"Impact of macroeconomic factors and political events on the market index returns at Palestine and Amman Stock Markets (2011–2017)"

| AUTHORS | Mai Jabarin
Abdulnaser Nour ⓘD https://orcid.org/0000-0001-8525-9799
Sameh Atout |

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
28	0	8

BUSINESS PERSPECTIVES

Mai Jabarin, Master of Accounting,
Al-Najah National University, Nablus,
Palestine.

Abdulnaser Nour, corresponding
author, Ph.D. in Accounting,
Professor of Accounting, Al-Najah
National University, Nablus,
Palestine.

Sameh Atout, Ph.D. in Accounting,
Faculty of Economics, Al-Najah
National University, Nablus,
Palestine.

Mai Jabarin (Palestine), **Abdulnaser Nour** (Palestine), **Sameh Atout** (Palestine)

IMPACT OF MACROECONOMIC FACTORS AND POLITICAL EVENTS ON THE MARKET INDEX RETURNS AT PALESTINE AND AMMAN STOCK MARKETS (2011–2017)

Abstract

This study aims to investigate the effect of macroeconomic factors on Palestine and Amman Stock Exchange returns. Also, the study handles the political events in the area and their impact on Palestine and Amman stock markets returns. This study applied the macro-econometric model based on Arbitrage Pricing Theory. In addition, the most important political events are selected, and their effect was tested using the event study methodology. The results show that the consumer price index, gross domestic product, and exchange rate have a significant impact on stock index returns, but industrial production index and balance of trade have no significant effect. In addition, the results reveal that the political events have a significant effect on Palestine and Amman stock markets returns. For instance, at Palestine Stock Exchange, seven out of eleven events had a significant impact on the Palestinian general index returns. Regarding the Amman Stock Exchange, there were nine out of eleven events, which had a significant impact on the Jordanian general index returns. The main results show that the macroeconomic factors and political events have a significant impact on the Palestine and Amman stock market returns. Both Palestine and Amman Stock Markets are inefficient and the markets do not absorb uncertain information and noisy events.

Keywords	macroeconomic variables, Arbitrage Pricing Theory, political events, event study, stock market returns, stock exchanges, Palestine, Amman
JEL Classification	G12, G14

INTRODUCTION

Financial market is the link between individuals and organizations, whereas stock prices reflect the hopes and fears for thousands of buyers and sellers and formulate their decisions based on their evaluations to many considerations. The results of many studies showed that the macroeconomic factors have an obvious effect on the financial markets (Hunjra, Chani, Ijaz, Farooq, & Khan, 2014). But it is important to mention that the effect on the advanced markets differs from that on the developing markets, as well as the political events play the same role in the financial markets (Momani & Alsharari, 2012). However, there are limited up-to-dated researches on how these factors affect the developing stock markets (Hussainey & Khanh Ngoc, 2009).

Based on that, the aim of the research is to study the impact of macroeconomic factors, as well as to study the influence of political events on Palestine and Amman stock markets index returns, in order to make relevant and valuable recommendations for investors, organizations, and financial analysts, and to give a new insight about the

dependence relationships between stock market returns, macroeconomic variables, and political events. So, the main two objectives of the study are:

- find out the impact of macroeconomic factors of (a) gross domestic product, (b) balance of trade, (c) consumer price index, (d) exchange rate, and (e) industrial product index on the stock price index returns at Palestine and Amman Stock Exchanges, the general price index and every sector's index in particular;

- discover the impact of the most important political events on general stock price index returns at Palestine and Amman Stock Exchanges. They are categorized as follows: six political events occurred in Palestine were tested in order to discover its effect on Palestinian stock index returns, six political events occurred in Jordan were tested in order to discover its effect on Jordanian stock index returns, five major political events occurred in different countries were tested in order to discover its effect on both Palestine and Amman stock market indices returns.

1. LITERATURE REVIEW

Zhu (2012) studied the effect of macroeconomic factors on energy sector returns in Shanghai stock market by applying Augmented Dickey-Fuller test and Arbitrage Pricing Theory model. The results mainly showed that macroeconomic factors have an effect on the energy sector stock returns, but regarding the industrial production index, it does not have an impact on the energy sector stock returns. Altinbas and Biskin (2015) also examined which macroeconomic factors have an influence on predicting the market returns on Turkish stock market by using sequential forward selection algorithm by taking BIST100 index returns as the dependent variable and industry production index as the independent variable. The results revealed that one month lagged stock the market index values are enough to predict market index's future values.

H01: There is a statistically significant relationship between industrial production index and the stock market returns.

Ilahi, Ali, and Jamil (2015) used multiple linear regression model to test the impact of interest rate, inflation rate, and exchange rate on stock market returns; consumer price index was used as an indicator for inflation and Pakistan Karachi Stock Exchange 100 index as an indicator for stock market returns. The results showed that exchange rate, interest rate, and inflation rate have insignificant relationship with Pakistan Karachi stock index returns. By contrast, El-Nader and Alraimony's

(2012) research aimed to examine the relationship between Amman stock market index returns and macroeconomic variables by applying the normality test, unit root tests, OLS, and ARCH/GARCH models. The findings revealed that nominal interest rates, real exchange rate, inflation, and real money supply have a negative effect, whereas the increase in the real gross domestic product has a positive effect.

H02: There is a statistically significant relationship between consumer price index and the stock market index returns.

