Dubai House Prices and Macroeconomic Fluctuations: A Time Series Analysis

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Abstract

This paper aims to examine the relationship between selected macroeconomic indicators with the real estate industry (house prices index as proxy) of Dubai, United Arab Emirates. Time series regression has been applied to achieve the objectives using monthly data from 2008-2017 collected from Thomson Reuters DataStream. Findings show the negative impact of the exchange rate (ER) and oil prices (COP) on house price index (HPI) and positive impact of inflation (CPI) and money supply (M2). To the best of authors' knowledge, the real estate market in Dubai has received less attention from researchers. The empirical findings of this study encourage policymakers, researches, real estate stakeholders and foreign investors to look for various investment opportunities in the real estate industry of Dubai. The research will also help investors other Middle East countries to explore this sector and can be recommended to develop the housing price index for making real estate markets structured in their economies.

Keywords: House price index, Crude Oil, Money Supply, Exchange Rate, United Arab Emirates

Introduction

Contingent upon the idea of the property, a proprietor of property takes the privilege to use, share, alter, rent, redefine, sell, mortgage, exchange or transfer it and property is that which belongs to somebody. There are two subunits of property known as real property and individual property according to the English precedent-based regulation. Real property, land, realty or immovable properties are lands and the improvements made to it (usually buildings).

According to Scottish law, the real property is known as heritable property; and as per the French-based law, it is called 'immobilizer' (undaunted). Enduring property is moreover the term used in Canada, the US, India, and in countries where common law structures win, including the greater part of Europe, Russia and South America (Baum, 2015).

The impact of global financial crises in 2007-2008 resulted in a sharp decline in residential real estate prices. After August 2008, a decline of approximately 14.8% in residential sales index observed at peak levels. However, by October of 2014 peaks sales of the residential

index declined by 6.4%. Dubai land department's data indicates that the volume of the sales was declined by 30% by the end of November 2015 compared in the same period of 2014. Another report indicated that average sales price in few locations experienced a decline of up to 13% in 2015. However, more reasonable housing areas incurred minor declines and, in some cases, even upheld value or rental yield. Subsequently, project deliveries have been unresponsive in the reports of 2015 which suggested that estimation of 26000 new units to be entered in the market by 2016 in Dubai. However, on the safe side, based on the market environment only 30% of these deliveries may materialize (Mehta, 2016). The market was being affected by the external factors i.e. global uncertainty which includes regional uncertainty, US economic climate, circumstances in china Russia and Iran and the oil prices (Mehta, 2016).

Dubai's real estate market is the extensive market of the Middle East region. The land division of Dubai may have a negative effect because of political insecurity in the Middle East. Constant political and social agitation in countries like; Syria, Egypt, Yemen and Lebanon may have affected centre eastern money related experts to redirect their speculations.

CBRE published data which indicated that Middle East's outbound investments were around the US \$11.5 billion in the first half of 2015 contrasted with the investment around the US \$4 billion in the entire of 2009. These statistics recommend that liquidity requirements (as in 2009) are not exclusively in charge of diminishing speculation inside the neighbourhood advertise. Investors appear to settle on conscious choices to put resources into steadier and develop markets amid a time of relative uncertainty.

While Dubai's economy is relatively more diversified, declining oil prices will affect the decisions of the buyers to invest in the local residential market. According to the information, 2017 was a challenging year for Dubai's hospitality market, with slow growth from the markets composite by local currency, making Dubai a more expensive destination for the visitors. Notwithstanding, the demand for tourism is high.

The decline in average daily rates and occupancy was observed because of the enhanced supply and the competition between the same players in the market. This impact had led market-wide to fall in average revenue per available room of 6.2% in the 3rd quarter of 2016 and 2017. Different segments include luxury, upper-scale and uppermidscale experienced decline in occupancy between 0.6% and 6.3% between the 3rd quarter of 2016 and 2017. During the same period, an increase in occupancy of midscale economy sectors was observed i.e. from 78% to 82%. This is an indicator of the demand sustainability for the affordable product across Dubai's hospitality market. Economic intelligence unit (EIU) suggested that sales volume was declined by 2.8% in 2017. The declined sales were probably driven by the declining disposable incomes and local currency making the purchases expensive for foreign visitors. The demand for the domestic retail industry of Dubai is being controlled by a shrink on disposable incomes.

