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FOREIGN PORTFOLIO INVESTMENT, EMPLOYMENT AND ECONOMIC GROWTH IN PAKISTAN

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ABSTRACT

This empirical research investigates the economic effect of portfolio investment on employment and economic growth in Pakistan. The study employed the Augmented Dickey-Fuller test and the Johansen co-integration technique on annual data sets from the year 1982 to 2019. The variables include labor force, trade openness, employment, portfolio investment, secondary school enrolment, inflation, and gross fixed capital formation. This study's significant findings suggested that portfolio investment has a confident impact on economic growth (GDP) and employment. The GDP growth rate is positively related to the labor force, portfolio investment, gross fixed capital formation, and secondary school enrolment, but have a negative relationship with inflation. Employment has a constructive association with portfolio investment, inflation, trade openness, and secondary school enrollment while a negative relationship with the GDP growth rate.

Key Words: *Foreign Portfolio Investment, Employment, Economic Growth, Johansen Co-integration*

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1. BACKGROUND OF THE STUDY

Foreign portfolio investment (FPI) refers to capital inflows or foreign investment that has entered the country. FPI mentions to foreign players' investment in the host country's stocks and shares. Foreign portfolio investing has been a hotly debated topic among economists over the previous decade. International portfolio investment has moved in the recent century, with international investors shifting their investments toward emerging economies (Haider, Khan & Elyas, 2016). Bond purchases are a part of the investing activity known as FPI. Because of its short lifespan, it enables investors to buy and sell securities at a favorable rate of exchange. Most of the researchers highlighted the advantageous linkage between FPI and economic growth. A collection of financial investment instruments makes up portfolio investment. The gross domestic product and portfolio investment increase are correlated in various economies (Aziz, Anwar, & Nawaz, 2015). Between 1992 and 2018, we studied the association between employment and portfolio investment in Pakistan. Examining how portfolio investments affect employment and economic growth is the objective of the current research effort. We use economic growth (GDP), EMPL, and other variables including inflation, gross fixed capital formation (GFCF), the labor force (LF), secondary school enrolment (SSE), and Trade openness (TO) as explanatory variables.

FPI indicates significant modifications in the operation of new markets and economies. Bekaert and Harvey (1996); Harvey (1998); King and Levine (1993); Levine and Zervos (1996); and Rajan and Zingales (1998) contended a favorable associations between the FPI and stock market success suggests that stock market progress attracts more foreign FPI. The increase in share prices demonstrates the stock market's progressive mode, which promotes stability and ultimately builds more trust among foreign investors, leading them to boost FPI in the stock market. FPI is an alternative form of foreign capital influx. The term "foreign portfolio" refers to foreign investors' capacity to obtain resources in the nation where they invest, participate in the capital market, and buy bonds and equities from the home nation. Early in the 1990s, Pakistan became the first nation to bring in foreign portfolio investment (FPI). The Pakistani government did not initially have a similar policy involving foreign portfolio investors. The impulsive behavior of different economic indicators, such as the money supply, financial market volatility, and exchange rate level, is a consequence of uncertainty in the FPI flow. Much research has been done about FPI for developing nations. When considering long-term benefits, FPI may have a negative impact, but in the near term, it can help the economy expand and flourish, stimulate the local financial sector, and keep the economy in shape (Kaminsky and Schmukler, 2003).

Many research investigations have been conducted to investigate the relationship between collective investment, economic growth, and employment. Here we will explore the effect of group investment on GDP growth and employment, which makes our study slightly different from other studies that have been undertaken in Pakistan. FPI, employment, and economic growth are the most studied phenomena all over the world. Some studies are being conducted on the FPI's impact on the growth of various sectors. In the positive side, various researchers (Adeniyi and Omisakin, 2012; Azam and Ahmed, 2015; Aizenman et al., 2013; Boboye and Ojo, 2012; Jawaid and Saleem, 2017) empirically evaluated FPI's thriving impact on economic growth. Numerous hypotheses have been tested in Pakistan

that point to the positives of portfolio investing, and some studies examine the drawbacks, such as reduced employment and slower economic growth. We used some macroeconomic variables in our study. Johansen's approach is used for that purpose which makes our study different from other studies. The current study's primary goal is to look at just how FPI affects both employment and the expansion of the Pakistani economy's GDP. The overarching goal of the present investigation is to inspect the influence of FPI on Pakistan's GDP growth and employment.

