



Unveiling the Interplay of Institutional Quality, Foreign Direct Investment, Inflation and Domestic Investment on Economic Growth: Empirical Evidence for Latin America

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ABSTRACT

Uplifting economic growth is crucial for the sustained development and prosperity of an economy. The main objective of this study is to investigate the impact of institutional quality, foreign direct investment (FDI), inflation, and domestic investment on the economic growth of Latin America from 1996 to 2021. The study utilizes a combination of panel unit root testing, cross-sectional dependency test, panel cointegration test, and Panel Autoregressive Distributive Lag (PARDL) technique to shed light on the dynamics of the region's economic development. The panel cointegration techniques confirm the existence of a long-run relationship among the selected variables over the chosen time frame. The PARDL technique is employed to determine the short and long-run impact of institutional quality, FDI, inflation, and local investment on the economic growth of Latin America. The results show that institutional quality, FDI, and local investment have a significant positive impact on the economic growth of Latin America, while inflation has a negative impact. These findings suggest that policymakers in Latin America should prioritize improving institutional quality, encouraging FDI, and promoting local investment while controlling inflation. A comprehensive economic strategy that considers both short- and long-term dynamics is necessary, highlighting the importance of an integrated approach that recognizes their interaction. The study recommends improving the quality of institutions specially the political stability to attract FDI and encourage domestic investment by promoting a business-friendly environment, guaranteeing financial accessibility, and encouraging innovations, promoting regional and global integration, controlling inflation, reducing income inequality, and raising the standard of living.

Keywords: Institutional Quality, Foreign Direct Investment, Inflation, Economic Growth, Latin America, Panel ARDL

JEL Classifications: E02, F21, F43, O17

1. INTRODUCTION

The significance of institutions in achieving and sustaining economic growth has been increasingly recognized in recent years. Institutions are integrated rules or social systems that minimize economic risks and uncertainties by offering frameworks for social, political, and economic interactions. Economic efficiency, sustainability, and general macroeconomic stability are all dependent on institutional quality components like rules of law, political stability, corruption control and regulatory quality (Khan et al., 2022). Economic, legal, and Political institutions are the broad categories of institutions. Political institutions create laws,

rules, and regulations, defend property rights, and advance the benefit of society to allay uncertainty. Legal institutions uphold the rules, regulations and laws set forth by political institutions, whereas economic institutions promote the effective distribution of resources through technological advancement, physical and human capital. Weak institutions can impede effective resource allocation, poor law enforcement and inefficient policymaking can impede economic progress (Bayraktar et al., 2023).

Institutions play significant roles in influencing the actions of multinational corporations and their impact on the host economy. Institutions consist of both formal and informal restraints, such as

laws, organizational structures, norms, culture, and conventions. Institutions also have impacts on the association between FDI and growth of economy. The institutional environment determines the extent and direction of FDI's effects on the host economy, which is especially pertinent to developing nations with different institutions than developed nations (Mehmood et al., 2023). Local institutions can mitigate the effects of FDI on growth by protecting private property, enforcing laws and regulations, and developing product and intermediary markets. A more advanced institutional framework encourages competition for output rationalization among local and international enterprises, reducing the detrimental effects of FDI on growth (Wang et al. 2013). However, poor institutions may increase FDI's costs (Uddin et al., 2023).

Three main channels exist via which FDI impacts growth are: (1) The links between FDI and worldwide trade flows; (2) the direct impact on structural components of the host economy; and (3) externalities and spillovers concerning the host country. Many theoretical models illustrate how FDI affects growth. FDI can promote technological advancement and the expansion of human capital in developing nations by encouraging local businesses to employ more sophisticated technology. It stimulates growth through accumulation of capital in the host nation by integrating new technologies and inputs into the recipient economy's production function. FDI transfers technological know-how and human capital to a host economy (Trojette, 2016).

The transfer of knowledge and technology resulting from FDI has the prospective to enhance economic growth and productivity, as per the endogenous growth theory. Because FDI promotes economic growth and eases the liquidity constraint, it also stimulates domestic investment. Low quality of institutions is linked to higher transaction costs, a higher risk of long-term commitment, a weakening of the relationship between overseas affiliates and local businesses, and a smaller impact on spillovers. On the other hand, better institutional quality increases the growth benefit of FDI by encourages foreign investment in developing nations and lowering competition with local industries, which lessens the impact of crowding out of FDI. We suggest that nations with relatively high institutional quality will benefit more from FDI in terms of growth of economy (Odhiambo, 2022).

