The Impact of Exchange Rate Fluctuations on the Market's Index at Emerging Market: Evidence from Palestine

Mohammed Alashi

ABSTRACT

In this study, the researcher investigates the influences of exchange rate and stock market index in Palestine exchange. Least Square Testing approach has been used on daily data ranging from January 2012 to December 2021. The researcher investigates the impact in the long term from 2012 to 2021 and in the short term in one year, 2021. Findings of the study suggest that USD exchange rate negatively affects the stock index of Palestine exchange in both the long and short term.

Keywords: Exchange rate, Emerging market, Regression model, Stock index.

Submitted : February 04, 2022

Published : February 26, 2022

ISSN: 2507-1076

DOI: 10.24018/ejbmr.2022.7.1.1300

Mohammed Alashi*

Islamic University of Gaza, Palestine.
(e-mail: malashi@iugaza.edu.ps)

**Corresponding Author*

I. INTRODUCTION

Financial markets are one of the country's economic components that are influenced by many factors: internal factors such as employment rate, domestic production level, import and export levels, foreign currency reserves, interest rate, etc., and external factors such as political stability, global supply chain, global energy price, etc., (Bagh *et al.*, 2017). Since 1970 many countries adopted a floating exchange rate which increased international trade around the world (Khan, 2019; Mechri *et al.*, 2018).

Many studies mention that the exchange rate fluctuations have become a crucial factor that impacts decision-making where the amount of profit is changed according to the fluctuations. Many scholars find out that when the currency is depreciated, it's a chance to increase the amount of export and vice versa where it's appreciated (Sikhosana & Aye, 2018).

As it will be mentioned later; in the literature review section, many researchers study the impact of the exchange rate fluctuations, but it still needs more investigations as the results are contrary for different reasons such as the length of the period, the covered periods, and the economic development level of the country. The coming parts include the problem statement, literature review, methodology, results, and conclusions.

II. PROBLEM STATEMENT

Many studies find that the impact of exchange rate on the stock market is positive (Bagh *et al.*, 2017; Mechri *et al.*, 2018; Sikhosana & Aye, 2018). On the other hand, many studies find a negative impact of the exchange rate (Khan, 2019; Singhal *et al.*, 2019). Therefore, such inconsistency in research results is a real problem, and it necessitates further research in this area. Hence, this study aims to investigate

the impact of the USD exchange rate fluctuations on the market indexes at the Palestine exchange. This study is expected to have two main contributions: First, Palestine exchange is an emerging market and is a recent market where the first trading began in February/1997. Second, the state of Palestine doesn't have its own currency because it's still under occupation. Thus, the stocks are traded in the market by US dollar and the Jordanian Dinar. According to what have been mentioned above, the researcher is going to answer the following question: what is the impact of exchange rate fluctuations on the market's indexes at Palestine exchange?

III. LITERATURE REVIEW

Many studies examine the impact or relationship between the exchange rate and the stock return or market's index. In the following section, the researcher is going to investigate some of these studies. The section will be divided into studies that reveal positive impacts and others that reveal negative impacts

A. Studies that Reveal Positive Impact

Based on the traditional approach which states that the depreciation of domestic currency encourages export which facilitates maximizing the profit and stock return, Bagh *et al.* (2017) studied the effect of exchange rate volatility on the stock index at Pakistan stock exchange based on monthly data from 2003 to 2015. Using the Augmented Dickey-Fuller statistical test, the results revealed a positive and statistically significant relationship between exchange rate volatility and stock index of Pakistan. In addition, Mechri *et al.* (2018) found out a positive impact of the exchange rate on the stock market price where they investigated the Tunisia and the Turkish market by the Multiple Regression model to study the effect of exchange

rate fluctuations on gold and oil. Similarly, a positive effect was figured out by Singhal *et al.* (2019) where they used daily data from the Mexican stock exchange as an emerging market from 2006 to 2018. They utilized ARDL Bound testing co-integration approach.

Using ARDL, too, Kwofie & Ansah, (2018) found out that in the short and long term, there is a positive relationship between exchange rate and stock return. In the same line but by expanding the period to twenty years from 1996 to 2016 and using a multivariate Exponential Generalized Autoregressive Conditionally Heteroskedastic (EGARCH) model alongside other asymmetric GARCH models, GJR GARCH and APARCH were adopted to measure the impact of exchange rate on the South Africa stock return. Results revealed that there are bi-directional volatility spillover effects between the two markets in the short-run. Also, these effects are asymmetric (Sikhosana & Aye, 2018). Moreover, Blau (2017, 2018) examined differently the volatility of exchange rate on the levels of kurtosis and skewness in ADRs over a 12-year period and he found out that more exchange rate stability leads to more stock return stability. Furthermore, by GARCH model from 2001 to 2016, Abed Qader, (2017) measured the impact of exchange rate volatility on the developed markets: Canada, UK, and Japan. Results showed that the exchange rate affects significantly the dynamics of the conditional return of stock markets returns.