2. LITERATURE REVIEW

This part maintains the study objective's potential rationale and available literature. It attempts to establish a link and briefly outlines the theoretical and empirical relationship between FPI, employment, and economic growth. FPI refers to the buying of assets in a domestic stock market by a foreign national or company. In another sense, it pertains to the possession of movable assets such as equity shares, debentures, obligations, notes of promise, and financial instruments released on the local market by nationals of other countries. Treasury securities, business papers, bankers' acceptances, and convertible certificates of trade, and negotiable certificates of exchange are examples of money market instruments (Obadan, 2004).

Ezeanyeji et al. (2019) investigated the impact of FPI on Nigerian's economic growth objectively by employing the "Augmented Dickey-Fuller" (ADF) test, the "Johansen co-integration" technique, and the "Error Correction Mechanism" (ECM) estimation techniques on the annual data from year 1986 to 2017. The study's outcomes revealed that FPI has had a beneficial effect on the Nigerian economy's economic growth.

In the case of Jordan, Al-Smadi, M. O. (2018) elaborated the linkage between FPI and its numerous determinants by employing the OLS regression on annual data for 2000 to 2016. The substantial results of OLS regression demonstrated that a stable economic climate attracts FPI. Furthermore, the findings of this research offer actual information about the factors that substantially influence the stream of FPI in Jordan.

Mohd et al. (2018) investigated the association of asymmetric information as the factors affecting the capital flows specifically on FPI. Panel data was used from 2000 to 2011. By using the likelihood ratio and Hausman technique for estimation. The estimation results showed a bad relationship between asymmetric information and FPI while GDP, market capitalization and official exchange rate have statistically significant to FPI. GDP has a substantial impact on the determinant of capital flows.

Ogbonna (2017) analyzed Nigeria's domestic private investment and inflow of foreign capital. Data for some time from 1986 to 2012. By estimating with the OLS method. According to the findings, domestic private investment (DPI) and foreign capital inflow (KI) have an inverse but minor relation over both the short and long terms. In computing DPI, it was discovered that the dummy's coefficient was significantly positive. KI has a negative and insignificant DPI.

Haider et al. (2016) examined the factors that affect international portfolio investment and how they affect China by considering the annual data from 1997 to 2014. According to the estimation results, GDP and external debt are major factors influencing foreign portfolio investment (FPI), further, FPI is also heavily influenced by the population and the

exchange rate. GDP and foreign debt have strong positive effects on the FPI, whereas the exchange rate has an adverse impact.

Ahmad et al. (2016) explored the connection between external and internal crises and China and India's net flows of FPI and EIC. For analysis, the binary choice model has been utilized. According to the estimation results, there is a considerable association between China & India's EIC and net FPI inflows, as well as a large impact of EIC on net inflows. The GDP and net FPI inflow have not had a strong correlation.

Narender et al. (2016) examined employment trends in both the governmental and private sectors of the Indian economy by utilizing the yearly data from 1991 to 2012. The statistically important consequences of the estimate method of Johansen co-integration indicated that external commercial borrowing and FDI have an auspicious and considerable control on overall employment.

Aziz et al. (2015) investigated the link between FPI and its numerous factors in the context of the Pakistani economy using data from year 2005 to 2014. The outcomes of OLS estimation revealed that the inflation rate is substantially and adversely related to the FPI in Pakistan, the degree of openness of trade, and the real gross domestic product market capitalization rate of expansion is substantially and positively associated with FPI. The association between the foreign exchange rate and the FPI in Pakistan is positive but insignificant.

For the Nigerian economy, Babatunde et al. (2015) evaluated the association between FPI and bond yield using the annual data from 1999 to 2001. In this investigation, using the OLS sampling method. The estimation results revealed that until 2003, when the federal government issued the first series of FGN bonds through the Debt Management Office, there had been no foreign portfolio investments (FPI) in the bond market. The relationship between FPI and bond yield is significant.

