FOREIGN INVESTMENTS AND STOCK MARKET: EVIDENCE FROM PALESTINE

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ABSTRACT

Purpose: This study aims to examine the association between the different forms of inbound foreign investments and the Palestine Exchange (PEX) index to shed light on the nature of that impact.

Theoretical Framework: Several academic studies have examined stock market index factors. Chen, Roll, and Ross's (1986) seminal study on macroeconomic conditions and U.S. stock returns provides an example. Interest rate, inflation, industrial production, risk premium movements, and dividend yield positively explain expected stock return. Abusharbeh and Karim (2016) found that interest and consumer price index positively affect banking and investment firm profits on The Palestine Exchange (PEX). Shahbaz (2013) examined how foreign direct investment affects Pakistan's stock market. Results supported foreign direct investment's stock market complementarity.

Design/Methodology/Approach: The market index and panel quarterly data for inward foreign investments are used in this study. From 2009 to 2022, end-of-quarter data were collected on total inward foreign investments, their sub-components (direct investments, stock portfolio investments, and currency and deposits in Palestine), and the market index (Al-Quds index) closing value. Fifty-six observations were gathered.

Findings: The study found that the overall model integrating all three types of inward foreign investments significantly explains the market index. Foreign portfolio investments (FPI) are significantly associated with the stock market index. However, the results showed that inward foreign direct investments (FDI) and foreign deposits and currency investments (FCI) have no significant impact on the stock market index, indicating that they do not complement or substitute each other.

Research, Practical & Social Implications: This study can help the stock market, regulators, and policymakers create incentives and regulations to attract different forms of inward foreign investments. It also examines why foreign direct investments (FDI) and foreign deposits and currency investments do not complement or substitute stock market development.

Originality/Value: This study provides empirical evidence on the impact of the different forms of foreign investment in Palestine on the stock market. Further research is recommended to explore additional variables that might be significant, such as market capitalization and market volume.

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INVESTIMENTOS ESTRANGEIROS E MERCADO DE AÇÕES: EVIDÊNCIAS DA PALESTINA

RESUMO

Objetivo: Este estudo visa examinar a associação entre as diferentes formas de entrada de investimentos estrangeiros e o índice da Bolsa da Palestina (PEX) para esclarecer a natureza desse impacto.

Referencial Teórico: Vários estudos acadêmicos examinaram os fatores dos índices do mercado de ações. O estudo seminal de Chen, Roll e Ross (1986) sobre as condições macroeconômicas e os retornos das ações dos EUA fornece um exemplo. A taxa de juro, a inflação, a produção industrial, os movimentos dos prêmios de risco

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e el rendimiento de dividendos explican positivamente el retorno esperado de las acciones. Abusharbeh y Karim (2016) descubrieron que los intereses y el índice de precios al consumidor afetan positivamente los lucros de las empresas de inversión en la Bolsa de Valores de Palestina (PEX). Shahbaz (2013) examinó cómo el rendimiento de los depósitos en la moneda extranjera afecta el mercado de acciones de Paquistán. Los resultados apoyaron la complementariedad del mercado bolsista del mercado de acciones directos extranjeros.

**Resumen**

El índice de mercado y los datos trimestrales de panel para los mercados de las acciones extranjeras internas son utilizados en este estudio. De 2009 a 2022, se recopilaron datos de los mercados de los mercados de las acciones extranjeras en la Bolsa de Valores de Palestina (PEX). En contrasto, los resultados mostraron que los mercados de las acciones extranjeras directas (IED) y los depósitos e inversiones en divisas (FCI) en el extranjero no tienen un impacto significativo en el índice de mercado de valores, lo que indica que no se complementan ni sustituyen entre sí.

