


**CONSEQUENCES TO THE STOCK MARKET CAUSED BY CURRENCY FLUCTUATIONS:  
JORDANIAN EVIDENCE**

**Arkan Walid Al-Smadi<sup>A</sup>, Raed Walid Al-Smadi<sup>B</sup>, Mohammad Ali Al-Afeef<sup>C</sup>,  
Mohammad Abdel Mohsen Al-Afeef<sup>D</sup>, Nevin Youssef Kalbouneh<sup>E</sup>**



ARTICLE INFO	ABSTRACT
<p><b>Article history:</b></p> <p><b>Received</b> 31 January 2023</p> <p><b>Accepted</b> 06 April 2023</p> <p><b>Keywords:</b></p> <p>Stock Market Returns (SMR); Cotton Returns; Exchange Rate; Jordan.</p>	<p><b>Purpose:</b> The aim of this study is to examine the fluctuations in currency exchange in the stock market, as it relates to the Jordanian market.</p> <p><b>Theoretical framework:</b> The study's main goal is to identify how Jordanian SMR changes in currency exchange are influenced. Thus, the rational expectations theory has been used in this study. This theory illustrates three key aspects that influence the decision to participate in the stock market, including the availability of information, prior experience, and human reason.</p> <p><b>Design/ methodology/approach:</b> The study incorporates the quantitative design, in which, information was extracted from secondary sources i.e. Investing.com. The information has been compiled considering the exchange rates, stock market returns, and cotton prices, beginning in 2015 and ending in 2020. The analysis has been conducted with Granger Causality test, VAR, and ADF.</p> <p><b>Findings:</b> The results of this study concludes that fluctuations of exchange rates do not impact changes in cotton prices and the returns of the Jordanian stock exchange.</p> <p><b>Research, Practical &amp; Social implications:</b> The study is limited to Jordan, as only Jordan's cotton price and stock market return data have been gathered. In addition, the time period of consideration of data is confined from 2015 to 2019, limiting the study's scope.</p> <p><b>Originality/Value:</b> The study uses sensitivity analysis to investigate the robustness of the impacts of fluctuations in currency exchange in the stock market, as it relates to the Jordanian market.</p>
	<p>Doi: <a href="https://doi.org/10.26668/businessreview/2023.v8i4.1275">https://doi.org/10.26668/businessreview/2023.v8i4.1275</a></p>

**CONSEQUÊNCIAS PARA A BOLSA CAUSADAS POR FLUTUAÇÕES DA MOEDA: EVIDÊNCIAS  
JORDANAS**

**RESUMO**

**Objetivo:** O objetivo deste estudo é examinar as flutuações no câmbio no mercado de ações, no que se refere ao mercado jordaniano.

<sup>A</sup> Assistant Prof. in Faculty of Business. Department of Banking and Finance Science. Jearsh University. Jordan, E-mail: [arkanalsmadi@yahoo.com](mailto:arkanalsmadi@yahoo.com) Orcid: <https://orcid.org/0000-0001-5544-7406>

<sup>B</sup> Associate Prof. in Department of Finance and Economics Science. Irbid National University. Irbid, Jordan. E-mail: [readalsmadi@yahoo.com](mailto:readalsmadi@yahoo.com) Orcid: <https://orcid.org/0000-0003-3201-4071>

<sup>C</sup> Assistant Prof. in School of Business. Finance and Banking Department. Al-Bayt University. Jordan, Mafraq. E-mail: [alafeef@aabu.edu.jo](mailto:alafeef@aabu.edu.jo) Orcid: <https://orcid.org/0000-0002-7980-6482>

<sup>D</sup> Associate Prof. in Faculty of Business. Department of Financial and Banking Sciences. Jerash University. Jordan. E-mail: [dr.mohammad@jpu.edu.jo](mailto:dr.mohammad@jpu.edu.jo) Orcid: <https://orcid.org/0000-0003-4473-8253>

<sup>E</sup> Assistant Prof. in Faculty of Business. Department of Banking and Finance Science. Jearsh University. Jordan. E-mail: [n.kalbouneh@jpu.edu.jo](mailto:n.kalbouneh@jpu.edu.jo) Orcid: <https://orcid.org/0000-0002-4050-7573>

**Referencial teórico:** O objetivo principal do estudo é identificar como as mudanças na SMR da Jordânia no câmbio de moeda são influenciadas. Assim, a teoria das expectativas racionais foi utilizada neste estudo. Essa teoria ilustra três aspectos principais que influenciam a decisão de participar do mercado de ações, incluindo a disponibilidade de informações, experiência anterior e razão humana.

