

**THE RELATIONSHIP BETWEEN STOCK PRICES AND EXCHANGE RATES:
EVIDENCE FROM TEN MIDDLE EASTERN COUNTRIES**

by

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**Thesis submitted in fulfillment of the requirements
for the degree of
Master of Social Science (Economics)**

February 2012

ACKNOWLEDGEMENT

I owe my deepest gratitude to the highly brilliant supervisor, Dr. Lean Hooi Hooi for generously supporting my thesis. She granted me every kind of help, observation and unique insights. I consider myself very fortunate to have worked with Dr. Lean. Her conscience to help me in times of need is extremely appreciated.

It is an honor for me to acknowledge all the academic staff of the School of Social Sciences, particularly, the economics program's lecturers and the chairperson who provided me with their encouragement and insightful comments about my work. I also want to thank all non-academic staffs of the school, particularly, Mr. Abdul Aziz for his kind guidance in all stages of this path.

I am also very grateful to my friends, namely, Mehrshad Hosseiny, Chor Foon Tang, Bee Wah Tan, and Jeganathan Kanusamy for their support. My special thanks go to Usama Zuheir, who spent much of his time and helped me to improve the quality of the study.

This thesis would not have been possible unless my wife has not sacrificed her time. She is absolutely, the main source of the inspiration that I needed to continue the journey of my studying. Finally, this work is dedicated to my parents, who supported and encouraged me to achieve my goal with their international phone calls and sincere prayers.

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LIST OF ABBREVIATIONS

ADF	Augmented Dickey-Fuller
AIC	Akaike Information Criteria
AMF	Arab Monetary Fund
APT	Arbitrage Pricing Theory
ARCH	Auto Regressive Conditional Heteroscedasticity
BIS	Bank for International Settlements
DF	Dickey-Fuller
DJIA	Dow Jones Industrial Average
ECM	Error Correction Model
EMS	European Monetary System
EMU	European Monetary Union
EU	European Union
EX	Exchange Rate
FDI	Foreign Direct Investment
GCC	Gulf Cooperation Council
IFS	International Financial Statistics
IMF	International Monetary Fund
INF	Inflation Rate
JJ	Johansen-Juselius
MENA	Middle East and North Africa
MSCI	Morgan Stanley Capital International
OECD	Organization for Economic Co-operation and Development

OLS	Ordinary Least Squares
OP	Oil Price
PP	Phillips-Perron
REER	Real Effective Exchange Rate
RESET	Ramsey's Regression Equation Specification Error Test
S&P	Standard & Poors
SDR	Special Drawing Rights
SIC	Schwarts Information Criterion
SP	Stock Price
TASI	Saudi Tadawul All Share
TRE	Theory of Rational Expectations
UAE	United Arab Emirates
UN	United Nation
UNCTAD	United Nations Conference on Trade and Development
VAR	Vector Autoregression
VECM	Vector Error Correction Model
WTO	World Trade Organization

**PERHUBUNGAN DI ANTARA HARGA SAHAM DAN KADAR
PERTUKARAN: BUKTI DARIPADA SEPULUH BUAH
NEGARA TIMUR TENGAH**

ABSTRAK

Kajian ini menyiasat perhubungan di antar harga saham dan kadar pertukaran dalam sepuluh buah negara Timur Tengah, khususnya, Bahrain, Mesir, Iran, Jordan, Kuwait, Lubnan, Oman, Qatar, Arab Saudi, dan Emiriah Arab Bersatu (UAE) sebelum dan semasa krisis kewangan global yang berlaku dalam tahun 2007. Untuk tujuan ini, dua kerangka kerja telah ditentukan; kerangka kerja yang pertama ialah model bivariat yang melibatkan hanya harga saham dan kadar pertukaran, manakala kerangka kerja yang kedua ialah model multivariat yang mengandungi dua pemboleh ubah yang berkaitan, kadar inflasi dan harga minyak. Data harian telah digunakan untuk model bivariat, manakala data telah bulan digunakan untuk model multivariat. Tempoh sampel ialah dari 1 Januari 2004 hingga 30 September 2010. Sampel telah dibahagikan kepada dua subtempoh, iaitu, tempoh dari 1 Januari 2004 hingga 30 September 2007, dan dari 1 Oktober 2007 hingga 30 September 2010, masing-masing mewakili tempoh prakrisis dan tempoh krisis. .

Teknik ekonometrik yang digunakan ialah ujian punca unit (unit root tests), ujian kointegrasi Johanson-Juselius dan ujian sebab akibat Granger. Tambahan pula, untuk memastikan ketepatan padanan model-model itu beberapa ujian diagnostik dan spesifikasi, iaitu, ujian LM korelasi bersiri, ujian heteroskedastisiti bersyarat autoregresif dan ujian RESET Ramsey telah digunakan.

Ujian kointegrasi menyarankan bahawa meskipun tidak terdapat perhubungan jangka panjang di antara pemboleh-pemboleh ubah dalam model bivariat berkenaan, terdapat bukti signifikan tentang kointegrasi antara pemboleh-pemboleh ubah di dalam model multivariat. Mengikut ujian sebab akibat Granger, kedua-dua kerangka kerja itu membentangkan keputusan yang agak serupa, menyatakan bahawa interaksi di antara harga saham dan kadar pertukaran dalam tempoh krisis, ketara sekali lebih kuat daripada interaksi dalam tempoh prakrisis, lebih-lebih lagi dalam perhubungan sebab akibat jangka panjang.

Lebih khusus lagi, dalam tempoh krisis, harga saham dan kadar pertukaran mempengaruhi satu sama lain dalam satu rangkaian penyebab dua hala di Mesir. Dalam semua kadar tukaran tetap di negara sampel, khususnya, Bahrain, Jordan, Lubnan, Kuwait, Oman, Qatar, Arab Saudi, dan UAE, pemboleh-pemboleh ubah berkenaan mempunyai perhubungan penyebab yang sehalu, dari kadar pertukaran ke harga saham. Bagaimanapun, Iran ialah satu-satunya negara yang tidak mempunyai sebarang perhubungan di antara kedua-dua pemboleh ubah tersebut.