Kyereboah-Coleman and Agyire-Tettey (2008) found that exchange rate losses do not affect the equities on the market, and exchange rate losses benefit the investors as a result of domestic currency depreciation. Against Ouma and Muriu's (2014) study that examines the macroeconomic factors of the stock market returns in Kenya, indicated by the NSE-20 share index returns, the researchers found that exchange rates have a negative effect on stock returns, by using the Capital Asset Pricing Model and Arbitrage Pricing Theory, then applying the ordinary least squares technique.

H03: There is a statistically significant relationship between exchange rate and the stock market index returns.

Karunanayake, Valadkhani, and O'Brien (2012) examined the impact of GDP growth rates on stock market returns in four Anglo-Saxon economies by using the multivariate GARCH model.

The main results revealed that GDP growth has an impact on stock market returns, which exist in the US growth towards its stock market. In addition, Taulbee (1997) noted that the greatest economic determinant of stock prices is the real GDP, also real GDP had a positive impact on the US stock market indices.

H04: There is a statistically significant relationship between gross domestic product and the stock market index returns.

Bhattacharya and Mookherjee (2001) aimed to investigate the lead and lag impact of macroeconomic variables related to foreign sector on the Indian stock market, by using the unit-root tests, cointegration and the long-run Granger non-causality test. The findings revealed that there is no causal linkage between stock market and macroeconomic variables. Moreover, Antonakakis, Gupta, and Tiwari (2015) had a time-varying measure of relationship between the US stock market and balance of trade based on the dynamic conditional correlation model. The study results found the positive relationship between year 1800 and year 1870, while negative thereafter.

H05: There is a statistically significant relationship between balance of trade and the stock market index returns.

Furthermore, Nguthi (2013), using the event study methodology to measure the behavior of Nairobi Securities Exchange 20 share index returns around the Kenya general election in March 2013, found that political news affect stock returns, continued rise in stock prices after the event date and the average abnormal returns positive before and after the event date. In addition, Dangol (2008), using the event study methodology to find that new political information has the impact on the Nepalese market prices in average 2 or 3 days from the event date, illustrated that the Nepalese stock market in inefficient but there is a strong relationship between political uncertainty and stock returns generation. Mahmood, Irfan, Iqbal, Kamran, and Ijaz (2014) examined the impact of political events on the KSE-100 index returns, fifty major political events are selected to calculate the abnormal returns, event study methodology is applied. The results of each window verify that negative abnormal returns are observed a few days before, and few days after an event happens. The study revealed that there is a significant relationship between political events and stock market returns.

H06: There is a statistically significant relationship between political events and the stock market index returns.

Based on that, the study considered the following questions:

1. Is there a statistically significant relationship between macroeconomic variables and the general and sectors' stock price indexes returns at Palestine Stock Exchange and Amman Stock Exchange?

2. Is there a statistically significant relationship between the political events and the general price index returns at Palestine and Amman Stock Exchanges?

2. METHODOLOGY

2.1. Data and sources

This study makes use of time series monthly data for economic factors. For Palestine market, the data were collected from the first month of 2011 till the last month of 2017, noting that there are no monthly data available for both industrial production index and balance of trade before 2011. There are various sources of data: Palestine Monetary Authority statistics publications, Palestinian Central Bureau of Statistics, and Palestine Stock Exchange. The data related to the economy of Jordan were collected from the first month of 2007 till the last month of 2017. Data are available on Jordanian Department of Statistics, Central Bank of Jordan statistics publications, and Amman Stock Exchange. Political events collected as a selective sample from Palestine, Jordan and near countries are illustrated in Table 1 in order to have the most important political events in the period from 2011 to 2017. The exchange rate was defined as the NIS per USD to test its effect on Palestine market. Regarding the Jordanian market, we took the US dollar index value. Gross domestic product

was converted from quarterly to monthly indicator using the quadratic match sum.

Market index returns: in order to investigate the market index returns relationship with the macroeconomic variables, we took the monthly closing value for each index, then, following El-Nader and Alraimony's (2012) study, divided by consumer price index in order to have the real stock market index:

$$\text{Real market index at month } t = \frac{\text{Index value}_t}{CPI_t}.$$

Then in order to find the market index returns, we use the following equation:

$$\text{Market index returns at month } t =$$

$$= \ln\left(\frac{\text{Real index}_t}{\text{Real index}_{t-1}}\right).$$

Political events: there are different political conditions among countries and periods. (Mahmood, Irfan, Iqbal, Kamran, & Ijaz, 2014). Following Yeung and Aman (2016), Dangol (2008), the events are chosen subjectively during the study period but tried to test the events that have caught the media's attention and could be important from the investors' point of view. In this study, many political events are selected, as identified in Table 1.

2.2. Research model for macroeconomic factors

Following the literature reviewed, this study postulates the relationship between the performance of the stock market index returns and selected macro-economic indicators, based on Asset Pricing Theory, as a macro-econometric model modified from the version of the models by Chen, Roll, and Ross (1986), Rjoub, Türsoy, and Günsel (2009), Ouma and Muriu (2014). Thus, we specify the following model to be estimated:

$$MIR_t = \alpha_0 + \alpha_1 GDP_t + \alpha_2 IPI_t +$$

$$+ \alpha_3 BT_t + \alpha_4 CPI_t + \alpha_5 ER_t + \varepsilon_t,$$

where MIR – stock market index return at time t, GDP – gross domestic product, IPI – industrial production index, BT – balance of trade, CPI – consumer price index, ER – exchange rate, α are the coefficients of the variables and ε is the error term. The data series of macroeconomic factors are transformed into rates of change following Zhu (2012), Ouma and Muriu (2014) by taking the log differences in each of the series in the form:

$$\text{Rate of change for } MV \text{ at time}_t =$$

$$= \ln\frac{MV \text{ at time}_t}{MV \text{ at time}_{t-1}},$$

where MV – macroeconomic variable.