Batten et al. (2015) investigated an information imbalance that influences the percentage of foreign ownership in Vietnam. Data collected from 2007 to 2012 was used. The estimation results showed a relationship between foreign investment preferences and attempts to remedy problems raised by asymmetric knowledge. According to the findings, international investors give a disproportionately large part of their money to big, expensive, and cautiously managed financial firms.

Sharif et al. (2014) studied the variables that influence Pakistani portfolio investing. From 1981 to 2012, time series annual data have been used. Use a partial adjustment, an autoregressive model for domestic investors and overseas investors that often buy before good news and sell before unfavorable earnings shocks.

Gumus et al. (2013) utilized the data sets for the years 2006 to 2012 to empirically analyze the connection amid a few important macroeconomic variables and FPI by using variance decomposition, impulse responses, and VAR Granger causality testing. FPI has a favorable effect on exchange rates and the price index of the Istanbul Stock Exchange, according to Granger causality studies and impulse reactions.

Aizenman et al. (2012) investigated the linkage among capital movements and economic well-being over the economic downturn and the era of integration. In this study, Panel data has been used from 1990 to 2010. This study used the OLS methodology. The estimation results showed that lagged FDI inflow and Lagged equity investment have a favorable impact on gross domestic product (GDP) per capita and statistically are significant.

Schmerer et al. (2012) analyzed the simple multi-industry trade model in the labor market. Panel data was used from 1980 to 2011. This study used the GMM technique. The estimated outcomes exposed that Net FDI has a strong connection with reduced overall unemployment rates, but FDI has a strong detrimental effect on unemployment.

3. DATA AND METHODOLOGY

For this research investigation, the desired annual data is collected from the World Development Indicators (WDI), the Pakistan Economic Survey, and the Handbook of Statistics are used in this analysis. To gather data for this study, various sources were used. Three main sources are the WDI, the Pakistan Economic Survey, and the Handbook of Statistics. All the data is ranging from 1982 to 2019. The data on the GDP growth rate has been taken from WDI. Secondary school enrollment, Labor, Capital formation, and inflation data are drawn from the Pakistan Economic Survey. Portfolio Investment data is collected from the Handbook of Statistics. All these variables explain the effect of FPI on GDP growth and employment.

The model's mathematical notations are as follows:

$$\text{Log (GDP)} = f\text{ (LF, GFCF.PI, INF, SSE, TO, EMPL)} \ldots\ldots\ldots (1$$

$$\text{EMPL}=f\text{ (GDP, LF, PI, INF, SSE, TO)} \ldots\ldots\ldots\ldots\ldots\ldots (2$$

Where, LOG (GDP) = GDP growth rate, LF = labor force, GFCF = gross fixed capital formulation, PI= portfolio investment, INF = inflation, SSE = secondary school enrolment, EMPL = Employment, GDP = Gross domestic product, TO= Trade openness

Below is the regression model that's derived from the above-mentioned mathematical model:

$$d\ log\ y = \alpha_0+\alpha_1(\text{PI}) +\alpha_2(\text{GFCF})+ \alpha_3\ (\text{INF})+ \alpha_4(\text{SSE})+ \alpha_5(\text{LF})+\mu.....(3)$$

$$\text{EMPL}= \alpha_0+ \alpha_1(\text{PI}) + \alpha_2(\text{GDP}) +\alpha_3\ \ (\text{INF}) +\ \alpha_4(\text{SSE}) + \alpha_5\ (\text{TO}) +\mu.... (4)$$

Where; α_0 is the intercept of the function, $\alpha_1 - \alpha_5$ is the set of parameters for estimating, L denotes the log, while μ is the error terms to capture other effects. It is expected that α_1>0, α_2>0, α_3>0, α_4>0. However, if estimations of parameters show a sign or size that does not adhere to economic philosophy, they will be dismissed, except there is a strong motive to trust that in the specific case.