Dapatan utama daripada kajian ini memberi wawasan yang berharga tentang ciri-ciri dan pola-pola pasaran saham dan pasaran pertukaran asing negara-negara Timur Tengah, kepada pembuat dasar, khususnya tentang pengurusan pasaran pertukaran asing.

THE RELATIONSHIP BETWEEN STOCK PRICES AND EXCHANGE RATES: EVIDENCE FROM TEN MIDDLE EASTERN COUNTRIES

ABSTRACT

This study investigates the relationship between stock prices and exchange rates in ten Middle Eastern countries, namely, Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, and the United Arab Emirates (UAE) before and during the 2007 global financial crisis. For this purpose, two frameworks are determined; the first framework is a bivariate model involving only stock prices and exchange rates, while the second framework is a multivariate model including the two relevant variables, inflation rates, and oil prices. Daily data are used for the bivariate model, while monthly data are used for the multivariate model. The sample period is from January 1, 2004 to September 30, 2010. The sample is divided into two subperiods, that is, the period from January 1, 2004 to September 30, 2007 and the period from October 1, 2007 to September 30, 2010, to represent the precrisis period and the crisis period respectively.

The econometric techniques employed are unit root tests, Johanson-Juselius cointegration test and Granger causality test. Moreover, to ensure the goodness of fit of the models, some diagnostic and specification tests, that is, serial correlation LM test, Autoregressive Conditional Heteroscedasticity test, and Ramsey's RESET test, are employed.

The cointegration test suggests that although there is no long-run relationship between the variables in the bivariate model, there is a significant evidence of cointegration among the variables in the multivariate model. According to the Granger causality test, both frameworks present quite similar results, stating that the interactions between stock prices and exchange rates in the crisis period are obviously stronger than that of the precrisis period, particularly in the long-run causality. More specifically, in the crisis period, stock prices and exchange rates influence each other in a two-way causal linkage in Egypt. In all the fixed exchange rate sample countries, namely Bahrain, Jordan, Lebanon, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE the variables have a unidirectional causal relationship from exchange rate to stock price. However, Iran is the only country that does not have any relationship between the two variables.

The main findings from this research provide valuable insights regarding the characteristics and patterns of Middle Eastern stock markets and foreign exchange markets for policymakers, particularly on the exchange rate management.

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Financial markets play a crucial role in the growth of the modern economy for every country. Globalization and the financial sector have positively contributed in the financial architecture of the economy. Typically, the performance of the financial system and the health of the economy are closely related. The profitability of financial institutions depends on higher asset prices, low levels of problem loans, and higher capital market activity.

There are several types of financial markets such as the stock (equity) market, foreign exchange market, derivatives market, etc. Among these markets, the stock market and foreign exchange market have captured the attention of economists since they are both crucial factors in enhancing a country's economy and portfolio decisions. Moreover, both the stock market and foreign exchange market play a fundamental role in the transformation of savings into investments and one cannot obviously identify whether they should be considered complements or substitutes (Billmeier and Massa, 2007).

Over the past decades, economists have attempted to predict stock prices and returns in the area of finance. According to Madura (2008), stock prices are affected by

macroeconomic factors (e.g. interest rate and foreign exchange rate) and firm-specific factors (e.g. dividend policy changes).

In an open economy, the impact of unexpected changes in exchange rates on the present value of a firm's assets, liabilities and cash flows exposes the economic value of the firm to exchange risk. This implies that exchange rates play a significant role in the movements of stock prices. In other words, stock prices of the firms that involve foreign direct investment (FDI), export and import of goods and services are likely to be influenced by exchange rate fluctuations (Soenen and Hennigar, 1988). The results of the investigation on the relationship between stock prices and exchange rates are important because it would be able to affect monetary and fiscal policies. Hence, economic and financial policy makers need to know the interaction between foreign exchange markets and stock markets for formulating appropriate policies (Hatemi and Roca, 2005).

Generally, the economic exposure of firms to exchange rate risks has increased and stock markets may respond to the excess movement and increasing volatility of exchange rates. On the other hand, exchange rates are also more sensitive to stock market movements and global portfolio investments in comparison with earlier years.

Many scholars and financial institutions in different countries have carried out studies on exchange rates and stock prices although it is not clear whether there is a causal relationship from exchange rates to stock prices or vice versa. In the Asian

financial crisis in 1997, it seems that both stock prices and foreign exchange rates tend to alter simultaneously (Pan, Fok, and Liu, 2007).

The online news magazine of The Economist (2009) stated:

“That seems to be true in developing countries: emerging-market currencies have rallied alongside equity markets in recent weeks. And it makes a certain amount of sense. If rising stock markets are a sign that the world economy is stabilizing, then export-driven emerging markets should be the first to benefit. A further reason why the dollar may be benefiting during stock market sell-offs is because American investors, who piled money into foreign shares in recent years, are bringing their money back home.”

The emergence of new global capital markets, flexible systems of exchange rate and the globalization of financial markets have prompted the drive to investigate the relationship between stock prices and exchange rates in recent years (Aliyu, 2009).

1.2 Overview of the Development of Stock Exchange and Foreign Exchange

Market

1.2.1 Stock Exchange Market Development

A stock represents a share of ownership in a firm. Corporations increase their fund to finance their activities by issuing stock and selling it to the public (Mishkin, 2010). Over the previous decades, stock markets have been the sources of financial development and eventually economic growth. In fact, the stock market as a serious competitor with commercial banking can be an important factor in reducing the cost of

capital for bank’s borrowers. Furthermore, equity markets permit a diversification of company ownership, more efficient risk sharing, and a healthier financial structure of corporations by improving their debt/equity ratios (Aliyu, 2009).