FDI is the key drivers of growth of economy and technology transfer from technologically advanced countries to less developed ones. FDI has numerous ripple effects, such as improving management skills, increasing capital formation, enhancing the productive capacity of the host country, creating employment opportunities, increasing competitiveness, boosting productivity of snowballing factors, and encouraging macroeconomic prosperity (Rehman et al., 2021). Over the past two decades, multinational corporations (MNCs) have been investing in emerging economies due to the favorable economic environment. However, developing economies face several challenges, such as inadequate infrastructure, limited capital accumulation, lack of research and development, and technological backwardness, which hinder their growth (Abubakar, 2020). Additionally, imbalanced exports to imports have a negative impact on many industries, particularly manufacturing. Foreign direct investment

inflows into emerging economies act as catalysts, supporting the development of advanced technology, skilled labor, and research and development (Saidi and Ochi, 2023).

The following are the main objectives of the current study:

- To test the impact of FDI on the growth of economy in Latin America
- To explore the effects of quality of institution on the economic growth in Latin America
- To explore the impact of domestic investment on the economic growth in Latin America
- To examine the impact of inflation on the growth of economy in Latin America.

This is unique study in the context of Latin America which explores the effect of institutional quality, local investment, FDI and inflation on the economic expansion in Latin America.

2. LITERATURE REVIEW

This section reviews the related literature for the testing the Role of Institutional Quality, Foreign Direct Investment inflows, Inflation, and domestic investment on the Economic Growth of Latin America.

Nabila et al. (2015) investigated the association between quality of institutions and growth of economy in Asia's developing nations by employing the Panel ARDL technique for the years 1990–2013. They concluded a long-term correlation between economic growth and institutional quality, with developing countries' economies being stimulated by high-quality institutions. According to Hayat (2019), a country's quality of institutions plays a major role in fostering economic growth. The objective of this study is to test how FDI and quality of institutions affect the GDP growth of 104 developed and developing countries. Using the GMM estimating technique to test FDI-induced economic growth, the study evaluates both direct and indirect impacts of institutional quality on economic growth. The study comes to the conclusion that greater FDI and better quality of institutions result in stronger economic growth, particularly in nations with low or middle incomes where FDI is driving economic growth. The study does discover, however, that FDI hinders growth in the economy in high-income.

Asghar et al. (2020) used the panel ARDL test to explore the effects of quality of institutions on economic development in 13 emerging Asian countries from 1990 to 2013. They used principal component investigation to create an institutional quality index. The results of study conclude a significant association between quality of institutional and financial development. The panel causality test also revealed a causal association between quality of institutions and economic growth. These results highlight the significance of improving quality of institutions in accelerating growth of economy in developing Asian countries.

Maruta et al. (2020) tested the effects of quality of institutions and sector-specific foreign aid on growth of economy in 74 developing nations in Asia, South America, and Africa between 1980 and

2016. The study analyzed foreign aid flows in three areas: health, agriculture, and education. The findings showed that education aid has the most significant impact on recipient countries. However, the impact varies depending on the region and the prevailing level of institutional quality. Health aid is more effective in nations of Asia, while aid for education is more successful in South America and agriculture in Africa. The study also showed that the impact of agricultural and health aids declines with improved institutional quality, but the benefits of aid for education increase. The policy implications of these findings for international aid agencies and donor countries are important.

A study by Uddin et al. (2021) examined the connection between human capital, quality of institutions, and growth of economy for the 120 developing nations from 1996 to 2014. The study utilized simultaneous quantile regression and the dynamic system (GMM). The findings show that the human capital and institutional quality have a significant effects on economic growth. This article argues that in the context of weak and dysfunctional institutions, higher investments in human development would have a detrimental influence on economic growth because more capital is typically used for rent-seeking and socially inefficient endeavors.

Khan et al. (2022) used a panel data set of 189 emerging and developing countries to investigate the association between quality of institutions and financial development in these nations. They used dynamic models OLS, random effects, fixed effects, and (GMM) estimators. Stronger institutions are vital for financial development, according to the study, which also concluded that regulatory quality, political stability, and the fight against corruption all contribute to financial development. The study concludes the negative correlation between financial development and the rule of law, which suggests that most nations have weak legal systems. The control of corruption index, which shows that corruption has been successfully eliminated to a low degree in the majority of nations, has favorable effects on financial development in developing and developed panels. The study also concluded that there is a decrease in corruption in developing nations. Overall, the findings highlight the importance of high-quality institutions as the primary force behind financial development. The report recommends that developing and emerging nations focus on enhancing institutional quality by reevaluating institutional elements such as government effectiveness, voice and accountability, and legal requirements.