3.1. Empirical Methodology

In this time series analysis, the "Augmented Dickey-Fuller" (ADF) test is employed to run the unit root test. The latest version contains the Dickey-Fuller test for an alternative combination set of time series models (Harris, R. I. 1992). A negative number is used to represent the ADF test. At various levels of confidence, there would be a strong rejection of the assumption as the unit root if it turned out to be more negative. The model is put through the ADF test.

$$\Delta y_t=\alpha + \beta t + \gamma y_{t-1}\ + \delta_1\Delta y_{t-1} + \cdots + \delta_{p-1}\Delta y_{t-p+1} + \mu_t. \ldots\ldots\ldots\ldots (5)$$

In this model, P denotes the autoregressive process's lag order, β shows the coefficient for a linear trend. The Augmented Dickey-Fuller formula connects directly to the advanced order technique. When the lag length p is calculated it means the ADF test is applied. Then, using the null hypothesis = against the alternative hypothesis γ <0, the unit root test is run.

$$DF_t = \frac{\gamma}{SE(\gamma)}$$

The associated rate of the DF-test is equal to the computed value of test statistics. The $H_0: \gamma = 0$ is not accepted if the crucial value is not bigger than the test statistic value. It denotes the absence of a unit root (Chang, & Park, 2002).

3.3.1. Johansen-Juselius Test

Johansen and Juselius created the co-integration test (1990). A vector autoregressive (VAR) model provides the basis for the co-integration test. The co-integration of a faction of no stationary series was analyzed using the Johansen & Juselius technique. The Johansen co-integration test can be used to investigate various co-integration interactions (Hall, A. 1994). When each factor are viewed as endogenous, the choice of outcome components and variable simplicity have no effect on the test. All endogenous variables' values are lagging are considered by the VAR model, which includes all regressors in the composite. When there are more than two variables in a model. If there is only one co-integrating vector, then there will be a serious issue if n>2. Johnson's method is the most appropriate for solving this issue (Hye & Dolgopolova, 2011).

4. FINDINGS OF THE STUDY

4.1. Stationarity Test

Firstly, all study variables have undertaken a unit root test. We also use (ADF) test to examine the variable's stationery. The results of all the factors employed in this research are exposed in the stall below.

Table 1: Outcomes of Unit Root Analysis

Variables	ADF				Order of Integration
	Level		1st Difference		
	T-values	P-value	T-values	P-value	
PI	-1.8410	0.6571	-3.7661	0.036**	I(1)
EMP	1.5430	0.9700	-3.4023	0.000*	I(1)
SSE	-3.0002	0.9701	-12.2862	0.000*	I(1)
INF	-2.7602	0.2121	-16.1010	0.000*	I(1)
GFCF	2.4721	0.9970	-2.8952	0.046**	I(1)
TO	-2.2483	0.1903	-2.5082	0.000*	I(1)
GDP	-3.1601	0.9802	-0.8501	0.036**	I(1)
LF	-1.9702	0.7563	-2.5500	0.000*	I(1)

The ADF test determines whether the series is stationary. The outcomes mentioned in Table .1 illustrate that all study variables EMPL, INF, GFCF, PI, SSE, LF, TO, and (GDP) are not stationary at I(0), but they become stationary at I(1). We must use the Johansen Juselius test for our study to be clear of likely regression because all variables are stationary at I(1). The Johansen Juselius examination confirmed the co-integration between the independent variables (LF), (RGFCF), (INF), (SSE), and (PI) and the dependent variable GDP growth rate. It also shows how both dependent

and explanatory variables have been related over time. For the series, Johansen Juselius is executed as the integrated first difference or first order (1). Four columns make up the table's layout: the crucial parameters determined by Mackinnon-Haug-Michelis (1999)'s trace statistic, the crucial beliefs deduced from the anticipated values, and the probability that these values will materialize.

Table 2: Test of unrestricted co-integration (Trace Statistics)

Total estimated CE (s)	Eigenvalue	Trace Statistics	Critical Value (0.05)	Probability
None*	0.875574	194.0166	117.7082	0.0000
At most 1*	0.715029	112.7389	88.80380	0.0003
At most 2*	0.473429	63.77956	63.87610	0.0509
At most 3	0.382162	38.76614	42.91525	0.1224
At most 4	0.246356	19.98653	25.87211	0.2266
At most 5	0.205180	8.955947	12.51798	0.1831

At the 0.05 level, the trace testing reveals three co-integration equations. The trace statistic's critical value, 117.7082, is less than the first and second values, 194.0166, respectively. Furthermore, trace values exceed trace critical thresholds. After that, the third row's trace threshold is 63.77956, which falls below the trace critical level of 63.87610. Additionally, Rows 4 and 5 have trace values that are lower than the trace thresholds. So, based on the trace statistic, we can infer that there are, most likely, four co-integrated components. The two co-integrated values in which the trace percentage is less than the trace critical are displayed in the first two separate equations.