As Figure 1.1 indicates, stock prices are extremely volatile. After the market increased in the 1980s, on “Black Monday”, October 19, 1987, it experienced the worst one-day drop in its entire history, and the Dow Jones Industrial Average (DJIA) fell by 22 percent. Since then until 2000, the stock market experienced one of the best bull markets in its history, and the DJIA rose to a peak of over 11,000 points. The stock market tumbled down in 2000 and continued till late 2002 due to the collapse of the high-tech bubble. It then recovered and reached the 14,000-point level in 2007, only to fall below the 8,000-point level early in 2009. It has recovered from 2009 and reached 11,019 points in April 2010.

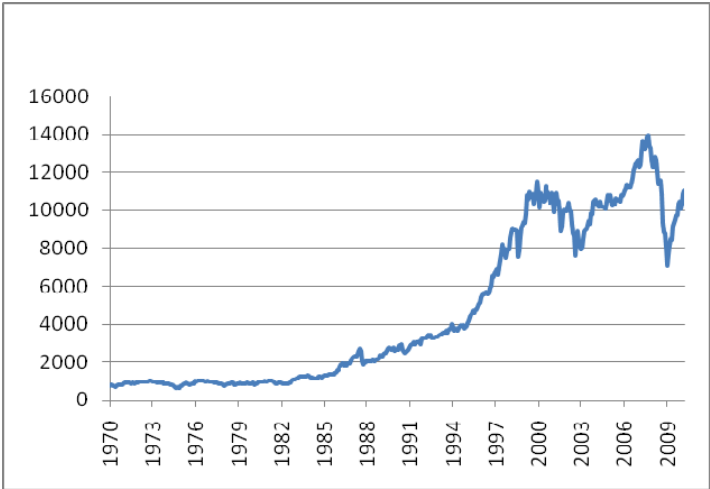


Figure 1.1 Stock Price as Measured by the DOW Jones Industrial Average,(1970-2010) (Data Source: Dow Jones Indexes: <http://finance.yahoo.com/>)

1.2.2 Development of Foreign Exchange Market

Exchange rate is the price of one currency in terms of another currency. This measure of the exchange rate is nominal. A real exchange rate is measured by adjusting the nominal exchange rate by relative prices. There are two kinds of nominal exchange rates, namely, the spot and forward exchange rates. The bilateral spot exchange rate is the rate at which foreign exchange can be bought and sold for immediate delivery, typically one or two days. The bilateral forward is the rate negotiated today at which foreign exchange can be bought and sold for delivery in the future. The foreign exchange market is where one currency is converted to another for funds to be transferred from one country to another. Since international financial transactions normally require the exchange of currencies, the role of foreign exchange markets is to facilitate the exchange of currencies (Madura, 2008). Furthermore, the foreign exchange market is also known to be the largest financial market in the world, as measured by its daily turnover (Barker, 2007).

The impact of foreign exchange on the economy is initially enormous and subsequently, it has an influence on the ordinary consumer as a very basic unit of a national economy. Considering the following causes the foreign exchange market has a crucial role in the economy:

1. Daily economic transactions involve currencies.
2. Both the stock exchange and bond markets rely on the strength of an instrument's currency value in investments.

3. Most of the commercial banks serve as intermediaries in the foreign exchange market by matching up participants who want to exchange one currency for another.
4. Currencies are the main instruments of international trade in every purchasing and selling transaction.

The exchange rates became more volatile as many countries have adopted a floating exchange rate system after the Bretton Woods agreement since 1973. The Bank for International Settlements (BIS) Triennial Survey estimated an unprecedented rise in the activity of traditional foreign exchange markets compared to the year 2004. Average daily turnover rose to 3.2 trillion U.S. dollar in April 2007. Figure 1.2 indicates the trading volume based upon the report.

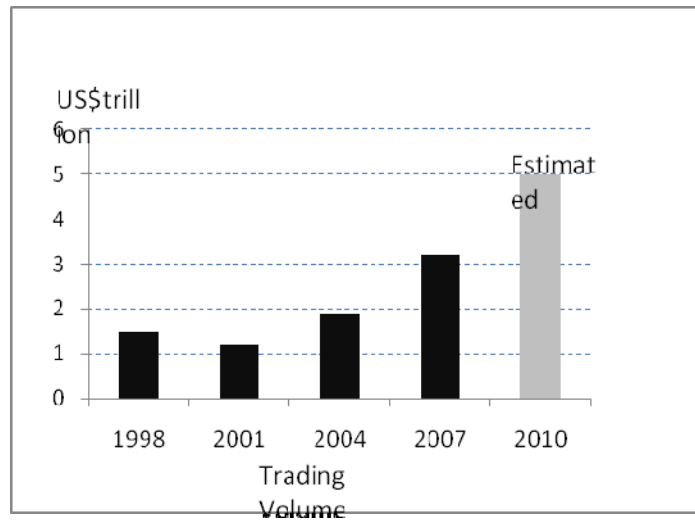


Figure 1.2 Global Average Daily Trading Volume in Foreign Exchange in the World (Source: BIS, April 2007)

1.2.3 Exchange Rates Regimes

Exchange rates regimes in the international financial system are classified into two types:

a) Fixed exchange rate regime: A fixed exchange rate (also referred to as a pegged exchange rate) is wherein a currency's value is pegged to a single currency (called the anchor currency). The gold standard has been the most important fixed exchange rate system historically. In this system the value of the currency in each country is determined in terms of a fixed amount of gold. Since the currencies of most countries which follow the fixed exchange rate system were convertible directly into gold at fixed rates, exchange rates between currencies were also fixed.