Beirne and Panthi (2022) examined the impact of institutions on macro financial resilience in Asia. The study concludes that countries with high levels of institutional quality are better able to withstand increasing financial crises in terms of per capita and net FDI inflows. The study used quarterly panel data for 12 Asian nations between 1996 and 2020. Additionally, the results demonstrate that institutions within these economies make them resilient to inflows of debt and net stock during times of crisis. This resilience is also reflected in the results of portfolio rebalancing. The study provides information on significant sub-components of quality of institutions, including political stability, legality, and regulatory quality, and also identifies institutional quality resilience levels. These findings provide direction for policy efforts aimed

at strengthening institutional capacity and promoting structural changes to promote shock resilience and economic growth.

Uddin et al. (2023) explored the connection between quality of institutions and economic development in seventy developing nations from 2002 to 2018 by utilizing various econometric methods, such as the Cross-sectional Augmented Autoregressive Distributed Lag, the Co-integration, and the CIPS unit root. Robust analysis was conducted using panel estimators for Variance Decomposition Analysis, Dynamic OLS, FMOLS and Augmented Mean Group. The study's conclusions indicate that corruption, unemployment, and inflation have negative relationship with HDI, globalization and quality of institutions have positive correlation. The findings of Impulse Response Function conclude that institutional quality will have a favorable impact on HDI. Furthermore, according to the Variance Decomposition Analysis, institutional quality variations account for about 38% of the variability in the HDI. Transparency is the cornerstone of institutional quality enhancement; hence it has to be prioritized in order to raise institutional quality. In the same way, action against corruption and robust administrative involvement are necessary to promote economic progress. These results imply that in order to support economic development in underdeveloped nations, governments should give top priority to combating corruption and enhancing institutional quality.

Mehmood et al. (2023) examined the association between institutional quality and growth of economy from 2002 to 2018, focusing on South Asian countries. The study used the pooled mean group (PMG), the mean group (MG) and dynamic fixed effect (DFE) approaches to analyze data for the dynamic heterogeneous panel (ARDL) approach. The findings show that the three governance indicators such as rules of law, accountability, and control of corruption have direct effects on growth of economy. The study concluded that every country has similar long-term estimates, but different short-term estimates and rates of change leading to the long-term equilibrium, which is a result of the clear volatility in governance across all countries. The study concludes that by maintaining a stable political and economic environment and enhancing institutional quality metrics, regulators can sustain macroeconomic stability and boost economic growth at regional and national levels, furthermore results provides evidence that higher institutional quality results in more robust economic growth.

Ali and Mingque (2018) argue that one of the most popular topics of discussions is the association between FDI and economic growth in the host country. FDI is regarded as the primary engine of growth. This study looked at the relationship between FDI and GDP in Bangladesh, Malaysia, Indonesia, and India from 1990 to 2014. This study used the cointegration test, which demonstrates a long-term association between FDI and economic growth, and the Granger causality (GC) test, which is based on the VECM. While the long-term results indicate a positive but not statistically significant impact of FDI and other variables on GDP, and a significant negative interrelationship between FDI and other variables on GDP, the short-term results demonstrate insufficient proof of causality direction from FDI to GDP and vice versa. The findings demonstrate the complex relationship that exists between FDI and economic expansion.

Huynh et al. (2020) empirically evaluate the three-way relationships between foreign direct investment (FDI), the shadow economy, and institutional quality for a sample of 19 developing Asian countries between 2002 and 2015 by using a panel dynamic simultaneous-equation model approach. The empirical findings using the two-step System GMM demonstrate that institutional quality draws inward foreign direct investment (FDI), which in turn enhances institutional quality; that institutional quality is both the cause and the effect of the shadow economy; that FDI inflows contribute to the reduction of shadow economies through the channel of institutional improvement; and that lower shadow economies, which raise institutional quality, promote FDI inflows. The empirical findings offer beneficial policy recommendations to address these dynamics together.