In 2017, approximately 71% of the residents of Dubai expected to have the same or less disposable income in 2018 whereas only 29% expected to have more income. In January 2018, VAT was introduced in Dubai in which it is expected to raise the cost of living in the same between 2.7% and 3.7% as per the IMF forecasts (Khan, 2018).

The investment for the value of the market depends on two factors; first its recent economic conditions and second it is market share with future perspective. The oil sector has been dominant in the economy of the UAE. As per the recent evidence, Dubai's residential prices have fallen by 3.8% since September 2017. During 2017 in Abu Dhabi, average sales prices fell by 9.3%. Dollar's continuous strengthening and introduction of VAT will certainly limit the potential to drive attainable rates in the short term. Dubai pulled in approximately Dh 17.76bn through foreign direct investments during initial half-year of the 2018 and placed it in 10th position in the worldwide rankings in terms of value. Depending on the Greenfield ventures supported and launched including the FDI and putting the emirate in the 3rd spot in global rankings (Google Chrome, 2018). Deloitte (2018) statistics indicate that Dubai ranked 4th in the greenfield FDI projects. Following graph shows the downward trend for the period 2013-2017 of the sales price for the residential property (See figure 1.1).





Dubai has bifurcated the retail industry into sub-sections to get clear growth or lacking the sector and its impact over

the economy. The statistics for the retail market for the malls can be seen in figure 1.2.



Figure.1.2

Dubai's office market is one of the bifurcations. During the year 2017, demand was slow for the market from newcomers which led the landlords to increase the incentive to attract and retain tenants. Due to this, a decline in the rents of the commercial offices has been observed in

2017 with the average rents which declined by 3% citywide. Following figure showing the Dubai employment in financial and business services which had a major impact on the sector (See figure 1.3).



Figure 1.3

As per the researches with the statistics, it has been observed that Dubai's economy is not mainly based on the oil. Figure 1.4 shows the trends of the economy being oil economy since 2008.

Figure 1.4



The market of Qatar ended on a high note by 2017 with worth 20% more real estate transactions than last year: 2016 as shown in figure 1.5. However, Qatar may face difficulties this year due to lack of demand and plentiful supply which will probably lead to a fall in the rental and sale prices (Weetas, 2018). The stocks of real estate in the middle east market, the researchers had little interest in the real estate market thus far (Thomson Reuters Zawya, 2018). Following graph shows the real estate industry of Qatar:

Figure 1.5



From the market evidence of Turkey, the lira has collapsed in recent weeks triggered by the announcement from the U.S. administration that the tariffs will be doubled on Turkish steel and aluminium. The 75% discount came over the fall of the Turkish lira, which has lost nearly 40% of its value this year. This may be a double benefit for the purchasers of real estate property to acquire the citizenship of turkey. The statistics of the Turkish government shows that major source of foreign exchange since 2012 was the sales of property to the immigrants. From the years 2012 to 2017, foreign property purchases amounted nearly \$22.7 Billion. So far, the increase in the share of properties in foreign direct investments proposed that foreign interest is productive investment is reducing. As per the information of last year, i.e. 2017, real estate property by foreigners chased record of \$4.6 billion and accounting for 42% of the \$10.8 billion foreign investments. The inflow of foreign exchange might be uplifting news for Ankara but not all Turks would be happy with expansion in the real estate deals especially from Middle East (Centigulec, 2018).

As per the study which found out that real estate industry prices are adversely affected by the gold prices. However, on the other hand, evidence of a negative relationship between exchange rate volatility and immovable property (Kirikkaleli, Athari&Ertugrul, 2018). According to the study made it clear that world stock prices indexes don not hurtthe UAE real estate price index (Al-Mohana&Hatemi-J, 2016). A study about emerging markets in middle AGCC region has more volatility persistence within the domestic