In the pegged exchange rate regime, policymakers enjoy an anti-inflationary tool due to a strong relationship between fixed exchange rates and low inflation. There are two reasons for the existence of this relationship on this point. First, a pegged exchange rate offers a highly visible commitment and therefore increases the political costs of slack monetary and fiscal policies. Second, there is a strong willingness to hold domestic currency, which reduces the inflationary consequences of a given expansion in the money supply (Ghosh, Ostry, Gulde, and Wolf, 1996).

b) Floating exchange rate regime: A floating exchange rate (sometimes referred to as flexible exchange rate) is wherein a currency's value is allowed to fluctuate against other currencies. In other words, in the case of floating exchange rate, a country's foreign exchange rate is determined by market forces of supply and demand (Samuelson

and Nordhaus, 2005). Accordingly, floating exchange rates change based on trading in the foreign exchange (forex) market.

In the flexible exchange rate regime, the possibility of providing automatic balance of payments adjustment exists. This is a very vital point, especially for countries with a large balance of payments deficit/surplus. For example, if a country is facing a balance of payments deficit, then the currency would depreciate. Currency depreciation certainly makes exports more competitive and imports cheaper. On the contrary, a country with the balance of payments surplus would be benefited by an appreciation of the currency.

1.3 The Middle East

The Middle East is the area around the E-Mediterranean¹, especially Israel and the Arab countries from Turkey to North Africa and eastwards to Iran (Collins Dictionary, 2008, p. 1053). Figure 1.3 indicates the territory of the Middle East countries.

¹ Eastern Mediterranean



Figure 1.3 Map of the Middle East Countries and their Capitals
(Source: Mappery, 2009)

1.3.1. Economy of the Middle East

Notably, most economies of the Middle Eastern countries rely on the oil and gas industry. In other words, the area includes both the oil-rich economies in the Persian Gulf area, such as Saudi Arabia and Kuwait and countries with scarce resources in proportion to population, such as Egypt and Yemen. Although these economies have been hit hard by the global recession in 2008, the recent enhancement in global financial conditions and the rise in trading prices have played an important role in restoring the pace of economic activity.

Table 1.1 indicates the changes in GDP growth, consumer prices, and current account balance for the whole Middle East (including oil exporting and oil importing

countries), in recent years. Real GDP growth in the Middle Eastern countries which has been projected more than 6 percent during the period before the financial crisis fell sharply to 3.2 percent in 2009. However it started to rebound from the beginning of 2010 and reached 5.2 percent in the middle of 2010. In addition, there was a big gap between consumer prices in the Middle East before and during the crisis. However, the condition for current account balance is absolutely worse than the real GDP growth, i.e. the current account balance has fallen from almost 12 percent in 2007 and 2008 to 0.4 percent in 2009. Iraq which has had an account balance of 13.5 percent in 2007, witnessed a sharp fall in 2009 and its account balance tumbled to -28.5 percent.

The total value of GDP in the Middle East includes almost 3 percent of total GDP in the world in 2008. Figure 1.4 compares the GDP growth between the world and the Middle East in recent years.

According to the International Labor Organization, the unemployment rate in the Middle East has been the highest in the world with 13.2 percent in 2005. However, the average unemployment rate in the world was 6.3 percent in the same year.

Moreover, recent researches on the Middle East and North Africa (MENA) region have shown that 85 percent of MENA's population dwells in middle-income countries, 8 percent in high-income countries, and 7 percent in low-income countries. Furthermore, absolute poverty rate is low, i.e. approximately 4 percent of the population lives under 1.25 U.S. dollars a day.

Table 1.1 Middle Eastern Economies: Real GDP, Consumer Prices, and Current Account Balance (Annual Percent Change)

	Real GDP Growth					Consumer Prices					Current Account Balance				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Middle East	6.3	6.5	6.9	3.2	5.2	9.7	9.4	12.4	5.5	5.2	16.7	12.1	11.9	0.4	5.1
Oil Exporters	6.7	6.35	6.7	2.8	5.6	10.9	10.7	12.1	5	5.1	22.9	19.5	19.3	3.2	9.8
Bahrain	6.6	8.1	6.1	3	3.7	2	3.3	3.5	3	2.5	13.8	15.8	10.6	3.7	6.2
Iran	5.8	7.8	2.5	1.5	2.2	11.9	18.4	25.4	12	10	9.2	11.9	6.8	3	3.6
Iraq	6.2	1.5	9.5	4.3	5.9	53.2	30.8	2.7	6.9	6	16.3	10.1	13.3	-28.4	-15.2
Kuwait	5.1	2.5	6.3	-1.5	3.3	3.1	5.5	10.5	4.6	4.4	49.8	44.7	44.6	29.4	35.3
Libya	6.7	7.5	3.4	1.8	5.2	1.4	6.2	10.4	5	4.5	44.6	40.7	40.7	16.7	24
Oman	6	7.7	7.8	4.1	3.8	3.4	5.9	12.6	3.3	3	15.4	8.3	9.1	-0.4	4.8
Qatar	15	15.3	16.4	11.5	18.5	11.8	13.8	15	0	4	28.3	30.4	28	10.8	25.3
Saudi Arabia	3.2	3.3	4.4	-0.9	4	2.3	4.1	9.9	4.5	4	27.8	24.3	28.6	4.1	11.4
UAE	9.4	6.3	7.4	-0.2	2.4	9.3	11.1	12.3	2.5	3.3	22.6	16.1	15.7	-1.6	5.2
Yemen	3.2	3.3	3.6	4.2	7.3	10.8	7.9	19	8.4	8.9	1.1	-7	-4.3	-5.2	-2.3
Oil Importers	5.1	6.9	7.2	4.4	4.2	6.6	6	13	6.6	5.4	1.1	-6.3	-6.6	-6.7	-6.6
Egypt	6.8	7.1	7.2	4.7	4.5	4.2	10.9	11.7	16.2	8.4	1.6	1.9	0.5	-2.3	-2.8
Jordan	8	8.9	7.9	3	4	6.2	5.4	14.9	0.2	4.0	-10.8	-17.2	-11.3	-10	-8.8
Lebanon	0.6	7.5	8.5	7	4	5.6	4	10.7	2.5	3.4	-5.3	-6.8	-11.6	-11.3	-10.5
Syria	5.1	4.2	5.1	3	4.2	10.4	4.7	15.1	7.5	6	19	-3.3	-4	-3.1	-4.3