In Indian markets, Mokadem, (2020) distinguished between short and long term impacts. She found that there is an impact in the short term for the USD and Indian rupee on the capital goods companies, and this effect has vanished in the long term. On the contrary, Mitra (n.d.) showed that there is a positive effect in the long term where he uses GARCH and Co-integration from 2008 to 2016 to test the long term effect. In addition, through a comparison between pre and post-financial crises by Arbitrage Pricing Theory, a positive effect is discovered. On the other hand, in a study that investigates the impact of fluctuations pre and post a financial crisis, a controversial result in Pakistani market is detected. a positive and negative investor's reaction pre the crisis and positive investors reacted only to positive shocks of the exchange rate in long run (Sheikh *et al.*, 2020). Moreover, there is high and persistent volatility in the Nigerian stock market returns. Exchange rate inflation significantly impacts stock market return volatility in Nigeria (Okechukwu *et al.*, 2019). Exchange rate changes have a significant effect on the past and the current volatility of the BRICS stock indices. Besides, ARDL estimations reveal that exchange rate movements have a significant effect on short- and long-term stocks market indices of all BRICS countries (Mroua, 2019).

B. Studies that Reveal Negative Impact

Khan (2019) studied the effect of exchange rate on the stock return at Shenzhen stock exchange from 2008 to 2018, Based on the ARDL statistical test, the results showed that there is a negative and statistically significant impact on the Shenzhen stock exchange. In the same line, from 2010 to 2015 by GARCH model, British Pound and USD have a negative effects on Colombo stock exchange (Perera, 2016). Exchange rate shocks cause less short-run volatility in the

stock markets of Singapore and Hong Kong though the long run convergence to the baseline in all of the four countries takes approximately equal amount of time (Yang, 2017). In the Indonesian market, the GARCH model is applied and the exchange rates have a significant negative impact on companies (Fahlevi, 2019; Putra & Robiyanto, 2019). Similarly, the period of 2007 to 2015 was investigated by a multiple regression model. The strengthening of the rupiah against the US dollar was a positive signal for market participants where they still have confidence in Indonesia's economic condition (Siregar & Diana, 2019). Changes in exchange rate were significant, and negative linkages influenced low on Johannesburg Stock Exchange (JSE). The presence of long run co-integration was the reason for the absence of causal effect during the study period (Baranidharan & Alex, n.d.). In Chinese financial market although the conventional structural VAR (SVAR) approach fails to examine the contemporaneous effects, the Markov switching SVAR model captures the volatile structure of the Chinese financial market and the result was that no significant interconnections exist between stock returns and exchange rates changes (Cuestas & Tang, 2021).

IV. METHODOLOGY

In this short section, the researcher is going to point out the data collection tools, statistical tests used, and the different periods tested to get results.

Test: The researcher applied a quantitative method. The least square method is adopted to measure the impact of the USD exchange rate difference on the logarithm of Palestine exchange indexes (*Quds*, Industries, Investment, Service, Banks, and Insurance).

Data: Daily USD exchange rate is collected from *investing.com* and the daily *Quds*. Industries, investment, and service index data are collected from the official Palestine exchange website *www.pex.ps*

Periods: Two different periods are tested to investigate the difference between long and short term periods. These periods are:

Period (1): from 2012 to 2021 covers 10 years.

Period (2): from January.2021 to December 2021 covers one year.

V. STATISTICAL RESULTS AND DISCUSSION

The statistical analysis is applied in two stages; stage one is a long term analysis to investigate the impact of the USD exchange rate on the market's indexes which is between January 2012 and December 2021. The second stage investigates the impact of the USD exchange rate on the market's indexes in the year 2021. Results are shown in the following tables (Table I and II).

