) , is less than the value of Tabulated (Z), amounting to ( 1.96 ) , as well as all the values of statistical significance is greater than the level of significance ( $\alpha = 0.05$ ).

In the light of previous results we accept the null hypothesis (H<sub>0</sub>) which shows that: {data variables of the study subject to the normal distribution}. This means we may be sure that the data variables of the study are subject to the normal distribution, making it ready to conduct all tests of statistical analysis. Based on the foregoing, and after it was ascertained of the homogeneity of data variables of the study, as well as the data of the variables of the study are subject to the normal distribution, we will test the hypotheses of the study (measuring the effect) by using simple linear regression. The following is a detailed explanation of the results of testing hypotheses, which are as follows:

### **The first main hypothesis:**

H<sub>01</sub>: No statistically significant effect at level of significance ( $0.05 = \alpha$ ) for indicators of (the general index of prices , trading volume, GDP at market prices , money supply , remittances of expatriates , foreign investment , inflation , and credit facilities ) , on the size of the real estate market (REM). To validate the hypothesis, simple linear regression method was used. As shown in Table (3) as follows:

**Table 3 : Results of the analysis of simple regression , to measure the impact of indicators ( the general index of prices , commercial value, GDP at market prices , money supply , remittances of expatriates , foreign investment , inflation , and credit facilities ) , on the size of the real estate market (REM )**

Variables	$\beta$	t	Sig.	R	R <sup>2</sup>
General Price Index of (ASE)	- 0.280	- 1.015	0.357	0.413	0.171
Trading Volume of (ASE)	- 0.052	- 1.275	0.258	0.495	0.245
GDP at Market price	0.118	2.138***	0.086	0.691	0.478
Money Supply	0.112	2.089***	0.091	0.683	0.466
Expatriate Remittances	0.402	0.311	0.768	0.138	0.019
Foreign Investment	0.943	2.245***	0.075	0.709	0.502
Inflation Rate	56.421	0.878	0.420	0.365	0.134
Credit Facilities	0.617	2.314***	0.069	0.719	0.517

(\*\*\*) It means that the Impact is significant at ( $\alpha = 10\%$ ).

Results of table (3) indicate the follows:

There is a statistically significant differences and positive correlation between the size of the real estate market (REM) and the indicators of (GDP at Market Size, Money Supply, Foreign Investment, Credit Facilities) at the level of significance ( $\alpha = 10\%$ ), where the calculated correlation coefficients was ( 0.691 , 0.683 , 0.709 , 0.719 ) respectively , while there is no

statistically significant correlation between the size of the real estate market (REM) and the indicators of (General Price Index of (ASE), trading volume of (ASE), Expatriate Remittances, Inflation Rate) at the level of the moral question.

Proven statistical regression coefficients ( $\beta$ ) of the four indicators (GDP at Market Size, Money Supply, Foreign Investment, Credit Facilities), thus there is statistically significant effect of the indicators mentioned in the size of the real estate market (REM) at the level of significance ( $\alpha = 10\%$ ). supported by the values of its (t) calculated at ( 2.138 , 2.089,2.245 , 2.314 ), respectively. as well as the statistical significance of its values at ( 0.086 , 0.091,0.075 , 0.069 ), respectively are less than the level of significance ( $\alpha = 10\%$ ).

The results showed that the indicators of (General Price Index of (ASE), trading volume of (ASE), Expatriate Remittances, Inflation Rate) does not exercise a clear impact on the size of the real estate market (REM) at the level of significance ( $\alpha = 10\%$ ).

### The second main hypothesis:

H<sub>02</sub>: No statistically significant effect at the level of significance ( $0.05 = \alpha$ ), for indicators of ( the general index of prices , trading volume, GDP at market prices , money supply , remittances of expatriates , foreign investment , inflation , and credit facilities ) , on the market value of Real Estate (MRE). To validate the hypothesis, simple linear regression method was used. As shown in Table (4) as follows:

**Table 4 : Results of the simple analysis, to measure the impact of indicators ( the general index of prices , commercial value, GDP at market prices , money supply , remittances of expatriates , foreign investment , inflation , and credit facilities ) , on the market value of Real Estate (MRE)**