**Conclusión**

El estudio encontró que el modelo general que integra los tres tipos de inversiones extranjeras enteras explica significativamente el índice de mercado. Las inversiones extranjeras de cartera (FPI) están significativamente asociadas con el índice bursátil. Sin embargo, los resultados mostraron que las interacciones de las inversiones extranjeras directas (IED) y los depósitos e inversiones en divisas (FCI) en el extranjero no tienen un impacto significativo en el índice de mercado de valores, lo que indica que no se complementan ni sustituyen entre sí.

**Investigación, Implicaciones Prácticas y Sociales**: este estudio puede ayudar al mercado de valores, a los reguladores y a los formuladores de políticas a crear incentivos y regulaciones para atraer diferentes formas de inversiones extranjeras entranas. También examina por qué las inversiones extranjeras directas (IED) y los depósitos extranjeros y las inversiones en divisas no complementan ni sustituyen el desarrollo del mercado de valores.

**Palabras clave**: PEX, Inversiones Extranjeras Directas (FDI), Depósitos e Inversiones en Moneda Extranjera (FCI), Inversiones Extranjeras de Cartera (FPI).
INTRODUCTION

There has been much research into the relationship between the financial market and the economy worldwide, and some of that research has shown that there is, in fact, a relationship between share returns and some macroeconomic factors. However, the vast majority of this research has been conducted in developed economies; for example, Fama and Schwert (1977) and others found a negative connection between stock returns and inflation in the US market. According to Fung and Lie (1990), "macroeconomic factors cannot be reliable indicators for stock market price movements because of the inability of stock markets to capture information about the change in macroeconomic fundamentals fully," which is why some studies found no correlation between economies and stock markets in some developing countries.

Most developing countries rely heavily on foreign investment because it helps them close the gap in financial resources, managerial expertise, human capital, and a competitive business climate. However, the economic literature is conflicted on the significance of foreign investment in driving economic growth.

The positive aspects of foreign investment include introducing new technologies and transferring business expertise to the host country (Romer, 1993). Conversely, current trade, pricing, financial, and other inefficiencies will hinder resource allocation, slowing economic growth (Brecher & Diaz-Alejandro, 1977; Brecher, 1983; Boyd & Smith, 1992). Economic development is not directly affected by foreign investment, as Carkovic and Levine (2002) demonstrated. According to Johnson (2005), foreign investment helps emerging economies but hurts advanced ones. Rehman and Salahuddin (2009) state that foreign investment will only contribute to economic growth if specific policy conditions are met. Thus, the effect of foreign investment is hard to estimate with certainty based on the available empirical information.

Slow economic growth in developing countries is often attributed to a lack of resources to combat this trend. Several economies have turned to borrowing money from abroad to promote development, while others have specifically targeted obtaining foreign contributions. For this reason, it is impossible to overstate the significance of private and public sector foreign investment in encouraging growth and development in emerging nations.

It has been noted that foreign investment, stock market growth, and economic expansion form a triangle with (1) foreign investment promoting economic expansion, (2) economic expansion having a beneficial effect on stock market expansion, and (3) foreign investment fostering stock market expansion only indirectly (Adam & Tweneboah, 2009). When it comes to the stock market's growth, the question at hand is whether or not foreign investment acts as a
substitute. Given this potential, it is postulated that foreign investment complements stock market growth if there is a favorable link between the two. Alternatively, if there is a negative correlation between both, foreign investment will likely replace an increase in the financial market.

This study aims to provide practical evidence on the effect of the different forms of foreign investment in Palestine on the financial market index. Foreign investments and the market index are analyzed based on quarterly data observations.

The stock market is crucial for governments and businesses to raise capital for investment projects or to expand their operations from individual investors. Gaining access to lower-cost financing through the stock market helps generate more employment and resources, which in turn helps bring items to the market at reduced costs. As a result, the stock market can potentially enhance consumers' lives and the nation's economy.

The study is relevant due to the positive effect of foreign investments on the financial market and their value added to economic growth. To my understanding, there has been no previous investigation into the effect of foreign investments on PEX despite numerous studies exploring the connection between specific macroeconomic issues and financial market returns. The findings of this study will assist the government in effectively overseeing and directing foreign investments as they shed light on the effect of these investments on the financial market.