In the long term as shown in Table I, the analyses show that there is a significant impact of USD exchange rate on the indexes as the entire constants coefficient and exchange rate probability is less than 0.05. It is worth highlighting that the impact is negative in the long term since its range is between 0.13 and 0.99, where the R square which interprets the explanatory of the model is the range between 10 to

46%. These results harmonize with Baranidharan & Alex (n.d.), Cuestas & Tang (2021), Khan (2019), Perera (2016), Putra & Robiyanto (2019) and Yang (2017).

TABLE I: THE ANALYSIS FROM JANUARY 2012 TO DECEMBER 2021

Index	R square	Probability (F-stat.)	Coefficient			
			Const. factor	Prob	Exchg rate factor	Prob
Quds	0.129	0.00	6.71	0.00	-0.134	0.00
Industry	0.307	0.00	6.76	0.00	-0.658	0.00
Investment	0.463	0.00	4.69	0.00	-0.401	0.00
Services	0.102	0.00	3.24	0.00	-0.151	0.00
Banks	0.159	0.00	5.89	0.00	-0.282	0.00
Insurance	0.410	0.00	7.76	0.00	-0.993	0.00

TABLE II: THE ANALYSIS FROM JANUARY 2021 TO DECEMBER 2021

Index	R square	Probability (F-stat.)	Coefficient			
			Cons. Factor	Prob	Exchg rate factor	Prob
Quds	0.131	0.00	7.38	0.00	-0.339	0.00
Industry	.0146	0.00	5.85	0.00	-0.370	0.00
Investment	0.104	0.00	4.30	0.00	-0.286	0.00
Services	0.172	0.00	5.26	0.00	-0.464	0.00
Banks	0.072	0.00	5.55	0.00	-0.188	0.00
Insurance	0.061	0.00	5.05	0.00	-0.128	0.00

In the short term as shown in Table II, the analyses show that there is a significant impact of USD exchange rate on the indexes as all the constants coefficient and exchange rate probability is less than 0.05. It is worth mentioning that the impact is negative in the long term as its range is between 0.12 and 0.46, where the R square which interprets the explanatory of the model is the range between 06 to 15%. These results harmonize with Baranidharan & Alex (n.d.), Cuestas & Tang (2021), Khan (2019), Perera (2016), Putra & Robiyanto (2019), and Yang (2017). Finally, in the long term, the insurance sector is the most affected whereas the banks' sector is the least affected. However, in the short term; the service sector is the most affected whereas the insurance sector is the least affected.

VI. CONCLUSIONS

The exchange rate influences the Palestine exchanges' indexes in the long and short term but the explanatory power in the long term is greater than the explanatory power in the short term. Also, the effect in the long term is greater than the effect in the short term.