**Design/metodologia/abordagem:** o estudo incorpora o design quantitativo, no qual as informações foram extraídas de fontes secundárias, ou seja, Investing.com. As informações foram compiladas considerando as taxas de câmbio, retornos do mercado de ações e preços do algodão, com início em 2015 e término em 2020. A análise foi realizada com teste de Causalidade de Granger, VAR e ADF.

**Resultados:** Os resultados deste estudo concluem que as flutuações das taxas de câmbio não afetam as mudanças nos preços do algodão e os retornos da bolsa de valores da Jordânia.

**Implicações de pesquisa, práticas e sociais:** O estudo é limitado à Jordânia, pois apenas os dados de preço do algodão e retorno do mercado de ações da Jordânia foram coletados. Além disso, o período de consideração dos dados é limitado de 2015 a 2019, limitando o escopo do estudo.

**Originalidade/Valor:** O estudo usa análise de sensibilidade para investigar a robustez dos impactos das flutuações no câmbio no mercado de ações, no que se refere ao mercado jordaniano.

**Palavras-chave:** Retornos do Mercado de Ações (SMR), Retornos do Algodão, Taxa de Câmbio, Jordânia.

## CONSECUENCIAS PARA EL MERCADO BURSÁTIL CAUSADAS POR LAS FLUCTUACIONES MONEDAS: EVIDENCIA JORDANIANA

### RESUMEN

**Propósito:** El objetivo de este estudio es examinar las fluctuaciones en el cambio de divisas en el mercado de valores, en relación con el mercado jordano.

**Marco teórico:** El objetivo principal del estudio es identificar cómo se ven influenciados los cambios de SMR jordanos en el tipo de cambio. Por lo tanto, la teoría de las expectativas racionales se ha utilizado en este estudio. Esta teoría ilustra tres aspectos clave que influyen en la decisión de participar en el mercado de valores, incluida la disponibilidad de información, la experiencia previa y la razón humana.

**Diseño/ metodología/enfoque:** El estudio incorpora el diseño cuantitativo, en el que se extrajo información de fuentes secundarias, es decir, Investing.com. La información ha sido compilada considerando los tipos de cambio, rendimientos bursátiles y precios del algodón, comenzando en 2015 y finalizando en 2020. El análisis se ha realizado con prueba de Causalidad de Granger, VAR y ADF.

**Hallazgos:** Los resultados de este estudio concluyen que las fluctuaciones de los tipos de cambio no afectan los cambios en los precios del algodón y los rendimientos de la bolsa de valores de Jordania.

**Implicaciones de investigación, prácticas y sociales:** el estudio se limita a Jordania, ya que solo se han recopilado datos sobre el precio del algodón y la rentabilidad del mercado de valores de Jordania. Además, el período de tiempo de consideración de los datos se limita de 2015 a 2019, lo que limita el alcance del estudio.

**Originalidad/Valor:** el estudio utiliza un análisis de sensibilidad para investigar la solidez de los impactos de las fluctuaciones en el tipo de cambio en el mercado de valores, en relación con el mercado jordano.

**Palabras clave:** Rendimientos del Mercado de Valores (SMR), Rendimientos del Algodón, Tipo de Cambio, Jordania.

### INTRODUCTION

The share market is regarded as the measurement of values for the section of stock. The share market has a profound effect on the economy of the country as well as the lives of people of that country. A study conducted by Jain and Biswal (2016) argues the stock market valuation is the imperative tool which is used by the financial managers and investors for the purpose of expounding the market while comparing the specific return of investment. There are various external forces which influence the stocks and among these external forces, the fluctuations of

convertibility rate are of substantial significance. In contrast to this, the association of convertibility rate and share market has been widely discussed in the literature, yet there is no consent over the evidence of their relationship (Amado & Choon, 2020; Baranidharan & Alex, 2020, Jamader, Omoush, Al-Smadi, 2019; Ghaith et al., 2021). It has been explained by the financial theory that the position of the company should be affected by the interest rates and rates of exchange. In this regard, a company's stock prices stock is recognised by the downwards and upwards mobility in the exchange rates (Alsmadi et al. 2023; Suriani, et al., 2015; Alnaim, Sulong, Salleh, & Ghaith, 2022; Khatri, Kashif, & Shaikh, 2017).