market (Rao, 2008). The research resulted in the first and foremost understanding that the UAE's economy is primarily is based on the oil sector. Hence, the UAE had put forwarded strategies to expand its economy mainly on real estate and other several areas (Karnik&Fernandes, 2009). A study carried out about the impact on the UAE economy of reducing independence on the oil sector. Hence, the estimations clarified that UAE is critically dependent on the oil (Fernandes&Karnik, 2009). The study about the exchange pass-through to economic indicators have undergone the research with monthly data for 10 years (2005-2015). This study observed the effects of exchange rate shocks to the macroeconomic variables. The outcomes from the Granger causality test illustrate the existence of causality between cash supply and swapping scale, oil costs and import. Moreover, the finding indicated that there is a significant relationship between money supply and exchange rate (Ahmed, Owais, Kumari and Rajjani, 2018). The study of capital scarcity and industrial decline evidence from real estate booms in China indicated that local real estate booms pushup the costs of capital for local businesses and cause strong underinvestment relative to industry peers located in cities with low real estate inflation (Hau& Ouyang, 2018). The study about the integration of real estate and the stock market in Asia. The empirical study attempted to identify the exact cointegration in 9 Asian countries for the period 1980 to 2012 between stock and land through exchange-based property lists. The outcomes determine that direct real estate market is linearly

cointegrated with the stock market in Taiwan and slightly integrated in Singapore and Hong Kong. However, through differentiation, the segmentation was observed in China, Japan, Thailand, Malaysia, Indonesia and South Korea. The empirical results indicate that the integration level differs crosswise Asian countries. The incorporation between the stock and property showcase is seen in the most thickly populated zones of the economies i.e. Taiwan, Singapore and Hong Kong (Choudhry, S. Hassan and Shabi, 2015). Followed by these highly populated real estate sectors designated that these countries have frequent transactions. (Lin &Fuerst, 2014). The research about the period for the financial crisis in which researchers used non-linear causality test and evidence confirmed that gold has been a haven before the crisis. On the contrary, the results were opposite after the crisis. Amid the emergency time frame, results demonstrated the proof of causality between the factors. The result gave proof in the inconsistency with a capacity of gold to go about as safe house amid the emergency and comparable nature of results saw between stock unpredictability and gold returns. The study about the gold win which the data used was from the U.S. and results showed that volatility index is affected by gold return, indicating that the rising in gold prices lead to higher fear level. Furthermore, from investigations, it's been clear that low volatile periods during which the index of volatility index fluctuates, and stability/ rise in prices observed in the capital market. Findings from the study indicated that for the investors, gold is still a substitute investment when there is high uncertainty in the capital market (Cohen & Qadan, 2010).

The property is the source of income by investing in it. According to the recent study of the real estate industry indicated that the oil prices have an adverse effect of the land stock costs in the market. Be that as it may, a similar report neglected to give the solid proof to acknowledge the negative impact of swapping scale unpredictability on steadfast property. Therefore, the study could not gauge any relevant relationship between the exchange rate volatility and the real estate market. And the investors estimate their future investments and the possible alternatives for them to get the benefit out of it.

The study aims to analyze and explore the impact of exchange rate, money supply and inflation rate on house price index in the United Arab Emirates market. The study aims to determine the impact of crude oil prices, exchange rate, money supply (M2) and the inflation rate on the house price index in the UAE.

The paper comprises of several sections, the first section covered introduction with the motivation of the study and objectives, the second section covers literature review, data and methods have been discussed in section three, section four and five cover analysis and conclusion respectively.

Literature Review

The study is about the impact of different macroeconomic indicators on the house price index. Different works of the literature suggest various views on the macroeconomic indicators i.e. crude oil prices, inflation rate, exchange rate and money supply. For this study, different perspectives were highlighted on the fluctuations of macroeconomic indicators like; exchange rate and the stock market, global real estate market, gold prices fluctuations. The investigation was about sure industry i.e. Land in Turkey. The investigation led with the assistance of gold costs', conversion scale and securities exchange of turkey's information i.e. from 2004 January to May 2016 which was gathered from the Central bank of Turkey. To discover the connection between the factors, distinctive tests were connected which included Phillips and Perron, Unit Root Test, Toda and Yamamoto's Test, Modified Wald Test Statistic, bound test and the Autoregressive circulated slack model ARDL Model) was utilized. The study somehow filled the gap in finding the impact of the exchange rate and gold prices on the real estate industry of Turkey which was not previously tested in developing markets. The results from the study show that there is an inverse relationship between gold prices and real estate stock in the Turkish market i.e. rise in the gold price led to the decrease in the land stock cost. Moreover, the examination neglected to give solid proof concerning the negative impact of swapping scale instability on steadfast property. Comprehensively, the outcomes and commitments of the examination show that there is a long haul balance relationship among land stock cost and swapping scale, gold cost and BIST100 in turkey (Kirikkaleli, Athari&Ertugrul, 2018).