This study tests the correlation between foreign direct investment and the financial market in Palestine, namely the Palestine Exchange (PEX). The study tests the effect of foreign investments flowing into the country on the stock market index. Additionally, it explores the interconnections between various types of foreign investments and the stock market index.

The problem of this study lies in examining the following questions:
- Does the Palestine Exchange (PEX) index respond to inward foreign investment?
- What impact do various forms of inward foreign direct investment have on the PEX index?

LITERATURE REVIEW

Various academic studies have investigated the factors that impact the financial market index. The study conducted by Chen, Roll, and Ross in 1986, which tested the influence of macroeconomic conditions on the performance of U.S. equities, is considered a significant and influential piece of research. The researchers analyzed the responsiveness of stock returns in the U.S. market by utilizing these factors as explanatory variables. The study revealed that
variables such as interest rate, inflation, industrial production, variations in the risk premium, and dividend yield all had a positive and substantive effect on the expected stock return.

Patelis (1997) looked at the effect of monetary policy on forecasting stock market returns. He discovered that the money supply is a powerful predictor of stock returns over the short and long term. While according to Poon and Taylor (1991), the monetary policy model could not accurately forecast UK stock market returns into the future.

In his study, Zoubi (2000) examined the influence of factors on stock prices and trading volume in the Amman Stock Exchange over the period (1978-1998). The study sought to analyze the effect of fluctuations in macroeconomic indicators on the Amman Stock Exchange index. The study revealed that the index exhibited a collective response to macroeconomic variables. Furthermore, it indicated that there was no connection between the independent and dependent variables, except in cases where the overall financial market index experienced a slowdown.

A study of the factors influencing the Saudi stock market was conducted by Altwajri (2006). The study aimed to learn what influences the Saudi stock market and how it works. According to the study, the most consequential elements are the oil price, national income, money supply, interest rates, and inflation rates.

Billmeier and Massa (2008) investigated what drives the stock market at the macro level. The study aimed to compare stock market performance in countries with different macroeconomic factors, focusing on 17 rising economies in the Middle East and Central Asia. The study employed a wide range of conventional variables to analyze the factors that shape the macroeconomy and, ultimately, market concentration. It was determined that traditional variables and the institutional link were strong in markets with limited natural resources, leading the authors to conclude that these factors had an institutional influence on market shares. The study found that oil price was the primary factor influencing stock price determinants in nations with abundant natural resources.

In his case study of listed banks in Jordan, Al-Shubiri (2010) investigated the factors influencing stock price changes. According to the findings, the stock price positively correlates with its net asset worth but does not correlate with the inflation or interest rate.

Tuomas, Ricardo, and Isabel (2011) analyzed the basic principles, monetary aspects, and mechanisms of investing in emerging economies. The study employed the direction of the gradient regression (PVAR) technique to examine the immediate reaction of private investment to disturbances in the basic factors and financial conditions in emerging market economies. The
researchers determined that the investment exhibits a gradual adjustment to these disturbances, and the investment's reaction to changes in the credit market is primarily influenced by demand.

According to a study by Boyer and Filion (2004), quarterly automatic flows of various investment groups significantly impact stock prices. The study also concluded a substantive connection between the financial market index returns and foreign investors in the United States from 1952 to 2004.

In their study, Abu-Libdeh and Harasheh (2011) analyzed the correlation between stock prices in Palestine and five key macroeconomic indicators: GDP, inflation, exchange rate, Libor rate, and balance of trade. The conclusions of the study showed a notable and meaningful association between the macroeconomic factors considered and share prices.

Zhu (2012) examined the impact of macroeconomic variables on the returns of energy sector stocks on the Shanghai Stock Exchange during the period from January 2005 to December 2011. The share returns in the energy sector in the Shanghai financial market exhibited a favorable correlation with the exchange rate, foreign reserve, and unemployment rate. The export rate has a detrimental effect on the financial market's performance.