The FDI is regarded as the crucial aspect for the stock prices in Jordan. It is due to the reason that the tendency of FDI can be impacted by change or fluctuation of the exchange rates in the country. A study done by Muhammad, Azu and Oko (2018) argues the FDI is influenced by the variations in rates of exchange of the country. The decrease in the exchange rates of the country minimises the amount of FDI in the country. On the other hand, the decrease in the exchange rates could also influence the investors in order to withdraw their investment due to devaluation of money or currency. The problem which has been considered by the study is that the rate of exchange in Jordan has declined in recent times, which is alarming for the economy of the country (Abdo, 2019). It is due to the reason that other financial markets of the country are affected by the decline of these exchange rates in the country. This study has aimed to determine the influence of fluctuations in exchange rates relating to Jordanian stock trade. Results of the study are important to the investors and policymakers of the Jordanian stock market.

## LITERATURE REVIEW

There are various factors which have a considerable significance which includes the variables of risk measurement, corporate action and macroeconomics for the purpose of predicting the return of the stock market (Mastana, 2023; Khatri, Kashif & Shaikh, 2017; Khan, 2019). With the help of finding the predictable components, it has been assessed that the share market return can be stabilised to a greater extent by the investors (Tang & Yao, 2018; Kwofie & Ansah, 2018). In contrast to this, there is the existence of certain critique in several prevailing forecasting models and studies. The downturn in the rates of exchange in the country causes a negative image of the country's currency in minds of foreign investors. In this regard, the inflow of FDI has affected adversely due to the currency devaluation while investors feel that the economy is not able to generate enough returns. Eventually, the performance of the companies

starts to decline along with their stock market performance as investors pull their investments. The study of Yahya and Gunawan (2020) also determined the negative influence of the change in the rate of currency exchange over the returns from the stock exchange. In this manner, the stability of the rate of currency exchange is essential for the economy and the company's performance in the stock market.

In contrast to the need for stable currency, the fluctuations in the rates of currency exchange are alarming in developing countries. In this regard, the study of Khan (2019) stated that emerging economies and developing countries are experiencing more fluctuations in the rates of exchange compared to the developed countries. Therefore, the variations in the rates of exchange are considered as the most prominent issue for the performance of the stock market, in particular. A study by Delgado, Delgado and Saucedo (2018) argued that the instability in the rates of exchange of the currency causes significant and negative influence over the stock trade returns of the nation. In this regard, it is imperative for the policymakers to stabilise the currency rate while it is also essential for the investors to consider the trend of changes in currency rates prior making investments in the stock market. Furthermore, a study by Walid et al. (2011) also argued that there is an adverse effect of currency fluctuations on the stock trade returns in the country.

In addition to this, the prices of commodities also play a vital role in terms of influencing the SMR. It is due to the reason that commodities like cotton are widely used in the process of production for a majority of companies. It has been discussed in the study of Haque, Remadevi and Naebe (2020) that in most of the production processes, there is extensive use of cotton. In this regard, the changes in the prices of cotton can affect the performance of cotton-producing companies along with other companies which involved cotton in the production of goods. Therefore, with the decreased performance of the cotton-producing companies, the stock market performance of these companies is also adversely affected. A study by Tung et al. (2018) postulates that the returns from the stock exchange are decreased with the increase in cost of cotton all over the world. It implies that there is a substantial influence of cotton prices on the in country returns from stock trade. Another study by Khan (2020) argued that a negative influence on increases of cotton cost can be seen in the performance of the companies in their exchange of stock. This is the way in which the control effect of cotton price has been examined pertaining to relationships between changes in rates of exchange and Jordanian stock trade performance.