Data Source: IMF, World Economic Outlook, April 2010

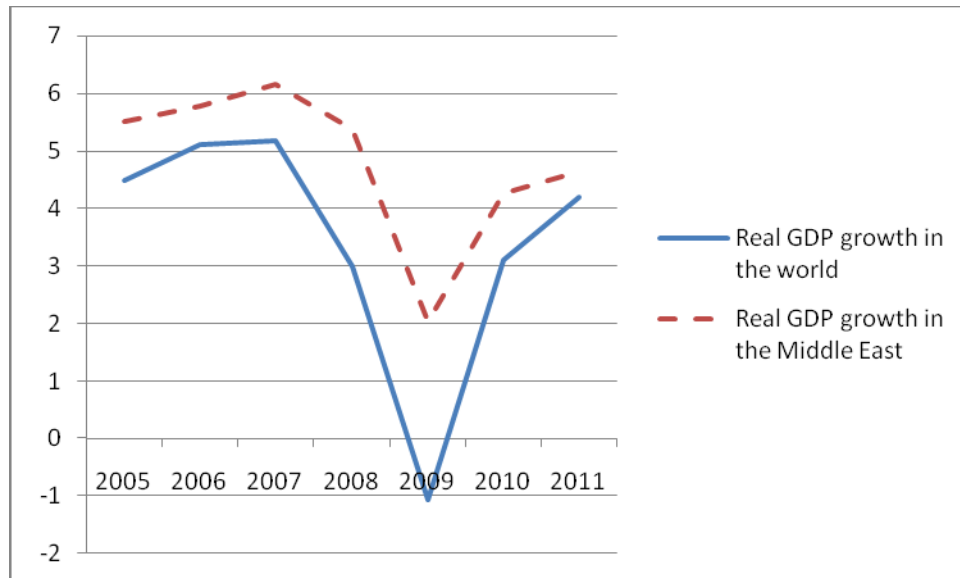


Figure 1.4 The Comparison of GDP Growth (percent change) between the World and the Middle East (Data Source: IMF, World Economic Outlook Database, October 2009)

There are three factors which have influenced the economic growth in the Middle East:

Population growth rate: There is a high annual population growth rate in the area with an average of 3 percent, whereas the population growth rate for some countries like Kuwait, Qatar, and the United Arab Emirates (UAE) is more than 4.5 percent.

Instability, regional conflicts and external intervention: The Middle East has been plagued by conflicts and wars either initiated and driven by the region or sometimes even sparked by foreign countries. The economy of the area is in turmoil due to these instabilities (Askari, 2006). Economic sanctions against Iran and Syria, the US-Iraq war, and Israel-Arab conflicts are a few examples of the many political troubles in the region.

Price of oil: This factor can be evaluated from both oil exporting and oil importing countries' point of view.

- a) As oil price rises, oil exporting countries such as Algeria, Bahrain, Iran, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, Sudan, the UAE and Yemen, benefit from the increase of oil revenues through high export earnings. In such a scenario, many job opportunities are expected to be available in these countries.
- b) On the other hand, oil importers such as Egypt, Jordan, Lebanon, Morocco, Syria, and Tunisia also obtain some benefits from the oil exporting countries. It happens when the labor force of oil importing countries go to work in the oil exporting countries. Eventually, when they send their income home, the family economy, the national economy and the capital inflow of their countries would be boosted.

1.4 Stock Markets in the Middle East

Stock exchanges in the Middle Eastern countries have become important to the international financial system in recent years. Over the past few years, Middle Eastern stock markets have attracted many foreign investors and experienced good performances, especially in the resource-rich countries (Billmeier and Massa, 2007).

There are eleven formal stock markets in the Middle East observed by the Standard & Poors (S&P) Emerging Markets Database. Stock markets are usually categorized into developed, emerging, and frontier. On one hand, three stock markets, Kuwait, the UAE and Qatar are classified by S&P as developed and others are included as emerging

markets (Smith, 2007). On the other hand, according to Morgan Stanley Capital International (MSCI), the Middle East markets remained relatively small compared with the developed and emerging stock markets in Southeast Asia and Latin America (Marashdeh and Shrestha, 2010). MSCI classifies all Middle Eastern markets (including the members of Gulf Cooperation Council (GCC)) as frontier markets (less advanced capital markets from the developing world), with the exception of Egypt and Israel which are emerging markets.

Smith (2007) categorized the Middle Eastern stock markets into two groups as follows:

- a) “A set of four markets, Saudi Arabia, Israel, Iran and Kuwait, which have both capitalization and turnover above the median for world equity markets.”
- b) “Smaller markets with both capitalization and turnover below the global median.” (Smith, 2007, P.588).

Each of the above-mentioned group is included in either the emerging, or the developed markets. Moreover progress in market capitalization broadly fluctuates in the above-mentioned groups. All stock markets in the region accounted for 2.5 percent of world stock market capitalization at the end of 2008, while this amount was 0.9 percent in 2001. For instance, Saudi Arabia, the largest stock market in the Middle East and the Arab world in 2008, with a market capitalization of 247 billion U.S. dollars, moved up 10 places to be ranked 20th in the world compared with the year 2001.

Table 1.2 shows the key stock market indicators to evaluate the latest market performance across the Middle East. According to the figures, Saudi Arabia, Kuwait and the UAE suffered more from the global financial crisis due to their higher joint venture with foreign investors. However, their listed companies are still growing. On the contrary, in spite of the occurrence of the global financial crisis, Lebanon and Iran demonstrated an unexpected reaction in terms of market capitalization and shares value traded, respectively. It seems that they utilized the crisis as an opportunity to improve their stock markets.