Table 1. Political events

Source: Author's own.

No.	Political events	Events' date	Market
1	Tunisian President Zine al-Abidine Ben Ali fled to Saudi Arabia	January 14, 2011	Palestine and Jordan
2	Jordanian Prime Minister Samir Rifai resigned	February 1, 2011	Jordan
3	Egyptian President Hosni Mubarak is stepping down	February 11, 2011	Palestine and Jordan
4	Jordanian Prime Minister Marouf Bakhit resigns	October 17, 2011	Jordan
5	The resignation of Jordanian Prime Minister Al-Khasawneh	April 26, 2012	Jordan
6	King Abdullah appoints Abdullah Nsour as new Prime Minister	October 10, 2012	Jordan
7	Israel launches Operation Cloud Pillar in the Gaza Strip	October 14, 2012	Palestine
8	Palestine was granted observer status as a non-member of the international organization	November 29, 2012	Palestine
9	Mohamed Morsi was sacked by Defence Minister, General Abdel Fattah al-Sisi	July 3, 2013	Palestine and Jordan
10	The National Accord Government is formed to heal the rift in the Palestinian political reality	June 2, 2014	Palestine
11	Israel launched an offensive against the Gaza Strip	July 8, 2014	Palestine
12	Al-Quds Intifada began	October 3, 2015	Palestine
13	The end of the security operation on the attacks in the city of Irbid	March 2, 2016	Jordan
14	Attacks and shootings in the historic Karak Fort in Karak	December 18, 2016	Jordan
15	The inauguration of the President of the United States, Donald Trump	January 20, 2017	Palestine and Jordan
16	Saudi Arabia, the United Arab Emirates, Bahrain, and Egypt, cut off links with Qatar	June 5, 2017	Palestine and Jordan
17	The recognition by US President Donald Trump that Jerusalem is the capital of Israel	December 7, 2017	Palestine

It is important to mention that the data are used in differences to meet the theoretical model of Asset Pricing Theory, and economic time series data were assumed to be stationary (Ouma & Muriu, 2014). Thus, following Zhu's (2012) model, the hereunder model is applied for this study to test the stock return:

$$MIR_t = \alpha_0 + \alpha_1 \Delta LogGDP_t +$$
$$+\alpha_2 \Delta LogIPI_t + \alpha_3 \Delta LogBT_t +$$
$$+\alpha_4 \Delta LogCPI_t + \alpha_5 \Delta LogER_t + \varepsilon_t.$$

Estimation procedures are as follows: (1) unit-root test, (2) correlation coefficient, (3) autoregressive conditional heteroskedasticity.

2.3. Research model for political events

As for the political events, following the literature reviewed (Mahmood, Irfan, Iqbal, Kamran, & Ijaz, 2014; Sajid Nazir, Younus, Kaleem, & Anwar, 2014), the event study methodology was used in order to investigate the relationship between the stock market index returns and the selected political events. This study used event windows of 30, 10 and 5 days before and after the political event. Following the studies by Sajid Nazir, Younus, Kaleem, and Anwar (2014), Mahmood, Irfan, Iqbal, Kamran, and Ijaz (2014), a return generating technique was used to measure the abnormal return as a result of political events in Palestine and Amman Stock Exchanges, in order to find the effect of political events on the general stock index returns. Actual returns for all days estimated in a similar way were mentioned by Mahmood, Irfan, Iqbal, Kamran, and Ijaz (2014) as in the following equation:

$$R_t = \frac{M_t - M_{t-1}}{M_{t-1}},$$

where R_t – market index return on day t, M_t – market index value today, M_{t-1} – market index value of last day. Sajid Nazir, Younus, Kaleem, and Anwar (2014) considered that the expected return of the index is a constant number for each event window:

$$R^* = \frac{\sum_{t=1}^{t} R_t}{T},$$

where R^* – expected return for the T period of the event window, T – number of days in the event window. Then, as illustrated by Sajid Nazir, Younus, Kaleem, and Anwar (2014), abnormal return was calculated as the difference between expected and actual return as in the following equation:

$$AR_t = R_t - R^*,$$

where AR_t – abnormal return on day t. Then, we estimated the average abnormal return before and after the event day as explained by Sajid Nazir, Younus, Kaleem, and Anwar (2014):

$$AR_{before}^* = \frac{\sum_{t=1}^{t=k} AR_{before,t}}{n},$$

where AR_{before}^* – average abnormal return before the day of the event, K – number of days taken before the day of the event,

$$AR_{after}^* = \frac{\sum_{t=1}^{t=k} AR_{after,t}}{n},$$

where AR_{after}^* – average abnormal return after the day of the event, K – number of days taken after the event day. Following the studies by Sajid Nazir, Younus, Kaleem, and Anwar (2014), Mahmood, Irfan, Iqbal, Kamran, and Ijaz (2014), paired t-test is applied to test the difference between the market abnormal returns before and after the event day, calculated as under Sajid Nazir, Younus, Kaleem, and Anwar (2014):

$$t = \frac{AR_{after}^* - AR_{before}^*}{\delta_{pre-post}},$$

where $\delta_{pre-post}$ – the pooled standard error of the difference between AR_{before}^* and AR_{after}^*. The insignificant results of t-test reveal that the market is efficient because it absorbs uncertain information. Thus efficient market hypothesis is true. But if we have significant results of t-test, we find that the market is inefficient and it does not absorb noisy information (Sajid Nazir, Younus, Kaleem, & Anwar, 2014).