The focus of the study is on pinpointing the influence of changes in the rate of currency exchange over Jordanian SMR. Therefore, the theory which has been employed in this study is the rational expectations theory. A study by Baele et al. (2015) suggested that the rational expectations theory is regarded as the modelling concept or technique which is extensively assumed in macroeconomics. Therefore, this theory depicts that the decision of the entities with respect to investment in the stock market is grounded over three primary factors which include information availability, past experience and human rationality. In addition to this, it has also been stated by the rational expectations theory that the individuals make decisions based on the information which is available to them. It relates to the changes in rates of exchange as the information with regards to the variations in rates of exchange is available for the investors prior to making an investment decision. A study by Ni, Wang and Xue (2015) stated that it is essential for the investors to consider the information which is available with respect to the macroeconomic factors before making the decision of investment. In this manner, the influence of shifts in rates of currency is determined over returns from the stock trade in regard to Jordan. Moreover, the first hypothesis of the study was developed for the purpose of assessing the influence of currency fluctuations on the returns of the Jordanian stock exchange which are provided below:

*H<sub>1</sub>: Changes in exchange rates considerably sway the stock market returns in Jordan.*

## **MATERIAL AND METHODOLOGY**

In order to assess the influence of changes in exchange rates over the SMR in Jordan, this study employs the quantitative design. In this regard, the variables which are adopted for purposes of conducting the study include changes in exchange rates, stock market returns and one control variable which is the cotton price. On the other hand, this study has adopted the deductive approach which has been adopted for the purpose of testing the hypothesis as it relates to the Jordanian stock market (Al-Smadi & Al-Smadi, 2021; Al-Smadi, 2020b; Al-Smadi et al. 2020. Bekhet and Al-Smadi, 2017; Razzaqi, Bilquees & Shahbaz, 2011). Moreover, the technique which has been employed with the purpose of gathering the data, is secondary. The information has been collected from Investing.com for the considered variables from 2015 to 2020. In addition to this, the data has been gathered month to month. The assessment of the data includes statistics that describe, along with the testing of unit root through ADF. The study of Gerrard and Johnson (2015) argued that it is imperative to test the unit root for the purpose

of determining the occurrence of random trends in the data. After testing the unit root, the regression is determined in regard to the influence of changes in exchange rates over the SMR in Jordan (Insawan, et al. 2022; Al-Smadi, 2020a; Bekhet and Al-Smadi, 2015). The regression equation is provided as follows:

$$SMR_t = \alpha + \beta_1 \Delta EXR_t + \beta_2 \Delta CP_t + \varepsilon_t$$

The above equation signifies the regression model of the study in which SMR refers to the Jordanian stock trade. Besides this,  $\alpha$  refers to the constant while  $\Delta$  refers to the change in prices of the rate of exchange as well as cotton. Additionally,  $\varepsilon_t$  is the error term used in this model.

## RESULTS AND DISCUSSION

Table 1 below posits the results of descriptive statistics. In this regard, it is evident from the below Table 1 that the mean of SMR is calculated as -0.005. This posits that the SMR average for Jordan during the years being considered equals -0.5% while the standard deviation is calculated at 0.029 showing the deviation of stock returns in Jordan by 2.9%. Moreover, the mean of exchange rate is calculated at 0.709, depicting that the average of the rate of exchange in Jordan is 70.9%. While the standard deviation is obtained to be 0.001 showing that the exchange rate in Jordan is expected to deviate from 0.1%. Finally, the mean for cotton returns is computed at 0.003, depicting the average cotton returns in Jordan by 0.3%. Standard deviation for cotton returns is computed at 0.061, positing the deviation of 6.1% in the cotton returns.

Table 1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
StockRet	71	-0.005	0.029	-0.113	0.070
ExchangeRate	72	0.709	0.001	0.707	0.710
CottonRet	71	0.003	0.061	-0.189	0.140

Source: Prepared by the authors (2023).