Blose, (2010) estimated the connection between gold prices and inflation. In this research, the data used was the Consumer price index for 20 years' time period. However, it also noted that changes in expected inflation will lead to immediate changes in the price of gold and that the gold price will not change as a result of changes in expectations regarding future inflation and that there is no way to meet expectations of market inflation & to be determined by analysis of the gold. During the study, the study also showed the correlation between bond yields and unexpected changes in CPI. The connection between gold and stock market, data was collected from several indices i.e. FTSE100 (UK), Nikkei 225 (Japan) and S&P 500 (US). The gold returns based on the US dollar, UK pound, and Japanese Yen were used by them. The frequency of data was daily data for the period of January 2000 to March

2014. The research was studying the bi-directional nonlinear vigorous co-movements among the gold returns, stock returns and stock volatility in the US, UK and Japan (pre and post-crisis). The findings evidenced that before the crisis, minor causality between the gold returns and stock returns. However, the relationship between both variables has been observed during the crisis. Furthermore, the homogenous results were observed between stock volatility and stock returns, indicating the same conclusion (Choudhry, Hassan, &Shabi, 2015).

Pakistan based study on evaluation of gold investment as inflationary hedge worked on the possible relationship between gold and inflation with it carrying cost and interest rate. The frequency of the data used in the study was monthly for the period from January 2001 to December 2013. All the data was collected from SBP Statistical bulletin and business recorder, International financial statistics and SBP annual reports. The variables used by the study were the interest rate, actual inflation and gold return. Along with this, the econometric models applied in the study were autoregressive moving average (ARMA) and generalized autoregressive conditional heteroscedasticity (GARCH). As per the estimations which resulted in a direct relationship between gold returns and expected inflation. Moreover, the direct/positive relationship found between the actual inflation and gold returns (Zafar & Javid, 2015).

The research conducted to discover the relationship between the real estate markets in the world. To do so, the data was collected from different countries i.e. USA, Japan, UK and Australia. Findings from the cointegration indicated that real markets on the international level are interrelated. And the interrelation was observed by every market with the market of the USA. Additionally, the relationship between real estate markets across the globe may not be different from supplementary types of financial assets (Wilson &Zurbruegg, 2002).

The study of the relationship between real estate prices and the macro-economy in Croatia in which the goal was to research the interrelation between the real estate sector and macro-economy in Croatia. It emphasized on real estate sector as a wellspring of volatility. Besides, it also researched how domestic variable has an impact on the real estate prices. For the study, the model which was used to conduct the research was Structural VAR model was used and the quarterly data of both foreign and domestic variables in Croatia was used i.e. from 2002-2011. The estimations indicated that the growth of foreign GDP is the primary driver of the domestic variables in the following literature. The decrease in the growth of GDP represents loosening finance. Though, the impact was observed in the initial 7 quarters. The positive impact was observed in the growth of house prices over the GDP and CPI. The findings indicated that prices of the real estates are mostly related to the lower interest rates on housing loans, growth of credit and favourable macroeconomic conditions (Dumičić, Časni, &Šprajaček, 2012).

The research of the interaction between the real estate prices and stock prices in the Malaysian market. During the research, the quarterly data i.e. from the 1st quarter of 2000 to the 3rd quarter of 2013 was collected from Malaysian housing price index. The different test applied on augmented Dickey-Fuller unit root test, Perron test and LM unit root test. Furthermore, the cointegration and Granger causality and bound test were used. According to the findings of the research, the relation between the house prices and stock prices were observed. In the Malaysian market, no long-term relation was observed between house prices and stock prices. The research evidenced that stock prices leading house prices and with of effect consistent wealth, in Kuala Lumpur's developed regions. Finally, the study concluded with the importance of the emphasis that stock price and the house prices have a direct relationship with a consistent effect of wealth (Lean & Smyth, 2014).

The aim of the current study is empirically examining the relationship or interdependency of the real estate market on the exchange rate, gold prices, inflation and stock change or vice versa. Different researches use the model which may vary study to study and the nature of the research. For the investigation of the impact of the crude oil prices, exchange rate, money supply and consumer price index on the prices of the real estate industry in middle east countries. We use the following Equation:

 $HPI_{it} = \alpha_0 + \alpha_1 COP_{it} + \alpha_2 ER_{it} + \alpha_3 M2_{it} + \alpha_4 CPI_{it} + e_{it}$

Whereas HPI represents house price index, COP represents crude oil price, ER represents exchange rate, M2 is money supply, CPI represents consumer price index, 'e' is error term and all at cross-section 'i' and time 't'.