Bijoy (2023) conducted a study investigating the connections between stock and currency markets in 28 emerging economies from 1988 to 2019, specifically focusing on return and volatility. The study discovered that during the pre-crisis and crisis periods, return spillovers primarily occur from the stock market to the forex market. However, in the post-crisis time, return spillovers mainly happen from the forex market to the stock market.

Shahbaz (2013) examined the influence of foreign direct investment on the growth and progress of the stock market in Pakistan. The primary focus was determining if foreign direct investment had a complementing or substitutionary role in the financial market's growth. The findings corroborated the supplementary function of foreign direct investment in fostering the growth of Pakistan's financial market.

Al-Abdallah and ALjarayesh (2017) conducted a study to examine the impact of interest rate, currency rate, and inflation on the stock returns of the Amman Stock Exchange (ASE) index. They analyzed ten years of monthly data from 2005 to 2015. The findings indicated that companies exhibit a negative correlation with interest rates and a positive correlation with inflation. However, there is no substantial association between the exchange rate and share returns.

In their study, Abusharbeh and Karim (2016) examined the influence of several macroeconomic indicators (such as interest rate, exchange rate, inflation, unemployment rate,
and GDP per capita) on the returns of The Palestine Exchange (PEX). They utilized panel data from January 2012 to December 2015, encompassing all 49 publicly listed companies on the PEX. The findings indicate a favorable correlation between interest rates, the consumer price index, and the returns of banking and investing enterprises. The returns of insurance firms are positively influenced by GDP per capita. The correlation between the exchange rate, unemployment rate, and share returns was not statistically significant.

Al-Smadi (2023) examined the impact of currency exchange rates on stock market performance in Jordan from 2015 to 2020. The analysis determined that variations in exchange rates have no effect on the results of the Jordanian stock market.

HYPOTHESES

In light of previous research, this study tests and intends to accept the following hypotheses in the context of Palestine:

\( H01: \) The overall inward foreign investments significantly impact the Palestine Exchange (PEX) index.

\( H02: \) There are significant differences in the impact of the different forms of inward foreign investment (foreign direct investments (FDI), foreign portfolio investments (FPI), and foreign deposits and currency investments (FCI)) on the PEX index.

METHODOLOGY

This study follows the quantitative approach by exploiting the published data of the PEX index and foreign investment components.

Variables Definitions

The independent variables

The study contains one primary independent variable, which consists of three other sub-independent variables as follows:

Main independent variable

**Inward Foreign Investments:** The inward investments inflow into Palestine made by an investor, firm, or government from outside the country in the form of direct investments, investments in securities, and investments in currency and deposits in Palestine.
Sub-independent variables

**Inward Foreign Direct Investment (FDI):** The inward investments inflow into Palestine in the form of an ownership stake in a local firm or enterprise made by an investor, entity, or government outside the country.

**Inward Foreign Portfolio Investment (FPI):** The inward investments inflow into Palestine in the form of a portfolio in the local stock market made by an investor, entity, or government outside the country.

**Inward Foreign Deposits and Currency Investment (FCI):** The inward investments inflow into Palestine in the form of deposits and currencies at the banks in Palestine made by an investor, entity, or government from outside the country.

The dependent variable

The study's dependent variable is the financial market index, which serves as a comprehensive indicator of overall stock market performance. Specifically, the Al-Quds index was chosen as the market index for PEX in this study.

The Al-Quds Index is a comprehensive indicator of market performance and trend, which is determined by the stock prices of 16 businesses from diverse industries that are listed on the Palestine Stock Exchange. The index is calculated by dividing the present market value of every constituent business in the index by its previous market value. PEX has been employing this index since the trading session on 7/7/1997.