Variables	$\beta$	t	Sig.	R	R <sup>2</sup>
General Price Index of (ASE)	0.724	1.392	0.223	0.528	0.279
Trading volume of (ASE)	0.184	3.914 *	0.011	0.868	0.754
GDP at Market price	- 0.312	- 4.656 *	0.006	0.901	0.813
Money Supply	- 0.303	- 4.928 *	0.004	0.911	0.829
Expatriate Remittances	- 2.549	- 1.071	0.333	0.432	0.187
Foreign Investment	2.616	9.268 *	0.000	0.972	0.945
Inflation Rate	79.075	0.586	0.584	0.253	0.064
Credit Facilities	- 1.629	- 6.123 *	0.002	0.939	0.862

(\* ) It means that the impact is significant at ( $\alpha = 5\%$ ).

Results of table (4) indicate the follows:

There is a statistically significant differences and correlation between the market value of Real Estate (MRE) and the indicators of (trading volume of (ASE), GDP at Market Size, Money Supply, Foreign Investment, Credit Facilities) at the level of significance ( $\alpha = 5\%$ ), where the calculated correlation coefficients stand at ( 0.868 , 0.901,0.911 , 0.972 , 0.939 ), respectively , while there is no statistically significant correlation between the market value of Real Estate (MRE) and the indicators of b (General Price Index of (ASE), Expatriate Remittances, Inflation Rate) at the level of the moral question.

proven statistical regression coefficients ( $\beta$ ) of only five indicators represented by (trading volume of (ASE), GDP at Market Size, Money Supply, Foreign Investment, Credit Facilities), thus there is statistically significant effect of the indicators mentioned on the market value of the Real Estate (MRE) at the level of significance ( $\alpha = 5\%$ ), supported by the values of calculated (t) valued at ( 3.914 , - 4.656 , - 4.928 , 9.268 , - 6.123 ), respectively , as well as the values of statistical significance at ( 0.011 , 0.006,0.004 , 0.000 , 0.002 ) respectively , are less than the level of significance ( $\alpha = 5\%$ ).

The results showed that the indicators of (General Price Index of (ASE), Expatriate Remittances, Inflation Rate) does not exercise a clear impact on the size of the real estate market (REM) at the level of significance ( $\alpha = 5\%$ ).

## CONCLUSION

1. There is statistically significant differences and positive correlation between the size of the real estate market (REM) and the indicators of (GDP at Market Size, Money Supply, Foreign Investment, Credit Facilities)
2. There is no statistically significant correlation between the size of the real estate market (REM) and the indicators of (General Price Index of (ASE), trading volume of (ASE), Expatriate Remittances, and Inflation Rate).
3. There is statistically significant effect of the indicators mentioned in the size of the real estate market (REM).
4. The indicator of (General Price Index of (ASE), trading volume of (ASE), Expatriate Remittances, and Inflation Rate) does not exercise a clear impact on the size of the real estate market (REM).
5. There is statistically significant differences correlation between the market value of Real Estate (MRE) and the indicators of (trading volume of (ASE), GDP at Market Size, Money Supply, Foreign Investment, and Credit Facilities).
6. There is no statistically significant correlation between the market value of Real Estate (MRE) and the indicators of (General Price Index of (ASE), Expatriate Remittances, and Inflation Rate) at the level of the moral question.
7. There is statistically significant effect of the indicators mentioned on the market value of the Real Estate (MRE)

1. The indicator of (General Price Index of (ASE), Expatriate Remittances, and Inflation Rate) does not exercise a clear impact on the size of the real estate market (REM).

## RESEARCH LIMITATIONS

The study is limited to cover the maximum period 2002-2012. However, this period may be restricted to 10 years if such data is irrelevant or not available for the full period. In addition to place restriction were the study covers only the area of the capital of Jordan i.e. Amman city.