3. EMPIRICAL RESULTS

3.1. Empirical results of macroeconomic factors at Palestine stock market

First, we apply the stationary analysis (unit root tests) using the Augmented Dickey-Fuller test. Table 2 illustrates the results for five macroeconomic variables.

Table 2 shows a rejection of the null hypothesis of non-stationarity at the 1% level for all macroeconomic variables except GDP that has a rejection of the null hypothesis of non-stationarity at the 5% level because Prob. value is just about 1.2%. So we can conclude that all of the macroeconomic series are stationary and can continue to estimate the ARCH/GARCH models. Then we apply the correlation analysis in order to make sure that there is no evidence of autocorrelation.

As seen in Table 3, all the correlation coefficient values for the macroeconomic variables are less

than 0.24, which revealed that there is no problem of multicollinearity in this model. Now we can proceed with regression model in order to investigate the macroeconomic variable effect on index returns. By applying the autoregressive conditional heteroskedasticity (GARCH) model, the results are described in detail in Appendix (1-6) and summarized in Table 4.

3.2. Empirical results of macroeconomic factors at Amman stock market

First, we apply the stationary analysis (unit root tests) using the Augmented Dickey-Fuller test. Table 5 illustrates the results of five macroeconomic variables.

Table 5 shows a rejection of the null hypothesis of non-stationarity at the 1% level for all the macroeconomic variables, so we can conclude that all the macroeconomic series are stationary and can continue to estimate the ARCH/GARCH models. Then, we apply the correlation analysis

Table 2. Unit root tests results for Palestine market

Source: Author's own.

Macro-economic factors	*ADF* test statistic	Critical value at 1% significance level	Critical value at 5% significance level	Prob.	Stationary
BT	−9.718278	−3.513344	−2.897678	0.0000	Yes
CPI	−7.297659	−3.514426	−2.898145	0.0000	Yes
ER	−10.19766	−3.512290	−2.897223	0.0000	Yes
GDP	−3.446620	−3.522887	−2.901779	0.0124	Yes
IPI	−9.986979	−3.513344	−2.897678	0.0000	Yes

Table 3. Correlation tests results for Palestine market

Source: Author's own.

Macroeconomic factors	BT	CPI	GDP	ER	IPI
BT	1	0.03447899	0.18082049	0.01633554	0.22668331
CPI	0.03447899	1	−0.26549136	0.01354778	0.02851527
GDP	0.18082049	−0.26549136	1	0.03673844	0.23935406
ER	0.01633554	0.01354778	0.03673844	1	−0.00621984
IPI	0.22668331	0.02851527	0.23935406	−0.00621984	1

Table 4. Results of macroeconomic factors impact on Palestine market index returns

Source: Author's own.

Market	Index	IPI	CPI	ER	GDP	BT
Palestinian market index return	General	0.4031	0.0214**	0.0876*	0.0136**	0.2872
	Bank	0.2562	0.0150**	0.0043***	0.8490	0.7577
	Industry	0.5729	0.0066***	0.3260	0.2245	0.0790*
	Insurance	0.7828	0.0355**	0.4071	0.3131	0.2497
	Investment	0.9374	0.3526	0.0639*	0.4790	0.1189
	Service	0.1237	0.0861*	0.8029	0.0083***	0.9955

Note: *** Prob. < .01, ** Prob. < .05, * Prob. < .1.

Table 5. Unit root tests results for Jordanian market

Macro-economic factors	*ADF* test statistic	Critical value at 1% of significant level	Critical value at 5% of significant level	Prob.	Stationary
BT	−12.78791	−3.481623	−2.883930	0.0000	Yes
CPI	−8.293787	−3.481217	−2.883753	0.0000	Yes
ER	−11.74920	−3.481217	−2.883753	0.0000	Yes
GDP	−7.751192	−3.485115	−2.885450	0.0000	Yes
IPI	−5.886047	−3.486064	−2.885863	0.0000	Yes

Table 6. The correlation tests results for Jordanian market

Macroeconomic factors	BT	CPI	GDP	ER	IPI
BT	1	0.00085939	−0.09771481	0.03614071	0.22773278
CPI	0.0008593	1	−0.09879875	0.09181592	−0.04103719
GDP	−0.0977148	−0.09879875	1	−0.17266099	0.04536957
ER	0.03614071	0.09181592	−0.17266099	1	0.16045336
IPI	0.22773278	−0.04103719	0.04536957	0.16045336	1

Table 7. Results of macroeconomic factors impact on Amman market index returns

Market	Index	IPI	CPI	ER	GDP	BT
Jordanian market index returns	General	0.4053	0.1423	0.0433**	0.0014***	0.7050
	Bank	0.9724	0.1000	0.0591*	0.0008***	0.2646
	Industry	0.1193	0.7887	0.0203**	0.4590	0.8371
	Insurance	0.8581	0.0028***	0.0900*	0.2727	0.4875
	Service	0.9184	0.0131**	0.0867*	0.0027***	0.5825

Note: *** Prob. < .01, ** Prob. < .05, * Prob. < .1.

in order to make sure that there is no evidence of autocorrelation.

As seen in Table 6, all the correlation coefficient values for the macroeconomic variables are less than 0.23, which revealed that there is no problem of multicollinearity in this model. Now we can proceed with regression model in order to investigate the macroeconomic variable effect on index returns. By applying the autoregressive conditional heteroskedasticity (GARCH) model, the results

are described in detail in Appendix (7-11) and summarized in Table 7.