As can be seen clearly in Table 1.2 , the Middle East stock markets generally have witnessed a remarkable growth over the period 2006-2009, with the exception of turnover ratio which has dropped to -266 percent in 2009. It means that in terms of liquidity, the markets have not been connected well with each other and overseas due to the international financial crisis. The highest turnover ratio, over 288 percent was observed in the largest market, Saudi Arabia in 2006. This amount was diminished to 86 percent by the end of 2009. Moreover, the Kuwait stock market, which has had the second highest turnover ratio with an amount of 83 percent in 2008, witnessed a sharp fall in 2009.

Table 1.2 Main Indicators in the Middle Eastern Stock Markets (2006-2009)

	2006	2007	2008	2009	% Change [2006- 2009]	2006	2007	2008	2009	% Change [2006- 2009]
	Market Capitalization (Millions of USD)					Number of Listed Companies				
Bahrain	21,122.84	26,795.93	19,954.52	16,141.33	-23.59	35	36	44	49	40
Egypt	93,600.68	134,903.52	83,185	86,267.22	-7.83	595	435	373	306	-48.58
Iran	37,943	45,574	49,041	58,698	54.7	417	415	346	337	-19.18
Israel	173,306	236,361	134,463	188,734	8.9	606	654	642	622	2.65
Jordan	29,785.5	41,298.47	35,984.36	31,985.19	7.4	227	245	262	272	19.82
Kuwait	141,923.18	193,513.28	113,527.07	104,226.22	-26.56	173	189	191	205	18.5
Lebanon	8,303.64	16,093.14	14,789.07	18,297.99	120.36	16	18	13	11	-31.25
Oman	13,036.98	22,767.03	15,643.01	18,361.76	40.85	120	120	123	129	7.5
Qatar	60,913.09	95,517.99	76,656.74	87,931.99	44.36	36	40	43	44	22.23
Saudi	326,364.47	522,721.12	246,809.85	318,784.68	-2.32	86	111	127	135	57
UAE*	158,561	250,857	127,105	131,798	-16.88	60	64	65	67	11.67
Total	1,064,860.38	1,586,402.48	917,158.62	1,061,226.38	199.39	2371	2327	2229	2177	80.36
	Value Traded (Millions of USD)					Turnover Ratio (Percent)				
Bahrain	1,228.91	816.07	1,905.46	460.01	-62.57	7.4	6.6	12	4.5	-39.19
Egypt	40,176.07	49,388.19	65,166.94	50,812.7	26.48	54.8	45.6	61.9	59.7	8.95
Iran	6,230	7,872	15,252	16,875	170.87	12.7	19.7	33.6	28.74	2.26
Israel	65,476.1	100,960.4	110,135.7	86,550	32.19	60.5	55.4	58.9	54.6	-9.75
Jordan	19,543.99	17,109.39	27,079.04	13,615.91	-30.33	59.5	49.1	72.7	40.3	-32.27
Kuwait	55,714.14	120,659.30	116,023.17	74,161.61	33.11	43.2	76.2	83.2	23.7	-45.14
Lebanon	1,745.63	4,589.58	1,514.95	934.6	-46.46	30.8	10.4	6.9	14.4	-53.25
Oman	2,073.74	4,714.61	8,033.62	5,360.92	158.5	21.1	27.7	44.2	17.4	-17.53
Qatar	20,334.48	24,738.05	41,249.72	24,234.02	19.18	27.6	38.1	56.1	28.7	4
Saudi	1,331,782.90	628,055.57	483,122.22	322,432.1	-75.79	288.4	161.5	137.8	41.1	-85.75
UAE*	111,565.19	132,730.03	131,159.68	65,358.22	-41.42	62.1	82.8	89.8	63.3	1.93
Total	1,655,871.15	1,091,633.19	1,000,642.50	660,795.09	183.76	668.1	573.1	657.1	376.44	-265.74

Source: Arab Monetary Fund Database, World Bank Database, CEIC Database

Notice: *Represented by both Abu Dhabi and Dubai stock markets

1.5 Exchange Rate Policy in the Middle East

Most of the Middle Eastern countries have fixed their currencies to the U.S. dollar to take care of their external sectors and macroeconomic factors including price stability. In other words, controlling the fast growing inflation rate and protecting the external value of the currency are two major reasons to operate the fixed-exchange rate policy by these countries.

However, the question still arises in whether they should consider making their exchange rate policies more flexible or otherwise (Kramarenko, 2003). Countries which adopted fixed exchange rates experienced a steady economy due to the above-mentioned reasons. In contrast, the real exchange rate is less likely to become overvalued in these countries (Nabli, Keller, and Veganzones, 2004).

The exchange rate policy in the region is divided into floating exchange rate regime and pegged exchange rate regime. Countries that follow a floating exchange rate policy are Iran, Egypt, and Yemen. However, a large body of the nations in the Middle East follows a fixed exchange rate policy, namely the GCC members, Lebanon, Jordan, etc. Although, the GCC countries have agreed to establish a monetary union by 2010 with a single currency pegged to the U.S. dollar, it has not been implemented.

Figure 1.5 displays the Real Effective Exchange Rate (REER) of four currencies in the Middle East in recent years. The Iranian *rial* and Israeli *shekel* represent two major flexible exchange rates in the Middle East, while the Saudi Arabian *riyal* and Bahraini

dinar are among the strong fixed exchange rates in the area. The values in Figure 1.5 are index values, where January 1, 2005 equals 100 (2005=100). As can be seen in the figures, both Saudi Arabia and Bahrain have experienced an almost similar trend until the end of 2007. Since then the REER depreciated in Bahrain, while it remained unchanged in Saudi Arabia. The weakness of the U.S. dollar at this time was not an acceptable reason because both countries have pegged their currencies to U.S. dollar. Meanwhile, the Central Bank of Bahrain justified the downward trend of REER as an indication of “improvements in Bahrain’s international competitive position.”²

The REER of Israel was appreciating since November, 2007 due to the growth of almost 4.6 percent in inflation rate. The Iranian *rial* was undervalued since the late 1990s to 2003-04, while in the beginning of 2006, the REER appreciated due to rising oil prices. In 2008-09, the Iranian *rial* became slightly overvalued due to the worsening trade with the partner countries and the increase in domestic inflation.