Hypotheses for the Study

H1: Crude Oil Prices has a negative impact on house prices index.

H2: Money supply has a positive impact on house prices index.

H3: Exchange rate has a negative impact on the house prices index.

H4: Inflation has a positive relationship with the house prices index.

Data and Method

The study aims to assess the impact of a house price index (HPI) of UAE on its exchange rate (ER), crude oil prices (COP), inflation (CPI) and money supply (M2). The monthly data was collected from Thomson Reuters DataStream and sample period is from December 2008 to May 2017.

For examination of the impact of crude oil prices, general rice in prices and money supply on the housing prices in Dubai's real estate market. Stationary testing has been on the data and variables/series have been taken on 1st difference using the following equation:

$DHPI_{it} = \alpha_0 + \alpha_1 DCOP_{it} + \alpha_2 DER_{it} + \alpha_3 DM2_{it} + \alpha_4 DCPI_{it} + e_{it}$

Wherein the DHPI i,t is the difference of housing price index, DCOP i,t is the difference of crude oil prices, DER i,t is the difference of exchange rates, DCPI i,t is the difference of consumer price index and DM2i,t is the money supply. Ci,t is usually the error term. To check the stationarity level of the time series variables, unit root test was used. Based on this study, time series regression has been used for the investigation of causality between macroeconomic variables and house prices in the UAE market.

Different factors considered in macroeconomics, money related financial matters and monetary financial aspects were non-stationary time arrangement (Hil, 2001). At the point when the time arrangement information is stationary, at that point stuns are considered as short-lived. The fluctuation relies upon time and way to deal with boundlessness as time goes to endlessness (Asteriou& Hall, 2006). Expanded Dickey-Fuller test (Dickey and Fuller, 1981) unit root tests were connected to test the stationarity of the time arrangement information.

Table 1. Descriptive Statistics							
Measures	СОР	CPI	ER	HPI	M2		
Mean	79.35706	99.10225	5.491315	102.8845	956296.9		
Median	77.50000	97.14500	5.584370	101.2950	894850.0		
Maximum	122.2800	107.7800	5.897710	114.6700	1274500.		
Minimum	27.25000	93.53000	4.947280	96.24000	674310.0		
Std. Dev.	26.99194	4.361253	0.266280	5.873041	188427.7		
Skewness	-0.212474	0.648368	-0.579451	0.731713	0.207408		
Kurtosis	1.559593	1.966506	2.056690	2.148488	1.462556		

EMPIRICAL FINDINGS

Table 1. indicates descriptive statistics for each series including the mean and the standard deviation. As the statistics showing that there is a reasonable difference between the mean and the standard deviation under the crude oil prices. To find the relationship between the variables, it is essential to test the time series data for the stationary check. In this research, the test used was the Augmented Dickey-Fuller (ADF) test to obtain the unit roots in the time series and after testing, all variables got stationary at 1st difference.



The above graphs showing the non-stationarity and stationarity of the data. In the first graph, it has been observed that crude oil prices data from 2008- 2017 was non-stationary on the level. However, after testing the data on the 1st level difference, we obtained the stationary data

(tables in the appendix). The data was converted into stationary to get better results. Non-stationary time series data gives unreliable and false results which would lead to poor understanding and anticipations.



Graphs number 4 and 5 showing the non-stationarity and stationarity of the data. In the first graph, it has been observed that the consumer price index had been increasing since 2008, but the data is non-stationary on the level. However, after testing the data on the 1st level difference, we obtained the stationary data to find the impact of the indicators on the real estate market of Dubai.



The above graphs indicating whether the data is non-stationarity or stationarity. In the first graph, the exchange rates of the past 10 years' trend and data was non-stationary on the level. However, after testing the data on the 1st level difference, we obtained stationary data.



The above demonstrates that data was initially non-stationarity and tested on different levels to obtain the <u>stationarity</u>. In the first graph, it has been observed that the housing price index was non-stationary on the level. However, after testing the data on the 1st level difference, the stationary data obtained.



Graph 10



Graphs 9 and 10 represent the non-stationarity and stationarity of the data. In the first graph, it has been observed that data of money supply was non-stationary on the level.