Bouchoucha and Benammou (2020) examined the impact of FDI inflow and governance variables on 41 countries of Africa. In addition to the static panel data technique fixed and random effects and the dynamic panel technique (GMM) are also used. The research findings demonstrated a positive association between the inflow of FDI for African nations and the governance indicators, including government regulatory quality, effectiveness of government, corruption control and voice and accountability. The study's findings suggest that African nations must continue to develop sound governance practices and enhance governance in order to adapt to the demands of the contemporary economy.

Liang et al. (2021) conducted a study on 113 developing and emerging countries from 2000 to 2019 were used to test the association between FDI and growth of economy in emerging nations. The two-stage least square and the Hausman fixed effect were used to draw the findings. The results revealed that FDI and growth of economy are positively correlated, and developing nations' economies will grow more rapidly as a result of increased FDI inflow. Additionally, the study showed a negative correlation between economic growth and unemployment. Overall, the results point to a direct connection between FDI and rising national economies in developing countries.

Rehman et al. (2021) used time series data from 1985 to 2017 to test the connections between trade, FDI, renewable energy and GDP growth in Pakistan. To find the long and short-term dynamic association between the variables, they used an ARDL model, In addition, the long-run association by employing the FMOLS and DOLS. The long-term analysis revealed that renewable energy and trade have good connections with economic growth; FDI has a beneficial impact on economic growth in Pakistan. Furthermore, the cointegrating regression method revealed that trade and FDI have a direct association with GDP development in Pakistan, except for renewable energy, which has the opposite effect.

Shabbir et al. (2021) used the ARDL technique to examine the effect of FDI and domestic investment on Pakistan's economic development between 1980 and 2017. The study's long-term results concluded that both domestic and FDI have effect on economic development. In the short-run results conclude direct connection between local and foreign investment and economic growth. The error correction term (ECT) corrects 42.7% of

the disequilibrium in the data annually. Odhiambo (2022) uses the ARDL bounds technique and the Granger-causality test to investigate the association between FDI and the growth in economy in Kenya from 1980 to 2018. In Kenya, the analysis discovered a unidirectional causal relationship between FDI and growth in economy that is valid over the long and short terms. These findings suggest that Kenya's recent and robust FDI inflows are mainly the result of sound macroeconomic policies and strong economic growth pursued by the country over the past few decades. The study also discusses the policy implications of these findings.

Sunde (2023) employed the ARDL technique to explore the effects of FDI, openness of trade, domestic investment, government spending, and human capital on growth of economy of Namibia from 1990 to 2020. The study concluded that FDI, trade openness, domestic investment, government spending, and human capital contributes positively to Namibia's economic growth. The findings suggest that for Namibia to fully benefit from inflow of FDI in the form of economic growth, the government must prioritize improving the country's physical infrastructure and human resource quality. To accelerate economic growth and development, the government should also create an environment that fosters an entrepreneurial culture, maintain macroeconomic stability, and improve conditions for profitable investments.

After closely reviewing the relevant literature, it was evident that major factors influencing economic growth include institutional quality, FDI, inflation, and domestic investment. The relevant literature demonstrates that there are studies for various nations and areas of the world, these studies are deficient for the Latin American region. This study will close this gap and offer insightful recommendations for Latin American nations.

3. RESEARCH METHODOLOGY

This is a panel data study of 16 Latin American nations for period from 1996 to 2021 to test the relationship between the FDI, domestic investment, inflation, quality of institutions, and economic growth in Latin America. This time period is selected due to accessibility of data for these nations. the data for the economic growth is GDP growth (annual %) collected from the world bank online data base, for Foreign direct investment, net inflows (% of GDP) data is collected from International Financial Statistics, the data for domestic investment is measured in Gross capital formation (annual % growth) from world bank online data base, for the quality of institutions is collected from the world wide governess indicator (World Bank online database) and for the inflation, consumer prices (annual %) from the World Bank online database.

The stationarity of the variables is evaluated using the unit root approaches of Levin et al. (2002) to ascertain whether or not unit root problems exist in the series before looking at the association between the variables of interest. Panel cointegration, as developed by Kao (1999), Pedroni (2004), and the Johansson Fisher approach, is employed to find the long-run connection between the variables.

The Panel Auto-regressive Distributive lag (PARDL) model, first presented by Johansen (1988), is used to find the associations between the variables over both the long and short-terms.