3.3. Empirical results of political events

In this subsection, we showed the effect of political events on general stock index returns, tested by applying the paired *t*-test on the abnormal returns before and after the event windows of 5, 10 and 30 days for Palestinian and Jordanian general index. The results were illustrated in Table 8.

Table 8. Paired *t*-test for political events

Political events	Market	5 days		10 days		30 days	
		t value	Sig.	*t* value	Sig.	*t* value	Sig.
Tunisian President fled to Saudi Arabia	Palestine	−.256	.811	2.660	.026**	2.171	.038**
Tunisian President fled to Saudi Arabia	Jordan	1.745	.156	2.378	.041**	2.550	.016**
Jordanian Prime Minister Samir Rifai resigned	Jordan	−1.441	.200	−.188	.855	1.798	.083*
Egyptian President Hosni Mubarak is stepping down	Palestine	.254	.812	−.508	.624	−.692	.494
Egyptian President Hosni Mubarak is stepping down	Jordan	3.314	.030**	.308	.765	1.636	.113
Jordanian Prime Minister Marouf Bakhit resigns	Jordan	−.895	.422	−3.209	.011**	−2.340	.026**
The resignation of Al-Khasawneh, as Jordanian Prime Minister	Jordan	.293	.784	.328	.751	1.654	.109

Table 8 (cont.). Paired *t*-test for political events

Political events	Market	5 days		10 days		30 days	
		t value	Sig.	*t* value	Sig.	*t* value	Sig.
King Abdullah appoints Abdullah Nsour as new prime minister	Jordan	−2.585	.061*	−1.131	.287	−1.532	.136
Israel launches Operation Cloud Pillar in the Gaza Strip	Palestine	−.666	.542	−.974	.356	−.393	.697
Palestine was granted observer status as a non-member of the international organization	Palestine	.599	.581	.214	.835	−1.944	.062*
Mohamed Morsi was sacked by Defense Minister General Abdel Fattah al-Sisi	Palestine	−.300	.779	−.730	.484	−2.176	.038**
Mohamed Morsi was sacked by Defense Minister General Abdel Fattah al-Sisi	Jordan	−3.131	.035**	−1.093	.303	−.674	.505
The National Accord Government is formed to heal the rift in the Palestinian political reality	Palestine	1.038	.358	.599	.564	.226	.823
Israel launched an offensive against the Gaza Strip	Palestine	−.310	.772	−1.656	.132	−1.728	.095*
Al-Quds Intifada began	Palestine	.009	.994	.054	.958	−2.192	.037**
The end of the security operation on the attacks in the city of Irbid	Jordan	.558	.607	.085	.934	.219	.828
Attacks and shootings in the historic Karak Fort in Karak.	Jordan	1.227	.287	.679	.515	1.807	.081*
The inauguration of the President of the United States, Donald Trump.	Palestine	−1.005	.372	−.119	.908	−.200	.843
The inauguration of the President of the United States, Donald Trump	Jordan	−.525	.627	−1.050	.321	−2.101	.044**
Saudi Arabia, the United Arab Emirates, Bahrain, and Egypt, cut off links with Qatar	Palestine	−1.512	.205	−3.366	.008***	−2.364	.025**
Saudi Arabia, the United Arab Emirates, Bahrain, and Egypt, cut off links with Qatar	Jordan	1.320	.257	1.996	.077*	.361	.721
The recognition by US President Donald Trump that Jerusalem is the capital of Israel	Palestine	.058	.956	−.754	.470	−2.131	.042**

Note: *** Sig < .01, ** Sig < .05, * Sig < .1.

4. DISCUSSION

4.1. Palestine stock market

The statistical results showed that both variables consumer price index and gross domestic product have an impact with statistical significance less than 0.05 on the Palestinian general index returns. The value of CPI coefficient is negative. The increase in the cost of living makes the income devoted to consumption purposes rather than saving or investing in market instruments this led to the decrease on demand on shares and stock index returns due to difficulties in the Palestinian economy (Palestine Monetary Authority, 2016). This result is consistent with El-Nader and Alraimony (2012). We also found that value of coefficient for the GDP is negative. The reason for this finding is that despite the increase in GDP and growth in the economy, investment is moving towards other sectors or even saving instead of attracting investment in the stock market. There is difference in the results of this study from the previous studies that have been reviewed, such as Karunanayake et al. 's

(2012) study that showed a statistically significant relationship between stock market returns and GDP in Anglo-Saxon economies, and Taulbee's (1997) study that found a statistically significant relationship between US stock market and GDP. The reason of this difference is that these countries have advanced markets, but Palestinian market is less developed stock market and has weak form efficiency. In addition, we noted that there is no significant relationship between the balance of trade and Palestinian general index returns. Mainly this is due to the continuing deficit in the Palestinian balance of trade (Palestinian Central Bureau of Statistics, 2018). Therefore, whether there is the improvement in this factor or notes do not have an effect on the investors' decisions or the demand on shares. This result is consistent with Bhattacharya and Mookherjee's (2001) study that has been applied in India, noting that there is a deficit in the Indian balance of trade. But, by reviewing previous studies that have been applied on advanced countries, we found different results, such as Antonakakis, Gupta, and Tiwari's (2015) study that showed a positive relationship between US stock