Time series regression helps in predicting the behaviour of dynamic systems from observations. To find out the impact of macroeconomic indicators on house price index, time series regression has been estimated in Table 2..

		8		
Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	-0.118747	0.058969	-2.013732	0.0468
DCOP	-0.020592	0.010255	-2.008055	0.0474
DCPI	1.235864	0.158010	7.821404	0.0000
DER	-2.047152	0.904266	-2.263883	0.0258
DM2	9.15E-06	3.88E-06	2.354589	0.0206
R-squared	0.466889	Mean Dependent Var		0.094257
Adjusted R-squared	0.444676	S.D. Dependent Var		0.679750
S.E. of regression	0.506551	Akaike info cri	Akaike info criterion	
Sum squared resid	24.63297	Schwarz criteri	Schwarz criterion	
Log-likelihood	-72.05555	Hannan-Quinn	Hannan-Quinn criteria.	
F-statistic	21.01875	Durbin-Watson	Durbin-Watson stat	
Prob(F-statistic)	0.000000			

 Table 2. Time Series Regression

According to the statistics, the significance level is below 5%, the null hypothesis is rejected. The negative relationship between the oil prices and the real estate prices (house price index) in Dubai and when there will be a rise in the crude oil price in the Dubai market, real estate prices (house price index) will fall and vice versa.

Furthermore, the direct relationship was observed between the consumer price index and the real estate prices (house price index) and when there is a rise in the consumer price index (weighted average of prices of a basket of goods and services) then the real estate prices (house price index) increases. Meanwhile, when there is a decline in the consumer price index then there will be a fall in real estate prices (house price index).

As per the statistics, the probability is 0.025 i.e. less than 5% leads to rejection of the null hypothesis and accept alternative hypothesis. Exchange rate have negative impact on house price index of Dubai. The exchange rate would be AED/USD, which means that whenever the exchange rate is higher than the real estate prices (house price index) will be lower and vice versa.

The money supply is directly related to the real estate prices (house price index) in Dubai, as the statistics suggest that significance level is below 5%, the null hypothesis is rejected hence there is a direct relationship between the

money supply in Dubai and real estate prices (house price index). If the money supply in the economy increases which will lead to an increase in the real estate prices (house price index).

R-Square gives estimations of the applicable factors to enhance the model fit more than anticipated outcomes here, in this case, analysis shows that there is around 46% impact on house price index due to selected macroeconomic indicators and overall model is significant (F Statistics = 21.01). Furthermore, the model's likelihood stands 0, which implies that nothing is going ahead here or can be said that every one of the coefficients of free factors is zero.

Conclusion

To investigate the relationship between the macroeconomic variables (Exchange rate, crude oil prices, money supply and consumer price index) and the house price index of Dubai using time series regression model. The results indicate that two macroeconomic indicators have a negative relationship and other two macroeconomic indicators have a positive relationship with the house price index of Dubai. Increase in oil prices and exchange rates will lead to a decline in housing prices and the positive impact of money supply and consumer price index on housing price have been found. Rise in the money supply and consumer price index of Dubai will lead to the rise in

prices housing sector and fall in the money supply and consumer prices index will lead to falling in the prices of the housing sector. The results are supporting the literature review particularly in case of Dubai housing market.

The research findings derived different aspects of the real estate market in the United Arab Emirates. As the real estate market analysis indicated that the real estate market has different indexes for the measurement of efficiency. Policymakers should increase the number of units (houses) and money supply which will lead to the rise in house prices. This will result in raised investments by decreasing the interest rate. There is a major portion of investment from all over the world in UAE residential and commercial properties. Considering this fact, the tourism industry should be more developed as the demand is already high for tourism. The education sector is more developed by introducing different international schools or universities leading to more individuals coming from all over the world with different investment purposes.

The research was limited to the house price index of Dubai at the United Arab Emirates. During the research, it was learnt that Dubai has developed its real estate industry which consists of different sub-sectors and its indexes like; house price index, commercial property index and helps in measurement of the effectiveness and efficiency of the market. Furthermore, this research also directed to different researchers in the future which may include finding out other macroeconomic indicator's relation with house prices, indicators can relate to the real estate sector and sub-sectors. UAE have different divisions like; House Price index, Villa Index, Commercial Property index etc. Considering these factors, the policies may be mapped or revised in other Muslim or developing countries.

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