REFERENCES

- Abed Qader, B. (2017). Measure the impact of exchange rates fluctuations and stock market returns volatility by GARCH model. *The Arabic Journal of Human and Social Sciences*. Retrieved from <https://www.asjp.cerist.dz/en/downArticle/20/8/26/10282>.
- Bagh, T., Azad, T., Razaq, S., Liaqat, I., & Khan, M. A. (2017). The impact of exchange rate volatility on stock index: evidence from Pakistan stock exchange (PSX). *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(3), 70-86. Retrieved from <https://doi.org/10.6007/IJARAFMS/v7-i3/3150>.
- Baranidharan, S., & Alex, A. (n.d.). *Volatility Spillover of Exchange Rate on Stock Market: Evidence from South Africa*. 26-34.
- Blau, B. M. (2017). The volatility of exchange rates and the non-normality of stock returns. *Journal of Economics and Business*, 91, 41-52. Retrieved from <https://doi.org/10.1016/j.jeconbus.2017.03.002>.
- Blau, B. M. (2018). Exchange rate volatility and the stability of stock prices. *International Review of Economics & Finance*, 58, 299-311. Retrieved from <https://doi.org/10.1016/j.iref.2018.04.002>.
- Cuestas, J. C., & Tang, B. (2021). A Markov switching SVAR analysis on the relationship between exchange rate changes and stock returns in China. *International Journal of Emerging Markets*, 16(3), 625-642. Retrieved from <https://doi.org/10.1108/IJOEM-06-2019-0463>.
- Fahlevi, M. (2019). The influence of exchange rate, interest rate and inflation on stock price of LQ45 index in Indonesia. *Proceedings of the First International Conference on Administration Science (ICAS 2019)*. Proceedings of the First International Conference on Administration Science (ICAS 2019), Bandung, Indonesia. Retrieved from <https://doi.org/10.2991/icas-19.2019.34>.
- Khan, M. K. (2019). *Impact of exchange rate on stock returns in Shenzhen Stock Exchange: Analysis through ARDL Approach*. *International Journal of Economics and Management*, 1(2), 15-26.
- Kwofie, C., & Ansah, R. K. (2018). A Study of the effect of inflation and exchange rate on stock market returns in Ghana. *International Journal of Mathematics and Mathematical Sciences*, 2018, 1-8. Retrieved from <https://doi.org/10.1155/2018/7016792>.
- Mechri, N., Ben Hamad, S., de Peretti, C., & Charfi, S. (2018). The impact of the exchange rate volatilities on stock markets dynamics: evidence from Tunisia and Turkey. *SSRN Electronic Journal*. 3(1), 1-21. Retrieved from <https://doi.org/10.2139/ssrn.3304040>.
- Mitra, P. K. (n.d.). Dynamics of volatility spillover between the Indian stock market and foreign exchange market return. *Academy of Accounting and Financial Studies Journal*, 21(2), 1-11.
- Mokadem, L. (2020). The effect of fluctuations in foreign exchange rates on the returns of shares in capital goods companies in the Saudi financial market. *ARED Review*. Retrieved from <https://www.asjp.cerist.dz/en/downArticle/100/7/1/117683>.
- Mroua, M. (2019). Causality and dynamic relationships between exchange rate and stock market indices in BRICS Countries: Panel/GMM and ARDL Analyses. *Journal of Economics, Finance and Administrative Science*, 25(50), pp. 395-412. <https://doi.org/10.1108/JEFAS-04-2019-0054>.
- Okechukwu, I. A., Samuel Mbadike, N., Geoffrey, U., & Ozurumba, B. A. (2019). Effects of exchange rate, interest rate, and inflation on stock market returns volatility in Nigeria. *International Journal of Management Science and Business Administration*, 5(6), 38-47. Retrieved from <https://doi.org/10.18775/ijmsba.1849-5664-5419.2014.56.1005>.
- Perera, H. (2016). Effects of exchange rate volatility on stock market return volatility: evidence from an emerging market. *International Journal of Science and Research (IJSR)*, 5(1), 1750-1755. Retrieved from <https://doi.org/10.21275/v5i1.NOV153206>.
- Putra, A. R., & Robiyanto, R. (2019). The effect of commodity price changes and USD/IDR exchange rate on Indonesian mining companies' stock return. *Jurnal Keuangan Dan Perbankan*, 23(1), 97-108. Retrieved from <https://doi.org/10.26905/jkdp.v23i1.2084>.
- Sheikh, U. A., Asad, M., Ahmed, Z., & Mukhtar, U. (2020). Asymmetrical relationship between oil prices, gold prices, exchange rate, and stock prices during global financial crisis 2008: Evidence from Pakistan. *Cogent Economics & Finance*, 8(1), 1757802. Retrieved from <https://doi.org/10.1080/23322039.2020.1757802>.
- Sikhosana, A., & Aye, G. C. (2018). Asymmetric volatility transmission between the real exchange rate and stock returns in South Africa. *Economic Analysis and Policy*, 60, 1-8. Retrieved from <https://doi.org/10.1016/j.eap.2018.08.002>.
- Singhal, S., Choudhary, S., & Biswal, P. C. (2019). Return and volatility linkages among International crude oil price, gold price, exchange rate and stock markets: Evidence from Mexico. *Resources Policy*, 60, 255-261. Retrieved from <https://doi.org/10.1016/j.resourpol.2019.01.004>.
- Siregar, E. and Diana. (2019). The impact of political risk and macroeconomics on stock return at Indonesia stock exchange: An Approach of Arbitrage Pricing Theory (APT)). International Conference on Economics, Management, and Accounting, KNE Social Sciences, pages 744-772. DOI 10.18502/kss.v3i26.5412.
- Yang, S.P. (2017). Exchange rate dynamics and stock prices in small open economies: evidence from Asia-Pacific countries. *Pacific-Basin Finance Journal*, 46, 337-354. Retrieved from <https://doi.org/10.1016/j.pacfin.2017.10.004>.

Mohammed Alashi is an Assistant Professor in accounting and finance at the Department of Accounting in the Faculty of Economics and Administrative Sciences at The Islamic University of Gaza, interested in financial reporting under IFRS and financial markets behavior

Mohammed Alashi is an Assistant Professor in accounting and finance at the Department of Accounting in the Faculty of Economics and Administrative Sciences at The Islamic University of

Gaza, interested in financial reporting under IFRS and financial markets behavior.