² Central Bank of Bahrain, Monetary and Financial Trends, First Quarter 2008, P. 6

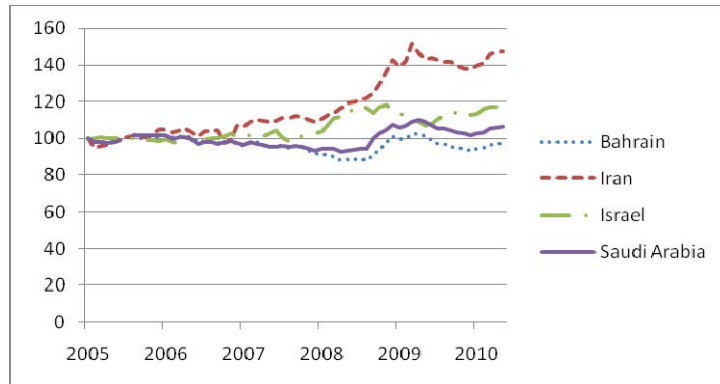


Figure 1.5 Real Effective Exchange Rate of the Middle East Countries
The values are in index value (2005=100) (Data Source: CEIC database)

1.6 The Impact of Subprime Financial Crisis on the Economy of the Middle East

In today's globalized world, no country or region can be isolated from economic and financial shocks that originate from another part of the world. The Middle East is bound to be affected, albeit in different ways and degrees by the financial crisis and the associated recessions (Mabro, 2008).

The 2007-2008 global financial crisis commenced with the burst of subprime mortgage in the US. It then quickly spread across the world and had an impact on the Middle East, even in areas that were not directly tied to the global market place (El Hassan, 2008). Indeed, the U.S. financial crisis influenced the Middle Eastern countries' economy significantly due to the oil price hike, as an increase in the price of crude oil leads to the U.S. declining demand for oil. Thus those Middle Eastern countries which export their oil to the U.S. have missed the world's biggest oil market.

Before the financial crisis, the Middle East had generally been on a path of economic growth and opportunity. Furthermore, many markets were liberalized through

reduced rules on foreign ownership, investment and taxes; and providing major incentives to foreign and private sectors. Several countries also joined the World Trade Organization (WTO). In contrast, after the crisis, the economic growth rate in the region slowed down from 5.3 percent in 2008 to 2.2 percent in 2009. Moreover, both producers and consumers suffered from higher oil prices because of the constant drop in foreign investments coming into the area, as well as the volatility of regional currency values in view of the region's currencies pegged to the deflating U.S. dollar (El Hassan, 2008).

Masood Ahmed, director of the Middle East International Monetary Fund and Central Asia, at a briefing on 10 May 2009 in Dubai, said:

“Given the global reach of the current economic crisis, countries in the Middle East and North Africa have also been impacted negatively. However, they are likely to fare better than countries in other regions of the world—in part because of prudent financial and economic management, but also because oil exporters in the region can draw upon their large funds.” (IMF, 2010)

According to the United Nations Conference on Trade and Development (UNCTAD), the Middle East faced 18 percent and 49 percent decline in inward foreign direct investment (FDI) in 2008 and 2009, respectively. Furthermore, inward FDI in the Middle East has fallen 20 billion U.S. dollars in 2009, compared to 93 billion U.S. dollars in the previous year. The decrease is attributed to the slow increase in oil demand in global markets, the rising costs of oil production and lower revenues for oil producers. UNCTAD's results also reveal a 6.6 percent decline in regional mergers and acquisitions with regional foreign participation, from 33.8 billion U.S. dollars in 2007 to

31.6 billion U.S. dollars in 2008. The report indicates that among all developing markets of the world, the Middle East is the single region which has recorded a decline in FDI in 2008. For instance, Jordan which previously had benefited from a very high FDI inflows, suffered from more than 70 percent FDI decline in the first three quarters of 2008 and the slowdown continued at the same rate in the first quarter of 2009 (UNCTAD database, 2010). However, Saudi Arabia, the Arab world's leading economy, ranks eighth among the top 10 beneficiaries of FDI in the world in 2009.

According to International Monetary Fund's (IMF) estimation, the GDP growth in some oil exporting countries such as Saudi Arabia, the UAE and Kuwait has been negative in 2009. Meanwhile, the GDP growth in the oil importing countries in the region slumped too.

As the economies in the Middle East deteriorated, inflation or consumer prices in the region declined significantly. It has been projected that the inflation rate in the region as a whole changed from 12.4 percent in 2008 to 5.5 percent in 2009.

The current account balance for oil exporting countries had a sharp slowdown in 2009. For instance, the annual change of the current account balance for the UAE decreased from 15.7 percent in 2008 to -1.6 percent in 2009. According to the IMF Survey Magazine (2009), low oil prices and excessive consumption are probably the two reasons for the downward trend in the oil exporter's current account balance.

Based on Table 1.1, three notable charts can be extracted. Figures 1.6 (a), (b), and (c) show the influence of the global financial crisis on real GDP, consumer price, and current account balance in the Middle East, respectively.

