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The Economic Freedom and Economic Growth: An Empirical Analysis for Pakistan

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Abstract
This study investigates the long run impact of the economic freedom (EF), foreign direct investment (FDI), gross fixed capital formation (GFCF) and trade openness on GDP per capita of Pakistan. Annual time series data between 2001 and 2022 are used in the analysis from the World Development Indicators (WDI) database. To examine the long-run relationships between the selected variables, the ARDL bounds testing approach is used. The empirical results show that the economic freedom, foreign direct investment, gross fixed capital formation, and trade openness have positive and statistically significant long-run relationship with GDP per capita. The results indicate that foreign investment, institutional quality, domestic capital accumulation and international trade are important factors in economic development. The study's findings call for in-depth institutional reforms and policy measures to enhance economic performance of Pakistan.

Keywords: Economic Freedom, Economic Growth, Empirical Analysis, Foreign Direct Investment (FDI).

1. Introduction

One of the key goals of economic policy is economic growth, which is an indicator of a country's capacity to increase its productive potential, improve its citizens' income, and thus improve their lives' economic welfare. Growth of the Gross Domestic Product (GDP) per capita is a commonly used indicator of economic performance since it can be interpreted as the average economic output per person. But there are various factors interlinked, such as institutions, investment, capital accumulation, and trade with foreigners that can contribute to sustained improvements in GDP per capita. Economic freedom, foreign direct investment (FDI), Gross Fixed Capital formation, and trade openness are factors that are important to the long-term performance of the economy in an increasingly integrated global economy. It is important to know how these

factors relate in order to be able to identify policies that can facilitate sustainable economic growth. Economic freedom is the institution which allows individuals and businesses to take economic decisions, invest, market and secure their private property rights. More economic freedom can lead to more entrepreneurship, better utilization of resources, less needless regulation, and increased competition in markets. The Fraser Institute Economic Freedom of the World Index is an overall measure of economic freedom that is based on four components: government size, legal systems and property rights, sound money and international trade freedom, and regulation. If the economic climate is favourable, it will help to boost business confidence and lessen institutional uncertainty, thereby attracting domestic and foreign investors. However, the linkage between economic freedom and economic growth could be different in different countries depending on the institutional quality and economic situation. Another major contributor to economic growth is foreign direct investment (FDI), especially for developing countries where there is less investment available from domestic savings and limited technological capacity. FDI inflows can be a driver of GDP per capita in several ways including in terms of capital formation, technology transfer, employment creation, managerial skills, and access to international markets. But the advantages of foreign investment are also linked to the host country's ability to absorb new technology as well as create a suitable investment environment. Devesh et al. (2021) studied the correlation between economic freedom and FDI in GCC economies and concluded that the importance of the economic institutions, GDP per capita, capital formation, and trade openness to foreign investment patterns. Gross fixed capital formation also is relatively important in determining long-term economic performance. It refers to capital investment in physical items, such as machines, structures, roads, infrastructure and equipment, that enhance the productive capacity of an economy. Increased capital stocks can increase factors of production, goods and services, and labour productivity, which will facilitate industrial growth and development. Likewise, trade openness promotes the integration of the economy into the international market by boosting exports, imports, competition, technology transfer and market access. Production efficiency can be boosted and new opportunities for economic development can arise through these channels.

Empirical research in recent years also has revealed that these determinants are inter-connected. Ansari and Sensarma (2022) discovered that the positive impact of FDI on the economic growth of ASEAN economies is reinforced by economic freedom. This implies that investments can have more positive economic effects if accompanied by a positive institutional and financial environment. In this background, the present study examines the long-run relationship between GDP per capita, economic freedom, FDI flows, gross fixed capital formation, and trade openness by using ARDL model. It is meant to explore the respective roles of institutional freedom, international investments, domestic capital accumulation and external trade in determining economic performance, and to offer some useful lessons for policies aiming at growth.