## REFERENCES

- Abdelgalil, Eisa ,(2006), Relationship between Real Estate and Financial Sectors in Dubai Economy ,Data Management and Research Department , Dubai Chamber of Commerce & industry .
- Aman Ullah, Zhong –guo Zhou (2003) , Real estate and stock returns : a multivariate VAREC model , Journal of Property Management , V 21(1),pp8-24 .
- Chengho Hsieh , James D. Peterson ,(2000) , Book Assets , Real Estate, and Returns on Common Stock, Journal of Real Estate Finance and Economics , 21:3, 221 -233.
- Crocker H.Liu , David J, Hartzell, Wylie Greig and Terry V Grissom (2002) , The integration of the real estate market and the stock market : Some preliminary evidence , The Journal of Real Estate Finance and Economics ,V3(3) .pp 12 -30.
- Daniel C. Quan & Sheridan Titman (1997) , Commercial Real Estate Prices and stock market returns : An International Analysis , Financial Analysts Journal , V 30( 5):pp.110-115.
- Daniel C . Quan & Sheridan Titman (1999) , Do Real Estate prices and Stock Prices Move Together ? An International Analysis ,Journal of Real Estate Economics , V27 (2) :pp.183-207.
- David C. Ling & Andy Naranjo (1999) , The Integration of Commercial Real Estate Market and Stock Market , Journal of Real Estate Economics , V 27 (3) :pp.483-515 .
- Elaine Worzala & C.F . Sirmans (2003) , Investing in International Real Estate Stocks : A Review of the Literature , Urban Studies , Vol .40 (10), 1115-1149 .
- Elias Oikarinen (2006) , PRICE LINKAGES BETWEEN STOCK ,BOND AND HOUSING MARKETS EVIDENCE ,ETLA journal , Elinkeinoelaman Tutkimuslaitos ,The Research Institute of The Finnish Economy , Lönnrotinkatu .
- Jim clayton & Creg Mackinnon (2003) , “ The relative Importance of stock , Bond and Real Estate Factors in Explaining REIT return “ , Journal of Real Estate Finance and Economics , 27(1) , 39-60 .
- John Okunev , Patrick Wilson & Ralf Zurbruegg (2007) , The Casual Relationship Between Real Estate and Stock Markets , The Journal of Real Estate Finance and Economics , Volume 21 , Issue 3 , Article 3 ( Abstract ) .
- Joseph Gyourko & Donald B. Keim (2002) , What Does the Stock Market Tell Us About Real Estate Returns ? , Journal of the American Real Estate and Urban Economics Association , V20 . 3 : pp. 457 ^85 .

- Kim Hiang Liow & HaiShan Yang (2007) , Long-Term Co-Memories and Short –Run Adjustment : Securitized Real Real Estate and Stock Markets ,Journal of Real Estate Finance and Economics , Volume 31 , Issue 3 , Article 2 .
- Liow, K.H. (2011), “Co-movements and correlations across Asian securitized real estate and stock markets”, Real Estate Economics forthcoming.
- Liow , Kim Hiang , (2007) , “ Corporate Real Estate and Stock Market Performance , National University of Singapore – Department of Real Estate (Revised) .
- Ming –Long Lee , Touliu , Yunlin , Kevin C.H. Chiang (2005) , Real Estate Risk Exposure of Equity Real Estate Investment Trust , Taiwan National Science Council grant NSC 93-2416-H-224-015 .
- Okunev, John , Wilson , Patrick , Zurbruegg , Ralf (2005) , Relationships between Australian Real Estate and Stock Market Prices –A Case of Market Inefficiency , Journal of Forecasting., V 12 (5) , pp100-115 .
- Patrick J. Wilson & John Okunev , (2007) , Long-Term Dependencies and Long Run Non-Periodic Co-Cycles : Real Estate and Stock Markets , Journal of Real Estate Research , 12(5),210-220.
- Piet M.A. Eichholtz (2005) , Does International Diversification Work Better for Real Estate than for Stocks and Bonds ? , Review of Pacific Basin Financial Markets and Policies , 20(8) , 100-115 .
- Reilly Frank K. and Brown Keith C., Investment Analysis and Portfolio Management, Thomson south western Pub., 7TH ed.,CH(2-3). Reversals , The Journal of Real Estate Finance and Economics , 30(1),81-88 .
- Rose, Peter S., Money and capital markets, McGraw –hill Pub., 8th Edition, 2003, Ch (1-3).
- Sorin A. Tuluca , F.C. Neil Myer & James R Webb (2004) ,Dynamics of Private and Public Real Estate Markets ,Journal of Real Estate Finance and Economics ,21 (3), 279-296 .
- Zamil Ahmad Mahmoud, Areiqat Ahmad Yousef (2011), The Relationship between the Real Estate Market and the Stock Market and Its Impact on the Strategic Planning Process in the Jordanian Organizations, Journal of Modern Accounting and Auditing, Vol. 7, No. 8, 841-858.