The projected values can be seen in the very 1st column in the upstairs table, while the eigenvalues exposed in 2nd column, further critical standards are recorded in the 3rd and 4th columns, and the last column reveals the probability values, respectively. There could be some co-integration mechanism and an ongoing connection amid the study actors, given that the 2nd element of the Max measurement is greater than the Max critical. In this scenario, the probe value is also below the $\alpha = 5\%$, which leads to reject our hypothesis. The initial max-Eigen score (81.27765) is higher than the crucial value (44.49720), it demonstrates the existence of the co-integrated vector.

The assumption has been dismissed in present scenario due to its lower p-value than $\alpha = 5\%$. The remaining Max score ranks are smaller compared to the Max crucial value when there is no co-integration equation. As a result, the Max-Eigen value indicated earlier also implies three integrated solutions at the 0.05% level. At a 5% level of assurance, these three values signify the prediction's denial.

Table 3: Test of Unrestricted Co-integration (Max-Eigen Value)

Total estimated CE (s)	Eigenvalue	Statistics Using Max-Eigen	Critical Value: 0.05	Probability
None*	.875574	81.27765	44.49720	.0000

At most 1*	.715029	48.95938	38.33101	.0021
At most 2*	.473429	25.01342	32.11832	.2856
At most 3	.382162	18.77961	25.82321	.3204
At most 4	.246356	11.03058	19.38704	.5102
At most 5	0.205180	8.955947	12.51798	0.1831

The findings of this study show that the labor force has a 0.005 coefficient and positively affects Pakistan's GDP growth rate. The rate of GDP growth will rise by 0.005 percent for each one percent increase in the labor force. The skilled labor forces enhance economic growth. As shown the coefficient of GFCF is (1.85), which is positive and insignificant, means a 1% rise in GFCF lead to boost the GDP by 1.85%. The gross fixed capital formulation is essentially a net investment. Spending on land improvements, vegetation, equipment and equipment purchases, and the construction of transportation systems, private residential residences, and businesses and factories all contribute to gross fixed capital formation.

Table 4: Empirical Results (Dep Var = GDP Growth)

Variables	Coefficients	Standard Error	T-Statistics
C	-7.028115	4.3E-04	1.3421
LF	0.004706	0.00436	-1.07826
GFCF	1.85	1.0E-06	-1.79989
INF	-0.000176	3.7E-05	4.73962
SSE	4.62E-06	2.6E-07	-17.5286
PI	0.051400	0.00195	-26.3703

Therefore, inflation, which has a -0.000176 coefficient, hurts GDP growth. The inverse connection among inflation and economic growth is clarified by financial market development. The capital outflow increases which leads to slow economic activities in the domestic economy by which the growth rate will fall. Enrollment in secondary schools and the gross domestic product expansion are positively correlated. A 1% rise in school enrollment at the secondary level will result in a 4.62E-06 % rise in economic growth since the coefficient of secondary school enrollment is (4.62E-06), which is positive and insignificant. Portfolio investment, according to our findings, has a beneficial effect on the economy 'GDP. Portfolio investment has a positive and significant coefficient of 0.051400, which means that when portfolio investment increases, GDP growth increases, and when portfolio investment crashes, so does GDP growth.

The value of the coefficient portfolio investment is 0.5349. It also indicates the positive effect of portfolio investment on employment. One unit increase in this coefficient will raise (0.5349) units. However, this coefficient is insignificant. In the case of developing nations those lying in the upper-middle income group, portfolio movements appear to have a major and beneficial effect on employment. Therefore, some studies discovered a favorable connection between employment and FPI. The coefficient value (30.473) of

inflation shows the positive relationship between inflation and employment that endorsed that one unit increase in this coefficient will raise employment by 30.473 units and this coefficient is insignificant. The positive affiliation between inflation and employment can be expressed by financial market development.