2. Literature Review

GDP per capita is a crucial measure of economic development as it measures the average economic output and income of individuals within a country. It is affected by institutional quality, investment, foreign capital inflows, capital accumulation and international trade. In this context, economic freedom and foreign direct investment (FDI), gross fixed capital formation (GFCF) and trade openness are important macroeconomic determinants of GDP per capita. Economic freedom is conducive to economic development by fostering an institutional climate that allows entrepreneurs to flourish, private investment to grow, competition to emerge and resources to be used efficiently. A quantitative review of the empirical studies conducted by Lawson et al., (2024) revealed that economic freedom has a positive correlation with economic growth, income

and investment. Likewise, Azman-Saini et al. (2010) studied how 85 countries contribute to economic growth through FDI and determined that the economic freedom of host countries is a crucial factor. They conclude that institutional and regulatory changes enhance the returns from foreign investment. Also, Barro (1991) noted the role of investment and institutional stability in the cross-country differences among per capita economic growth rates. Foreign direct investment (FDI) is one of the significant sources of external finance, in addition to technology, employment, and managerial skills. Borensztein et al. (1998) showed the positive relationship between economic growth and FDI in terms of technology transfer, especially when the host country has human capital as a factor of production. Likewise, Alfaro et al. (2004) have pointed out that countries can take advantage of FDI inflows to a greater extent through developed financial markets. Increasing endogenous interaction between FDI and economic growth was found by Li and Liu (2005), who argued that foreign investment will drive growth and vice versa. Recently, Islam and Beloucif (2023), using a systematic review of 112 empirical studies, found that market size, openness to trade, infrastructure, macroeconomic stability, and growth prospects were important determinants of FDI.

Gross fixed capital formation adds to GDP per capita by adding productive capacity by investing in infrastructure, machinery, buildings and industrial equipment. Mankiw et al. (1992) noted that the difference in income level between countries can be attributed to "physical capital accumulation. In the same vein, Barro (1991) also found a positive correlation between physical investment and economic growth. The study on Dynamics of Governance, Gross Capital Formation, and Growth (2022) found a positive and significant effect of gross fixed capital formation on economic growth in the BRICS economies. The results show that domestic capital investment is associated with productivity growth and long term economic development. Trade openness is an important policy variable for promoting economic growth by opening domestic markets, inducing competition, encouraging specialization and access to new technologies. Fatima et al. (2020) concluded that human capital accumulation affects the growth dividends of trade openness. Jalil and Rauf (2021) found positive relationship between trade openness and the economic growth after studying 82 countries. Duernecker et al., (2022), also showed that the level of integration in international trade is positively related to economic growth. In the same vein, Nguyen and Poczta-Wajda (2024) carried out a study in Vietnam and analysed the FDI, trade openness and GDP per capita relationship. Overall, the literature suggests that economic freedom, FDI, GFCF, and trade openness are associated with GDP per capita growth. But, their impact could differ based on institutional environments, financial development and the economic structures of countries. A review of these variables together will give a good idea of differences in economic development. Two more studies corroborate this link. In their study Asian economies: What role can trade openness and human capital play in economic growth?" (2020), Intisar et al. discussed the importance of trade openness and human capital in economic growth in Asian economies. Gregori and Giansoldati (2023) found positive correlation between trade liberalization and long-run economic growth based on data from 118 developed and developing countries, where they found that the correlation was stronger for less-developed countries.

3. Data and Methodology

The present study employs the time series data of Pakistan for the period 2001-2022. Data from World Development Indicators (WDI) database. There are five variables in the empirical framework, where GDP per capita growth (annual percentage) is the dependent variable. The explanatory variables include the Economic Freedom Index (EF) that ranges from 0 to 10 taken from Fraser Institute, where higher values imply higher level of economic freedom and better institutional environment, foreign direct investment (FDI), growth rate of gross fixed capital

formation (GFCF), and trade openness (TOP), which is the ratio of total trade with the rest of the world to gross domestic product (GDP). These variables are chosen to analyze their individual impact on economic development of Pakistan.