return and balance of trade. Regarding the industrial production index, the results showed that there is no significant relationship with Palestine general index returns. The main reason for this is the weakness of liquidity in the Palestine stock market and the weakness of investors' confidence in it (Palestine Monetary Authority, 2016), which led to the fact that even the improvement in the macro economy or the decline does not reflect the impact on the Palestinian Stock Exchange. Also, the fact that Palestine Stock Exchange consider as service market rather than industrial market, the number of industrial companies is just 12 out of 48 companies listed on Palestine Stock Exchange (Palestine Exchange, 2018). It is worth mentioning, the political risk factor, which has a big role. This result is consistent with Zhu (2012). The result also showed that the exchange rate has an impact with statistical significance less than 0.10 on the Palestine general index returns. We can see that value of coefficient for the exchange rate is negative. We can justify this result by saying that when the exchange rate of the dollar – shekel increase, the value of the money that will be converted from shekels to dollars will be decreased, as the prevailing currency is the shekel, which is reflected negatively on the demand for shares and the stock index returns. This result matches with Ouma and Muriu (2014).

The results showed that the consumer price index has a negative significant effect on Palestine insurance index return, industry index return, service index return and bank index return, also the exchange rate has a negative significant effect on Palestine investment index return and bank index return, in addition to gross domestic product that has a negative significant effect on Palestine service index return, moreover balance of trade has a positive significant effect on Palestine industrial production index return, but industrial production index has no significant effect on Palestinian sectors' indices returns.

4.2. Amman stock market

The statistical results illustrated that exchange rate has an impact with statistical significance less than 0.05 and gross domestic product has an impact with statistical significance less than 0.01 on the Jordanian general index return. We note

that the value of coefficient for the exchange rate is negative. The explanation of this result is mainly as follows. Since Jordan is an importing country and not an exporter (Jordanian Department of Statistics, 2018), the increase in the US dollar index is negatively reflected in terms of increasing the cost of sales, leading to a decline in the demand on shares and decrease on the stock index return. This result is consistent with Ouma and Muriu (2014). We can also note that the value of coefficient for the gross domestic product is negative. The reason behind this is that despite the increase in GDP and growth in the economy, investment is moving towards other sectors or even saving instead of attracting investment in the stock market. The difference in the result of this study from the previous studies that have been reviewed relates to the fact that the Jordanian market also is considered as a weak form of efficiency. We can just note this negative relation that the GDP in Jordan increased from 20,513 million JDs in 2011 to 28,903 million JDs in 2017 (Jordanian Department of Statistics, 2018), whereas Amman Stock Exchange total market capitalization amounted to 19,273 million JDs in 2011 and declined to 16,963 million JDs in 2017 (Amman Stock Exchange, 2018). In addition, we noted that there is no significant relationship between the balance of trade and Jordanian general index return. The continuing deficit in the Jordanian balance of trade (Jordanian Department of Statistics, 2018) did not affect the investor's decisions or the demand on shares. This result is consistent with Bhattacharya and Mookherjee (2001). Regarding the industrial production index and consumer price index, the results showed that there is no significant relationship with Jordanian general index return. The weakness of liquidity in the Jordanian stock market and the weakness of investors' confidence in it led to this. The same situation is with the Palestine Stock Exchange. Even the improvement in the macro economy or the decline does not reflect the impact on the Amman Stock Exchange. This result is consistent with Zhu (2012), Ilahi, Ali, and Jamil (2015).

The main results revealed that the consumer price index has a negative significant effect on Jordanian service index return and insurance index return. The exchange rate has a negative significant effect on Jordanian bank index return, insurance index return, service index return, and industry index

return. In addition, gross domestic product has a negative significant effect on Jordanian bank index return, and service index return. On the one hand, the balance of trade and industrial production index have no significant effect on Jordanian sectors' indices returns.

4.3. Political events

In reference to the political events and through the statistical results, we found that there is a significant effect of political events on both Palestine and Amman stock markets. The first political event tested was when Tunisian President Zine El Abidine Ben Ali fled to Saudi Arabia on January 14, 2011 under the pressure of a popular uprising. This was the beginning of the Arab Spring and then began the demonstrations and protests throughout the Arab world. Jordan was influenced by this, and a wave of demonstrations and protest rallies began throughout Jordan in early 2011. This event showed a statistically significant negative response at 5% for both Palestine and Amman Stock Exchanges, in both event windows of 10 and 30 days. The abnormal returns were positive before the event and negative after the event. On February 1, 2011, Jordanian Prime Minister Samir Rifai resigned following the popular protests him. The Jordanian Royal Court appointed Marouf Bakhit as the new Prime Minister. This event showed a statistically significant negative response at 10% for Amman Stock Exchange in event window of 30 days. On February 11, 2011, Egyptian President Hosni Mubarak stepped due to popular uprising. The Palestine market did not show any significant response. However, this event had a statistically significant negative response at 5% for Amman Stock Exchange in event windows of 5 days. On October 17, 2011, Jordanian Prime Minister Marouf Bakhit resigns. Jordan's King Abdullah II issued a decree under which Aoun al-Khasawneh was appointed to form the new government. This event showed a statistically significant response at 5% for Amman Stock Exchange in event windows of 10 and 30 days. On April 26, 2012, there was the resignation of Al-Khasawneh, the protests continue, and Fayez Al-Tarawneh was appointed as the new Prime Minister of Jordan. The Jordanian market did not show any significant response but average abnormal returns were positive 10 and 30 days prior to the event and negative for the next