**Data**

This study uses panel quarterly data for inward foreign investments and the Al-Quds market index. The end-of-quarter data were collected on the total inward foreign investments and their sub-components forms (direct investments, investments in stock portfolios, and investments in currency and deposits in Palestine) as well as the quarterly closing value of the market index (Al-Quds index) through the period from 2009 to 2022. Fifty-six observations were obtained and analyzed.

**The Study Model**

In order to test the study hypotheses and to investigate the relationships between the variables, the study employs multiple regression analysis and builds the following econometric model:
\[ QI_i = a_0 + b_1 FDI_i + b_2 FPI_i + b_3 FCI_i + e_i \]  \hspace{1cm} (1)

Where:

- \( QI_i \): Al-Quds market index value at the end of quarter \( i \)
- \( FDI_i \): Inward foreign direct investments at the end of quarter \( i \)
- \( FPI_i \): Inward foreign portfolio investments at the end of quarter \( i \)
- \( FCI_i \): Inward foreign deposits and currency investments at the end of quarter \( i \)
- \( a_0 \): is the intercept
- \( b_1, b_2, b_3 \): are the coefficients (the slope)
- \( e \): is the error term.

**RESULTS AND DISCUSSION**

**Basic Statistics**

The basic descriptive statistics of foreign inward investment variables and market index values are summarized in Table (1), which explains each variable mathematical mean, maximum, minimum values, and standard deviation.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>St. Dev</th>
<th>Max</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI Inward Foreign Direct Inv.</td>
<td>2.619</td>
<td>227</td>
<td>3.140</td>
<td>1.959</td>
</tr>
<tr>
<td>FPI Inward Foreign Portfolio Inv.</td>
<td>719</td>
<td>75</td>
<td>926</td>
<td>611</td>
</tr>
<tr>
<td>FCI Inward Foreign Deposits &amp; Currency Inv.</td>
<td>1.758</td>
<td>213</td>
<td>2.142</td>
<td>1.350</td>
</tr>
<tr>
<td>FI Overall Inward Foreign Inv.</td>
<td>5.096</td>
<td>456</td>
<td>6.154</td>
<td>4.008</td>
</tr>
<tr>
<td>QI Al-Quds Index</td>
<td>522</td>
<td>46</td>
<td>667</td>
<td>438</td>
</tr>
</tbody>
</table>

Source: Data collected by the author.

On average, the total inward foreign investment has a mean value of 5,096 million dollars across the study period by 456 million of standard deviation. Simultaneously, we can note clearly that a minor portion of foreign investments (14% only) is directed toward portfolios. In comparison, foreign direct investment is the major component of total foreign investments (constituting 51%), followed by foreign deposits (constituting 34%).

Table 2 shows the results of the Pearson correlation; the table demonstrates that the highest positive correlation with the dependent variable is with inward foreign portfolio investments (FPI) (strong correlation \( R=0.76 \)), then with inward foreign direct investments (FDI) (Moderate correlation \( R=0.59 \)), the lowest correlation is with Inward Foreign Deposits & Currency Investments (FCI) (Weak correlation \( R=0.34 \)), this suggests a significant association between the stock market index and inward foreign portfolio investments.
Table 2. Pearson Correlation Matrix

<table>
<thead>
<tr>
<th>Variables</th>
<th>QI</th>
<th>FDI</th>
<th>FPI</th>
<th>FCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>QI</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FDI</td>
<td>0.59</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPI</td>
<td>0.76</td>
<td>0.62</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>FCI</td>
<td>0.34</td>
<td>0.74</td>
<td>0.39</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Data collected by the author.

Hypotheses Testing

Hypothesis 1 testing

In this section, we empirically test the association between the study variables; Table 3 summarizes the regression analysis statistics for the study model.

Table 3 shows that the result of the F-statistic test is significant at a 1% level (p-value = 0 is less than .01). Therefore, we reject the null hypothesis and conclude that the model significantly explains the association between the independent variables and the dependent variable, in addition, the adjusted R-squared is 0.574, which indicates that the model explains 57.4% of the variation in the dependent variable (Al-Quds index).