Table.1 Source and Data Description.

Variables	Unit of Measurement	Source
GDP	Annual % growth	WDI
EF	Scaled from 0 to 10	Fraser Institute
FDI	Net inflows as % of GDP	WDI
GFC	Annual % growth	WDI
TOP	% of trade share in GDP	WDI

Notes: GDP=GDP per capita, EF= Economic Freedom, FDI=Foreign direct investment flow, GFC=Gross fixed capital formation, TOP= Trade openness.

The models 2 is applied for running the regression.

$$GDP = f(EF, FDI, GFC, TOP) \quad (1)$$

$$GDP = \alpha_0 + \alpha_1 EF + \alpha_2 FDI + \alpha_3 GFC + \alpha_4 TOP + \varepsilon_t \quad (2)$$

The stationary values of variables are presented in table 2.

Table 2: The Findings of ADF Test

`Variables	Parameters	ADF Calculated	At 5%	Trend/ Intercept	Conclusions
GDP	-0.31	-3.12	-2.17	Intercept	I(1)
EF	-0.32	-3.78	-2.14	Intercept	I(1)
FDI	-0.39	-4.19	-3.69	Intercept	I(0)
GFC	-0.52	-5.21	-4.25	Trend	I(1)
TOP	-0.48	-4.46	-2.45	Intercept	I(0)

Note: The Results of the Table 2 are based on author's self-calculations

The ARDL method is especially suitable for empirical investigation of small samples and variables of different orders of integration (I(0) and I(1)) as long as none of the variables is of order I (2). Moreover, the ARDL bounds testing approach provides a sound approach to analyses the presence of long-run relationships between variables. One big advantage of this approach is the estimation of both short-term adjustments as well as long-term equilibrium associations in the same econometric model.

4. Results and Discussion

This study is useful for providing insights into the relationship between economic freedom, foreign direct investment, gross fixed capital formation, trade openness and GDP per capita of Pakistan in the long-run ARDL estimates. The outcome showed that all four explanatory variables have a positive coefficient which suggest that the improvement of institutional quality, foreign investment, accumulation of domestic capital and increase in international trade have positive relationship with long run economic performance. The coefficient of Economic freedom (EF) is positive (EF = +0.29) and the standard error is +0.13, and the t-ratio is 2.23. The result suggests that economic freedom and GDP per capita are positively associated and significant at 5% level of significance. On the economic side, enhanced economic freedom may help to promote private sector involvement, entrepreneurial activity, competition and the efficient use of resources. Better property rights, regulatory efficiency and business climate can boost investor's confidence and boost productive economic activities. Therefore, better institutional quality and less needless

regulatory hurdles could be helpful for Pakistan in boosting its economic performance. This conclusion is in line with the idea that free and free and free economies provide positive investment and sustainable growth conditions. Foreign Direct Investment (FDI) has also shown a positive and statistically significant relationship with GDP per capita with coefficient value of 0.19, t-ratio value of 2.37 and standard error value of 0.08. This implies that foreign investment is a crucial element in promoting the long-term economic growth of Pakistan. FDI can help to boost economic activity in the form of capital inflows, technological innovation, job creation, managerial skills and production processes. In addition, foreign firms can bring in new technologies and international business methods which can improve the productivity of domestic firms. Incentive and encourage foreign investment in manufacturing, energy, infrastructure and export sectors of the economy for Pakistan could boost productive capacity and strengthen economic performance. Likewise, the long-run Gross fixed capital formation (GFCF) has a positive coefficient of 0.31 with a t-ratio of 2.06 and a standard error of 0.15. The result suggests that home investment in real assets is positively related with GDP per capita at a relatively small magnitude size and with statistically marginal significance and varies according to the critical values applied. The economic one is that investing in machinery, industrial equipment, transportation networks, buildings, and infrastructure increases productive capacity and thus stimulates economic activity. More investment in productive infrastructure and industrialization in Pakistan will boost efficiency, create jobs and lay the groundwork for sustainable economic development.