10 and 30 days. Then, on October 10, 2012, King Abdullah dissolves parliament to hold new early elections, appoints Abdullah Nsour as new Prime Minister of Jordan. This event showed a statistically significant response at 10% for Amman Stock Exchange in event windows of 5 days, average abnormal return was negative before the event day, became positive after that. On October 14, 2012, Israel launches Operation Cloud Pillar in the Gaza Strip. The Palestinian market did not show any significant response to this event. The main reason for this is the division between the West Bank and the Gaza Strip, which has led to a reduction in the impact of political events and incursions that happened in the Gaza Strip on the West Bank. On November 29, 2012, there was a historic vote in the United Nations, Palestine was granted observer status as a non-member of the international organization by a majority of 138 votes in the General Assembly against 9 opposing and 41 abstentions. This event showed a statistically significant positive response at 10% for Palestine Stock Exchange in event window of 30 days. On July 3, 2013, after massive demonstrations, Mohamed Morsi, the first elected Egyptian president, was sacked by Defense Minister Abdel Fattah al-Sisi. This event showed a statistically significant positive response at 5% for Palestine market in event window of 30 days and for Amman Stock Exchange in event window of 5 days. In June 2014, the National Accord Government the first Palestinian government was formed, after consultations with all the Palestinian factions to heal the rift between Gaza Strip and West Bank. The Palestine market did not show any significant response to this event. In July 2014, Israel launched an offensive attack against the Gaza Strip. The war continued 50 days, killing 2,100 Palestinians and 70 Israelis. This event showed a statistically significant response at 10% for Palestine market in event window of 30 days. On October 3, 2015, Al-Quds Intifada began with the killing of settlers and the shooting of 19-year-old Muhannad Halabi during an operation in the Old City of Jerusalem, ignited "Jerusalem Intifada". This event showed a statistically significant response at 5% for Palestine market in event window of 30 days. On March 2, 2016, the end of the security operation on the attacks in the city of Irbid, the death of a security officer in the rank of captain, while killing seven of the armed group. The Jordanian market did not show any significant response to this event.

On December 18, 2016, attacks and shootings in the historic Karak Fort in Karak, which resulted in the killing of 10 people, including seven security men and a Canadian tourist. This event showed a statistically significant negative response at 10% for Amman Stock Exchange in event window of 30 days. The inauguration of the 45th President of the United States took place on January 20, 2017. The Palestine market did not show any significant response to this event. However, the Jordanian market showed a statistically significant positive response at 5% in event window 30 days. In June 2017, Saudi Arabia, the United Arab Emirates and Bahrain, as well as Egypt, cut off diplomatic relations, transportation and trade links with Qatar.

The Palestine market showed a statistically significant response at 1% in event window of 10 days, and at 5% in event window of 30 days. Regarding the Jordanian market, this event had a significant effect at 10% on Amman general index return in event window of 10 days. The last event tested was, the Palestine popular revolution, which took place in the Palestine, following the recognition by US President that Jerusalem is the capital of Israel. This event had a significant effect at 5% on Palestine market in the event window of 30 days. The main results concluded that the political events have a significant impact on the stock market returns. For events that are insignificant, we can assume that they are less important from other events.

CONCLUSION

The main results conclude that the macroeconomic factors and political events have a significant impact on the Palestine and Amman stock market returns. Both Palestine and Amman Stock Markets are inefficient and the markets do not absorb uncertain information and noisy events. Based on the study results, it is necessary to note the importance of implementing the prudent economic policies, due to their impact on the stock markets and investors' decisions, such as working on reducing the inflation rate, since we found that it has a significant effect on stock returns. Moreover, we recommend developing a strong financial strategy that can face challenges to protect investors from the political events, to reduce their impact on stock price returns. Also, encourage studying the impact of macroeconomic factors on the stock returns on a wider scale as a study of the impact of other economic factors, such as unemployment rate and interest rates. And the effect of additional political events on stock market return on a large scale, in order to have a more comprehensive view and to generalize the results. Furthermore, we recommend extending the study to include other markets, in both advanced and developing countries, to get different results and compare them.

REFERENCES

1. Altinbas, H., & Biskin, O. T. (2015). Selecting macroeconomic influencers on stock markets by using feature selection algorithms. *Procedia Economics and Finance, 30*, 22-29. http://dx.doi.org/10.1016/S2212-5671(15)01251-4

2. Amman Stock Exchange (2018). *About ASE.* Retrieved from https://www.ase.com.jo/en/about-ase (accessed on May 11, 2018).

3. Antonakakis, N., Gupta, R., & Tiwari, A. K. (2018). Time-varying correlations between trade balance and stock prices in the United States over the period 1792 to 2013. *Journal of Economics and Finance,* 42(4), 795-806. http://dx.doi.org/10.1007/s12197-018-9428-z

4. Bhattacharya, B., & Mookherjee, J. (2001). *Causal relationship between and exchange rate, foreign exchange reserves, value of trade balance and stock market: case study of India* (24 p.). Department of Economics, Jadavpur University. Kolkata, India. Retrieved from http://www.igidr.ac.in/conf/oldmoney/mfc_5/basabi.pdf

5. Chen, N. F., Roll, R., & Ross, S. A. (1986). Economic forces and the stock market. *Journal of business, 59*(3), 383-403. http://dx.doi.org/10.1086/296344

6. Dangol, J. (2008). Unanticipated political events and stock returns: An event study. *Economic Review, 20,* 86-110. Retrieved from https://www.nrb.org.np/ecorev/pdffiles/vol20_art7.pdf

7. El-Nader, H. M., & Alraimony, A. D. (2012). The impact of macroeconomic factors on Amman stock market returns. *International Journal of Economics and Finance, 4*(12), 202. http://dx.doi.org/10.5539/ijef.v4n12p202