### Augmented Dickey-Fuller (ADF)

With respect to trends found historically, the assessment of unit root occurrence is recognized as the vital characteristic, in terms of conniving the values and providing prediction upon it. As suggested by Paparoditis and Politis (2018) that it is stimulating to measure the impending values grounded on previous data though using contemporary inferential



measurements. Therefore, the ADF has been used for the determination of assessing the unit root presence.

Table 2 ADF

ADF test statistic	t-Statistic	Prob.*
Stock Returns	-7.678	0.000
Exchange Rate	-13.851	0.000
Cotton Prices	-9.419	0.000

Source: Prepared by the authors (2023).

The following Table 2 shows outcomes of ADF with admiration to each variable considered in the study. The alternative hypothesis in ADF denotes to no occurrence of the unit root while the null hypothesis signifies to the presence of unit root. Consequently, it is resolute from Table 2 that the sig values of all the variables are below 0.05 depicting no presence of unit root. In this regard, the alternative hypothesis is accepted which posits no occurrence of the unit root in the data. Pertaining to this, the VAR methodology is being employed in order to determine the impact.

### Vector Autoregression (VAR)

Table 3 below illustrates vector autoregression equations and it can be determined based on the below Table that there are insignificant associations between variables with respect to the equation of stock returns as sig value is computed at 0.116. This is above 0.05. Conversely, the relationship among variables was resolute to be significant considering the equation of exchange returns as sig values was calculated to be 0.00 which is below 0.05. Lastly, the relationship among the variables is insignificant regarding the equation of cotton returns, as sig values were 0.806. This is below the limit of 0.05.

Table 3 Vector Autoregression Equations

Equation	Parms	RMSE	R-sq	chi2	P>chi2
Stock Returns	7	0.028	0.129	10.219	0.116
Exchange Returns	7	0.001	0.272	25.719	0.000
Cotton Returns	7	0.063	0.042	3.021	0.806

Source: Prepared by the authors (2023).

The below Table 4 shows the results of vector autoregression as it pertains to the returns of the stock trade. In this regard, significant impact of cotton returns on returns from the Jordanian stock trade can be resolute from the below Table 4 as  $B = 0.140$ ,  $p = 0.011 < 0.05$ . In contrast to this, the effect is significant on second lag which posits minimum effect of the variable.

Table 4 Vector Autoregression (Stock Market Returns)

	Coef.	Std. Err.	z	P> z
<b>Stock Returns</b>				
L1.	0.023	0.115	0.200	0.838
L2.	-0.190	0.116	-1.640	0.101
<b>Exchange Returns</b>				
L1.	5.593	4.898	1.140	0.254
L2.	8.748	4.847	1.800	0.071
<b>Cotton Returns</b>				
L1.	0.074	0.055	1.330	0.183
L2.	0.140*	0.055	2.530	0.011
_cons	-0.006	0.003	-1.720	0.086

Source: Prepared by the authors (2023).

### Granger Causality Test

Table 5, below, shows the results of the Granger Causality assessment which posits that there is a significant effect of stock returns, while not including the cotton returns as  $B = 7.214$ ,  $p = 0.027 < 0.05$ . It demonstrates that cotton returns do not impact stock returns.

Table 5 Granger Causality

Equation	Excluded	chi2	df	Prob > chi2
<b>Stock Return</b>				
Stock Returns	ExRet	3.318	2	0.19
Stock Returns	CottonRet	7.214*	2	0.027
Stock Returns	ALL	8.866	4	0.065
<b>Exchange Return</b>				
Exchange Rate Returns	StockRet	1.123	2	0.57
Exchange Rate Returns	CottonRet	2.568	2	0.277
Exchange Rate Returns	ALL	3.700	4	0.448
<b>Cotton Return</b>				
Cotton Returns	StockRet	1.465	2	0.481
Cotton Returns	ExRet	0.289	2	0.865
Cotton Returns	ALL	1.782	4	0.776

Source: Prepared by the authors (2023).