Trade openness (TOP) also has a positive coefficient of 0.13, t-ratio of 2.60, and a standard error of 0.05. This means that there is a positive relationship between international trade integration and GDP per capita that has been proven statistically. Increased trade liberalisation allows Pakistan to have access to international markets, source advanced production inputs, import foreign technologies and utilize economies of scale. Furthermore, the existence of foreign competition can make domestic companies strive to enhance the quality of their products and the efficiency of their production. But the advantages of trade openness rely on export competitiveness, industrial diversification and the capacity to take care of exterior trade imbalances. The constant in the model is estimated to be positive at 2.19 and has a t-ratio of 2.15, which means that the model has a statistically significant positive constant. This is the constant or intercept term of the GDP per capita, with the explanatory variables set to be zero, within the context of the model. The t-ratio is 1.13 for the time trend indicating that it is statistically insignificant, but has a positive coefficient of 0.098. This means that the model is not strong enough to support an independent linear time-trend effect beyond that of the explanatory variables used in the model. The results overall indicate that economic freedom, FDI, gross fixed capital formation, and trade openness have positive links with Pakistan's long-term economic performance. The explanatory variables with the highest t-ratio are the trade openness variables; the largest estimated coefficient is that of gross fixed capital formation. The results underscore the need for better institutional structures, more positive foreign investment, greater domestic capital formation, and greater international trade. Hence, coordinated economic policies need to be adopted in Pakistan to promote the investment climate, support domestic industries, boost export competitiveness and promote sustainable integration in the global economy. Note on interpretation: Statistical significance should be determined in the end with the actual degree of freedom and the proper critical values or p-values. Also, coefficient interpretations as percentage changes or elasticities are related to the functional form and transformations of the variables.

Table 3: Long- Run Results of ARDL bounding testing. Dependent variable is GDP

Explanatory Variables	Coefficients	Standard Error Coefficients	T-Ratio
EF	0.29	0.13	2.23
FDI	0.19	0.08	2.37
GFC	0.31	0.15	2.06
TOP	0.13	0.05	2.6
Constant	2.19	1.02	2.15
Trend	0.098	0.087	1.13

Notes: GDP=GDP per capita, EF= Economic Freedom, FDI=Foreign direct investment flow, GFC=Gross fixed capital formation, TOP= Trade openness.

5. Conclusion and Policy Implication

The long-run relationship between economic freedom, foreign direct investment, gross fixed capital formation, trade openness and GDP per capita in Pakistan is the focus of the present study. The ARDL long-run estimates reveal that all four explanatory variables have positive relationships with GDP per capita. Economic freedom helps to support economic performance by enhancing institutional quality, fostering entrepreneurship and facilitating efficient resource allocation. Likewise, FDI contributes to the economic development by providing capital inflows, technological advancements, job creation and knowledge sharing. Gross fixed capital formation underlines the significance of the home investment in infrastructure, machinery and productive assets, and trade openness is crucial for providing opportunities to international markets, competition, and technological diffusion. In conclusion, the results highlight the need for institutional enhancement and investment-oriented economic policies to boost Pakistan's economic performance in the long run.

In terms of policy, the government should focus on institutional reforms, enhancing property rights, decreasing excessive regulatory restrictions and improving the business climate to promote economic freedom. In addition, policies should encourage quality FDI by creating investor-friendly policies and political stability, and by upgrading infrastructure. Raising the level of public and private investment in productive areas, specially manufacturing, energy and transport, can boost the productive power of the country. Trade policies should also support export diversification, enhance the international competitiveness and access to global markets. A holistic strategy of institutional development, capital accumulation, foreign investment and expansion of trade will work for Pakistan to attain sustainable economic growth and GDP per capita.

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