In normal conditions, the Middle East typically benefits from a sharp appreciation of national currencies. However during the global financial crisis, the central banks in the region were forced to keep interest rates below the inflation rate, because the depreciation of the value of the U.S. dollar decreased the value of real exchange rate in the Middle Eastern countries due to their pegged currency to the U.S. dollar and it consequently will reduce the nominal interest rate (Stockman and Ohanian, 1993). Furthermore, with the continuing global financial crisis, the revenues do not rise fast enough to catch up with the increasing costs of food, energy and rents, though rising commodity prices would benefit some producers and investors. This would consequently have a lasting impact on poor areas.

Although the existence of an intra-regional agreement for cooperation among the countries may help to enhance the socio-economic status of the region, it would not protect the Middle East from any economic crisis.

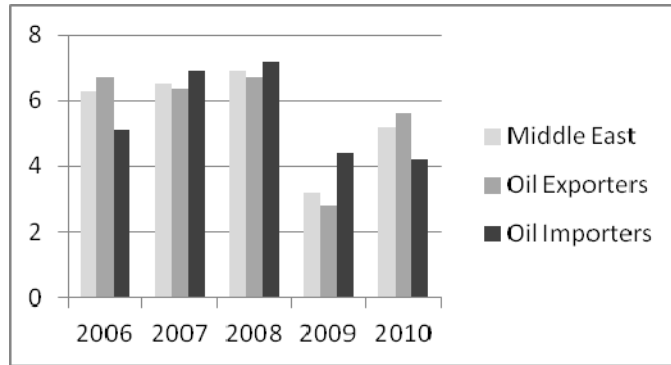


Figure 1.6 (a) Real GDP Growth in the Middle East (Percent Change) (Data Source: IMF, World Economic Outlook, April 2010)

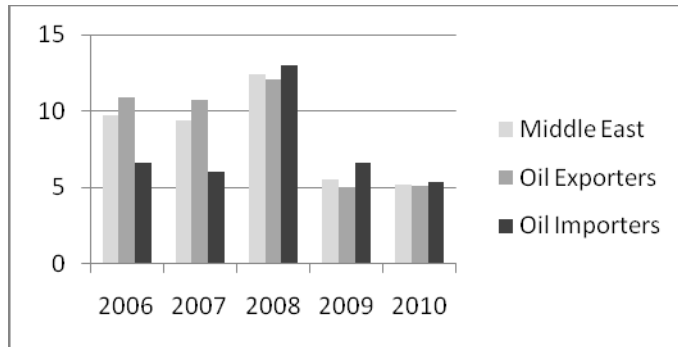


Figure 1.6 (b) Consumer Prices in the Middle East (Percent Change) (Data Source: IMF, World Economic Outlook, April 2010)

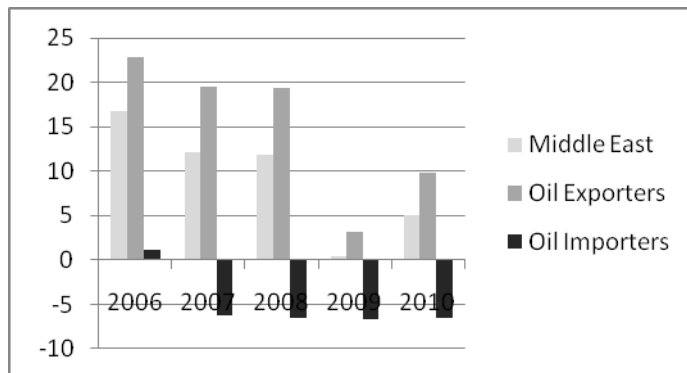


Figure 1.6 (c) Current Account Balance in the Middle East (Percent change) (Data Source: IMF, World Economic Outlook, April 2010)

According to Kouame (2009), the acting chief economist of the Middle Eastern and North African (MENA) region, the economic impact of global slowdown varies depending on the degree of economic integration with highly impacted regions. He categorized the MENA countries into four groups in terms of the impact of the global financial crisis as follows.

First, the GCC countries are oil exporters with large financial resources and relatively small populations such as Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE. From Kouame's (2009) perspective, this group is able to absorb economic shocks. They entered the crisis in a very strong position, which protected them against the initial impact of the global financial crisis. Although stock markets were hit hard in the second half of 2008, these governments were able to respond with easing monetary policies by providing funds and safeguarding of deposits in financial institutions.

He described the second group as oil exporting countries with larger populations relative to their oil wealth in comparison with the GCC countries. Algeria, Iraq, Iran, Libya and Syria are included in this category. In addition, the oil exporting countries with relatively large populations entered the global financial crisis with fiscal and external positions lower than GCC countries. However, the economic growth of this group declined but not as marked in the GCC countries.

The third group consists of non-oil exporting countries with strong economic linkages with GCC countries through remittances, FDI and tourism. The group includes Jordan, Lebanon, Yemen and Djibouti. Lebanon and Jordan entered the crisis in weak

positions in terms of fiscal and external balances. Reduced remittances and FDI as well as weak tourism influenced heavily on external balances in Lebanon and Jordan in 2009 and made it difficult for them to finance their deficits. Yemen and Djibouti have experienced quite a strong external position and economic activities during the crisis due to the LNG plants in Yemen and the operation of a new port facility by Dubai World in Djibouti.

Finally Kouame (2009) included Morocco, Tunisia and Egypt in the fourth group. According to him, these nations are the diversified countries with strong trade and tourism linked with Europe and Organization for Economic Co-operation and Development (OECD). This group of countries experienced the impact of the crisis on their real economies as early as the last quarter of 2008 as recession spread across Europe and other export markets. The policymakers of these countries made their macroeconomic policies and structural reforms to mobilize external and domestic financings needed to implement countercyclical policies.

Subsequently, the World Bank described the countries across the MENA as listed in Table 1.3.

During the economic crisis, Arab stock markets fell; those who utilized the open markets and also were dependent on the U.S. economy have particularly been hit the hardest. Adnan al-Qasar, the president of the Arab Chamber of Commerce, Industry and Agriculture, announced that the Arab capital market had lost 2.5 trillion U.S. dollars