As per analysis carried out in prior sections, it can be resolute that there is an insignificant consequence of the exchange rate changes over the SMR in Jordan. Therefore, the hypothesis that there is a substantial impact of changes in exchange rates over stock trade returns in Jordan has been ruled out. It contradicts the findings of Yahya and Gunawan (2020) which suggests the negative influence of the change in the rate of exchange over the returns of the stock trade. Another study by Delgado, Delgado and Saucedo (2018) determined that instability in exchange rates of the currency cause significant but negative pressure on returns of the stock market in the country. However, insignificant effects of changes in the exchange rate over stock market returns would be due to a higher rate of conversion which foreign investors gain. On the other hand, the effect of cotton returns was also resolute to be inconsequential over the SMR in Jordan. However, the results of the study contrast with the



findings of Khan (2020) in which the study stated there is a negative influence caused by the increase in cotton costs over stock exchange performance of the companies.

## CONCLUSION

The stability of the exchange rate is challenging for every economy in the world as the instability can impose adverse effects over different sectors and financial markets of the country. In this regard, the effect of exchange rates over the stock market returns in Jordan has been determined in this study. For this purpose, the quantitative design of the study has been adopted while the information has been collected from secondary sources, including Investing.com, regarding the variables exchange rate, stock market returns and one control variable which is cotton returns. The time period considered for data begins in 2015 and concludes in 2020, on month-to-month basis. With respect to the analysis, the descriptive statistics along with ADF to check the occurrence of a unit root in the data has been employed. The effect has been measured through the VAR model along with the Granger causality test. The findings of the study determined that there is an insignificant effect of the exchange rate on stock market returns while the cotton returns were also found to have insignificant control effect among the exchange rate changes and stock market returns. Therefore, it is suggested for the policymakers and investors to consider the cotton returns to some extent as it was determined to be significant on its second lag. The limitation of the study is that the results are applicable to the Jordanian stock market. Therefore, it is suggested for future researchers to include data from other countries in UAE for the purpose of presenting significant findings.

## REFERENCES

- Al-Smadi, R. W. (2020). Financial Development, Energy Consumption And Economic Growth In Jordan: New Evidence From Time Series Analysis. *International Journal Of Advanced Science And Technology*, 29(3), 1558-1567.
- Al-Smadi, R. W. (2021). The Effect of Real Effective Exchange Rate on Balance of Payments in Thailand. *Turkish Online Journal of Qualitative Inquiry (TOJQI)* 12, (7), 4496- 4505
- Al-Smadi, R. W. & Al-Smadi, R. W (2021). The Impact Of Changes In Oil Prices On The Stock Market: Evidence From Jordan. *TEST Engineering & Management*, 83, 10243 – 10255.
- Abdo, N. (2019). The Gendered Impact of IMF Policies in MENA: The case of Egypt, Jordan and Tunisia.

- Amado, A., & Choon, L. M. (2020). Impact of Changes in Exchange Rate on Stock Market: An Empirical Evidence from Indonesia. *International Journal of Applied Economics, Finance and Accounting*, 7(1), 24-31.
- Alnaim, M., Sulong, F., Salleh, Z., & Ghaith, A. (2022). Conceptual paper on corporate environmental performance as mediating between innovation and financial performance in Jordanian industrial sector. *Academy of Strategic Management Journal*, 21, 1-9.
- Alsmadi, A. A., Moh'd Al\_hazimeh, A., Al-Afeef, M. A., Al-Smadi, A. W., Rifai, F., & Al-Okaily, M. (2023). Banking Services Transformation and Financial Technology Role.
- Al-Smadi, R. W., Al-Smadi, A. W., & Ali, O. A. (2020). The Impacts of Sustainability Practices Disclosure on Financial Performance: Jordan Commercial Banks.
- Bekhet, H. A., & Al-Smadi, R. W. (2015). Determinants of Jordanian foreign direct investment inflows: Bounds testing approach. *Economic Modelling*, 46, 27-35.
- Bekhet, H. A., & Al-Smadi, R. W. (2017). Exploring the long-run and short-run elasticities between FDI inflow and its determinants in Jordan. *International Journal of Business and Globalisation*, 18(3), 337-362.
- Baele, L., Bekaert, G., Cho, S., Inghelbrecht, K. & Moreno, A. (2015). Macroeconomic regimes. *Journal of Monetary Economics*, 70, pp.51-71.
- Baranidharan, S., & Alex, A. (2020). Volatility Spillover of Exchange Rate on Stock Market Evidence from South Africa. *Asian Journal of Economics, Finance and Management*, 26-34.
- Delgado, N. A. B., Delgado, E. B., & Saucedo, E. (2018). The relationship between oil prices, the stock market and the exchange rate: evidence from Mexico. *The North American Journal of Economics and Finance*, 45, 266-275.
- Ghaith, A., Awang, Z., Barhem, B. Y., Alsakarneh, A., Eneizan, B., & Nofal, M. (2021). Structural Equation Modelling Using AMOS based Empirical Analysis: Direct and Indirect Effects of Job Performance Factors among Jordanian Islamic Banks. *Webology*, 18(2).
- Gerrard, P., & Johnson, R. M. (2015). *Mastering scientific computing with R*. Packt Publishing Ltd.
- Haque, A. N. M. A., Remadevi, R., & Naebe, M. (2020). A review on cotton gin trash: sustainable commodity for material fabrication. *Journal of Cleaner Production*, 125300.
- Jain, A., & Biswal, P. C. (2016). Dynamic linkages among oil price, gold price, exchange rate, and stock market in India. *Resources Policy*, 49, 179-185.
- Jamader, A. R., Omoush, M. M., & Al-Smadi, A. W (2019). Analysis Influence of Online Shopping Information Dependency On Internet Shopping Adoption. *The Middle East International Journal for Social Sciences (MEIJSS)* 1, 3, 65-77.
- 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.