8. Hassouneh, I., Couleau, A., Serra, T., & Al-Sharif, I. (2017). The effect of conflict on Palestine, Israel, and Jordan stock markets. *International Review of Economics*

& Finance, 56, 258-266. Retrieved from https://www.sciencedirect.com/science/article/pii/S1059056017308201

9. Hunjra, A. I., Chani, M. I., Ijaz, M. S., Farooq, M., & Khan, K. (2014). The Impact of Macroeconomic Variables on Stock Prices in Pakistan. *International Journal of Economics and Empirical Research, 2*(1), 13-21. Retrieved from https://www.researchgate.net/publication/263620295_The_Impact_of_Macroeconomic_Variables_on_Stock_Prices_in_Pakistan

10. Hussainey, K., & Khanh Ngoc, L. (2009). The impact of macroeconomic indicators on Vietnamese stock prices. *The Journal of Risk Finance, 10*(4), 321-332. http://dx.doi.org/10.1108/15265940910980632

11. Ilahi, I., Ali, M., & Jamil, R. A. (2015*). Impact of Macroeconomic Variables on Stock Market Returns: A Case of Karachi Stock Exchange.* http://dx.doi.org/10.2139/ssrn.2583401

12. Jordan Securities Commission. (2018). *Jordan Securities Commission.* Retrieved from https://www.jsc.gov.jo/page/about_jsc.aspx (accessed on December 2, 2018).

13. Jordanian Department of Statistics. (2018). *Price Indices.* Retrieved from http://dosweb.dos.gov.jo

14. Karunanayake, I., Valadkhani, A., & O'Brien, M. (2012). *Stock market and GDP growth volatility spillovers* (25 p.) (The University of Wollongong Faculty of Business – papers). Retrieved from https://ro.uow.edu.au/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=3566&context=commpapers

15. Kyereboah-Coleman, A., & Agyire-Tettey, K. F. (2008). Impact of macroeconomic indicators on stock market performance: The case of the Ghana Stock Exchange.

The Journal of Risk Finance, 9(4), 365-378. http://dx.doi.org/10.1108/15265940810895025

16. Mahmood, S., Irfan, M., Iqbal, S., Kamran, M., & Ijaz, A. (2014). Impact of political events on stock market: Evidence from Pakistan. *Journal of Asian Business Strategy, 4*(12), 163-174. Retrieved from https://pdfs.semanticscholar.org/8b14/e5c52611dc-2f78a3278723ebd92e26863b30.pdf

17. Momani, G. F., & Alsharari, M. A. (2011). Impact of Economic Factors on the Stock Prices at Amman Stock Market (1992–2010). *International Journal of Economics and Finance, 4*(1), 151. http://dx.doi.org/10.5539/ijef.v4n1p151

18. Nguthi, P. N. (2013). *The effect of political news on stock market returns in Kenya: The case of March 2013 general elections* (Masters research paper, University of Nairobi, School of Business). Retrieved from http://erepository.uonbi.ac.ke/handle/11295/58915

19. Ouma, W. N., & Muriu, P. (2014). The impact of macroeconomic variables on stock market returns in Kenya. *International Journal of Business and Commerce, 3*(11), 1-31. Retrieved from https://www.ijbcnet.com/3-11/IJBC-14-31001.pdf

20. Palestine Exchange. (2018). *Investor Monthly Newsletter.* Retrieved from http://www.pex.ps/psewebsite/ Publications.aspx?TabIndex=7 (accessed on November 10, 2018).

21. Palestine Monetary Authority. (2016). *Annual report 2016.* Retrieved from http://www.pma.ps/Portals/1/Users/002/02/2/Publications (accessed on April 21, 2018).

22. Palestine Monetary Authority. (2016). *Financial Stability 2016.* Retrieved from http://www.Pma.

ps/Portals/1/Users/002/02/2/Publications (accessed on April 21, 2018).

23. Palestinian Central Bureau of Statistics. (2018). *Guide to Palestinian Statistics A–Z.* Retrieved from http://www.pcbs.gov.ps

24. Rjoub, H., Türsoy, T., & Günsel, N. (2009). The effects of macroeconomic factors on stock returns: Istanbul Stock Market. *Studies in Economics and Finance, 26*(1), 36-45. http://dx.doi.org/10.1108/10867370910946315

25. Sajid Nazir, M., Younus, H., Kaleem, A., & Anwar, Z. (2014). Impact of political events on stock market returns: empirical evidence from Pakistan. *Journal of Economic and Administrative Sciences, 30*(1), 60-78. http://dx.doi.org/10.1108/JEAS-03-2013-0011

26. Taulbee, N. (2001). Influences on the stock market: An examination of the effect of economic variables on the S&P 500. *The Park Place Economist, IX,* 91-100. Retrieved from https://digitalcommons.iwu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1223&context=parkplace

27. Yeung, W. H., & Aman, A. (2016). Sensitivity of stock indices to global events: the perspective for Pakistani Canadians. *Journal of Economic and Administrative Sciences, 32*(2), 102-119. http://dx.doi.org/10.1108/JEAS-05-2015-0014

28. Zhu, B. (2012). The effects of macroeconomic factors on stock return of energy sector in Shanghai stock market. *International Journal of Scientific and Research Publications, 2*(11), 1-4. Retrieved from https://pdfs.semanticscholar.org/d639/b23a0ecf006f13d0da10924020e-88745cfb3.pdf

APPENDIX

Appendixes 1-6 are available at: https://app.box.com/s/hkei2gct6p290kznp9jzty2bha6jk160