Table 5: Empirical Results (Dep Var = Employment)

Variables	Coefficients	Standard Error	T-Statistics
C	1754363	0.2488	-2.1704
INF	30.47289	6.71047	-4.54110
TO	1.26842	0.07534	-16.8386
SSE	4.423923	1.374731	-3.21803
GDP	-19.44169	0.97281	19.9850
PI	0.534888	0.19654	-2.72155

Trade openness is also another important variable that has a positive impact on employment. TO is calculated by dividing total exports and imports by total GDP. This study found that the coefficient of trade openness is (1.27) which is positive and insignificant which means that 1% upsurge in TO will boost employment by 1.27%. As the trades will increase the productivity of the traded sectors will increase. The new technology will be used innovative products will be produced consumers will get a variety of goods to purchase. Domestic resources will be fully utilized under the high trade ratio.

5. CONCLUSION AND POLICY OPTIONS

This study empirically analyzes FPI, employment, and GDP growth rate in the scenario of Pakistan. The research relies on yearly information from the 1982 to 2019, which has been taken from different sources i.e. WDI, the economic survey of Pakistan, and the Handbook of Statistics. We have to use Johnson's Juselius Approach to find the empirical results. The GDP growth rate is our dependent variable and portfolio investment (PI), gross fixed capital formation (GFCF), inflation (INF), the labor force (LF), and secondary school enrolment (SSE) are our independent variables. The results of this research indicate that FPI and GDP growth rate have a harmonious association. It suggests that portfolio investment has a positive impact it can be justified as when the investment level increases the production level will also increase and will be fully utilized. According to the conclusions of this investigation, the labor force has a positive coefficient, with a negligible impact on the GDP growth rate. And terms of trade, GFCF, and SSE are positively related to the GDP growth rate. It means that when if portfolio investment, capital, labor force, gross fixed capital formation, and secondary school enrolment increase it will attract the GDP growth rate in Pakistan. Inflation hurts the GDP growth rate. If inflation increases it will contract the GDP growth rate in Pakistan. It suggests that inflation increase the purchasing power of customer's decreases their real income which to low aggregate demand falls in production fall and which leads to creating an unemployment level.

Employment is our dependent variable while the portfolio investment (PI), inflation (INF), GDP, secondary school enrolment (SSE), and trade openness (TO) are our explanatory variables. Current research's findings imply that FPI and employment have a confident

affiliation. It suggests that portfolio investment has a positive impact it can be justified as when the investment level increases the production level will also increase and will be fully utilized. The outcomes of this research also suggested that trade openness has an encouraging coefficient and an insignificant consequence on employment. It suggests that when the increases production of export goods the wage rate of labor will increase which leads the more employment. Secondary school enrolment is positively related to employment. It suggests that education is universally recognized as a primary tool to promote economic development. Education can play its role in employment and benefit society and individuals as well. According to this finding, Inflation boosts employment. A predictable increase in the rate of inflation can speed up the financial market development so employment will fast up. High capital accumulation leads to high employment levels. According to the findings of this study, GDP has a detrimental and minor impact on employment.

We have summarized that the GDP growth rate is an important tool for the economy. Because it an important source of productivity growth, employment, the transformation process of the country, and economic growth. According to the assessment of literature and empirical outcomes, We can draw the conclusion that the GDP growth rate and employment are good things for the economy of Pakistan. Portfolio investment has a positive impact it can be justified as when the investment level increases the production level will also increase and all the resources will be utilized labor wage rate will also increase by which their income will rise and their consumption and savings will also be increased saving will enhance the capital formation and high consumption will encourage the investor production level increases which cause to increase the economic growth rate. The study gives details about a number of key policy issues that FPI progressively contribute in employment and economic growth of Pakistan. There are some policy recommendations based on empirical results. The government should increase portfolio investment to increase GDP growth and must focus on fiscal and monetary measures to control the inflation rate. The government should relax and restrict some rules and regulations to continue the policy of encouraging growth and employment opportunities.

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