- Khan, S. (2020). Exchange Rate Volatility and Bilateral Cotton Exports from Pakistan: An Empirical Analysis. *RADS Journal of Business Management*, 2(1), 12-19.
- Khatri, S. N., Kashif, M., & Shaikh, A. S. (2017). The exchange rate as significant predictor of movement in stock market indices in South Asian Countries: An econometric analysis. *Journal of Business Strategies*, 11(2), 107-123.
- 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*.
- Muhammad, S. D., Azu, N. P., & Oko, N. F. (2018). Influence of real exchange rate and volatility on FDI inflow in Nigeria. *International Business Research*, 11(6), 73-82.
- Mastana, A. S. (2023). Factors Influencing Consumer Intentions to Purchase Groceries Over the Internet: an Exploratory Study During the Pandemic. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, 8(2), 2.
- Ni, Z. X., Wang, D. Z., & Xue, W. J. (2015). Investor sentiment and its nonlinear effect on stock returns—New evidence from the Chinese stock market based on panel quantile regression model. *Economic Modelling*, 50, 266-274.
- Razzaqi, S., Bilquees, F., & Sherbaz, S. (2011). Dynamic relationship between energy and economic growth: evidence from D8 countries. *The Pakistan Development Review*, 437-458.
- Suriani, S., Kumar, M. D., Jamil, F., & Muneer, S. (2015). Impact of exchange rate on stock market. *International Journal of Economics and Financial Issues*, 5(1S), 385-388.
- Tang, X., & Yao, X. (2018). Do financial structures affect exchange rate and stock price interaction? Evidence from emerging markets. *Emerging Markets Review*, 34, 64-76. Available at: <https://doi.org/10.1016/j.ememar.2017.10.004>.
- Tung, S. A., Huang, Y., Hafeez, A., Ali, S., Khan, A., Souliyanonh, B., ... & Yang, G. (2018). Mepiquat chloride effects on cotton yield and biomass accumulation under late sowing and high density. *Field Crops Research*, 215, 59-65.
- Walid, C., Chaker, A., Masood, O., & Fry, J. (2011). Stock market volatility and exchange rates in emerging countries: A Markov-state switching approach. *Emerging Markets Review*, 12(3), 272-292.
- Insawan, H., Karyono, O., & Farida, I. (2022). The Covid-19 Pandemic and its Impact on the Yields of Sharia Stock Business Portfolio in Indonesia. *International Journal of Professional Business Review*, 7(6), e0941-e0941.
- Yahya, Y., & Gunawan, G. (2020). Does Exchange Rate Volatility Matter for Stock Returns in Indonesia?. In *Proceedings Aceh Global Conference-Business, Economics, and Sustainable Development Trends* (Vol. 2, pp. 63-67).