Table 3. Multiple Regression Model Summary Results

<table>
<thead>
<tr>
<th>Description</th>
<th>Values / Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>18.534*, p-value (000). The model is significant at a 1% level.</td>
</tr>
<tr>
<td>Adjusted R squared</td>
<td>0.574, the model explains 57.4% of the variations in the dependent variable</td>
</tr>
<tr>
<td></td>
<td>(accepted level of interpretation).</td>
</tr>
<tr>
<td>Intercept (Constant)</td>
<td>142.565, T-statistic =2.5**, p-value (0.017). Significant at 5%.</td>
</tr>
</tbody>
</table>

* Significant at 0.01  ** Significant at 0.05
Source: Data collected by the author.

Hypothesis 2 testing

Table 4 shows that the results of the T-statistic test to decide on the significance of each independent variable in affecting the stock market index, despite the positive coefficient of the inward foreign direct investments (FDI), the t-statistic result shows an insignificant relationship with the market index (Al-Quds index), in addition, the t-statistic result of the inward foreign deposits & currency investments (FCI) also reported an insignificant association with a negative coefficient. However, the inward foreign portfolio investments (FPI) show a significant positive coefficient, which means that the foreign portfolio investments (FPI) incoming into Palestine positively and significantly affect the stock market.
### Table 4. Independent Variables Coefficients Summary Results

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coefficient</th>
<th>T-statistic</th>
<th>P-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>0.057</td>
<td>1.567</td>
<td>0.126</td>
<td>Insignificant</td>
</tr>
<tr>
<td>FPI</td>
<td>0.381</td>
<td>4.711</td>
<td>000</td>
<td>Significant at 1% level</td>
</tr>
<tr>
<td>FCI</td>
<td>-0.025</td>
<td>-0.757</td>
<td>0.454</td>
<td>Insignificant</td>
</tr>
</tbody>
</table>

Source: Data collected by the author.

### CONCLUSION

To explain the relationship between inward foreign investments and the stock market, this study tested the association of three different forms of inward foreign investments with the Palestine Exchange (PEX) index (Al-Quds index). Quarterly data were collected on foreign investments and market index from 2009 to 2022; the researcher used multiple regression to investigate the relationship.

The results revealed that the overall model that includes all three forms of inward foreign investments significantly explains the market index; this means there is a significant relationship between the total foreign investment and the stock market index, consistent with previous research (Shahbaz, 2013). On testing the impact of different forms of inward foreign investments on the stock market index, results clearly showed a significant impact of the inward foreign portfolio investments (FPI) on the Al-Quds market index; the positive coefficient means that the foreign portfolio investments (FPI) incoming into Palestine do positively and significantly affect the Palestine Exchange (PEX). However, the regression results revealed no significant impact of the inward foreign direct investments (FDI) and the inward foreign deposits and currency investments (FCI).

The minimal effect of inward foreign direct investments (FDI) suggests that FDI does not play a complementary or substitutive role in the growth of the stock market. This can be explained by the fact that FDI entering Palestine is not ultimately transferred to the stock market, and local investors do not increase their investments in the stock market due to the influx of foreign direct investments. To clarify, the foreign direct investments that come into Palestine are restricted to specific projects and are not allocated to the stock market.

The limited influence of inward foreign deposits and currency investments (FCI) suggests that they do not play a complementary or substitutive role in the growth of the stock market. This can be attributed to the fact that these foreign deposits and currency are only accessible to certain banks and lack any incentive to be transferred to the stock market.

The results of this study benefit the PEX, regulators, and policymakers, who could use them to develop incentives and regulations that encourage different types of inbound foreign investments.
investments to be transferred into the stock market as well as explore the reasons why foreign direct investments (FDI) and foreign deposits and currency investments (FCI) indicates no complementary or substitution role in the development of the stock market. Further studies may explore additional variables that might be significant, such as market capitalization, market volume, and the influence of outward foreign investments.

REFERENCES