3.1. Panel Unit Root Testing

In econometrics, the panel unit root method is used to determine whether or not the time series data collected from several individuals, groups, or entities show unit root behavior. When a time series is non-stationary, it indicates that its variance may increase over time and that its mean is not stable. Unreliable statistical results and misleading regressions might arise from non-stationary data. In time series analysis, checking the unit roots is essential since it can impact the interpretation of findings and the reliability of statistical tests. Panel unit root assessment is very helpful when handling data that has been gathered over time from several cross-sectional entities (such as nations, people, and businesses). The method developed by Levin, Lin, and Chu (LLC) is a common test for panel unit roots. It takes into account scenarios that are heterogeneous (different units have distinct unit root behaviors) as well as homogeneous (all units have an identical unit root behavior).

The present research employs the unit root technique created by Levin et al. (2002) to identify and resolve the unit root problem. The following is the general equation for finding the unit roots:

$$\Delta Y_{it} = \beta_i + \sigma Y_{it-1} + \sum_j^n \gamma_j Y_{it-j} + \gamma_t + e_t \quad (1)$$

The term γ_t represents the unit-specific time effect, and the initial term in the Levin and Lin unit root model is β_i , represents the unit-specific fixed effect. A two-way fixed effect is shown in this model. Only homogeneity of the $Y_{i,t-1}$ coefficient σ is allowed

3.2. Panel Cointegration Tests

In econometrics, panel cointegration analysis plays a key role, especially when analyzing panel data, which comprises long-term observations of several entities. A long-term association between at least two non-stationary variables that holds true when these variables are merged linearly is implied by cointegration. Investigating links between variables that show both short-term volatility and long-term equilibriums requires an understanding of panel cointegration. An effective method for examining the long-term correlations between non-stationary variables in panel data is panel cointegration. Its use has broad ramifications for the social sciences, finance, and economics. Panel cointegration analysis must be done correctly, which includes choosing the right techniques, dealing with problems, and taking cross-sectional dependency, heterogeneity, and data quality into account. The process of testing for panel cointegration typically involves unit root testing; for this, it becomes necessary first to employ tests of unit root to test the stationarity of every variable. Once non-stationary variables are identified, cointegration tests are applied to assess whether linear combinations of these variables result in stationary combinations. Various panel cointegration approaches are available, like the Pedroni, Kao, and Fisher Panel tests, among others. These tests examine whether cointegration relationships exist across multiple entities within the panel. The Pedroni Panel

Cointegration Test provides a variety of cointegration tests that take into account both heterogeneous as well as homogeneous cointegration relationships, such as the group-mean panel cointegration technique and the heterogeneous panel cointegration technique. The Kao Panel Cointegration test uses the group mean panel cointegration methodology and assumes homogeneous cointegration associations across all units. When researchers assume heterogeneous cointegration relationships, they might apply the Fisher Panel Cointegration Test. It permits various cointegration connections between various panel units.

The paper further expands its technique by employing Kao (1999), Pedroni (2004), and Johansson Fisher tests after assessing the panel variables for unit roots. These tests verify the long-term cointegration of Latin America's economic growth with institutional quality, FDI, inflation, and local investment. The steady and identical movement over time is referred to as a long-term relationship of economic variables. For the panel cointegration testing, the following equation is specified:

$$Y_{it} = \beta_0 + \delta_1 t + \beta_1 IQ_{it} + \beta_2 FDI_{it} + \beta_3 DI_{it} + \beta_4 INF_{it} + e_{it} \quad (2)$$

Where Y denotes GDP growth rate, IQ denotes institutional quality, and DI represents domestic investment and INF represents inflation in Latin America.

3.3. Cross-Sectional Dependency Tests

When analyzing panel data, cross-sectional dependency methodology is employed to find whether the various units (cross-sections) in the dataset have a significant degree of interdependence or association. It is a common assumption in statistical models that observations are independent of one another. This presumption might not apply to panel data, though, if cross-sectional dependence is present. The independence assumption has been violated and standard deviations and hypothesis testing could be biased if entities are correlated. To find whether there is a significant connection between entities in a panel dataset, cross-sectional dependency tests are useful diagnostic tools. By carrying out these tests, researchers can improve the validity and dependability of their findings, which will result in more precise parameter estimates, reliable statistical conclusions, and well-informed policy suggestions. The panel cross-sectional dependency can be tested using a variety of techniques. There are many techniques that determine the cross-sectional dependencies among them are Breusch-Pagan LM Test, Pesaran CD Test and The Pesaran Scaled LM Test. Breusch-Pagan LM test is useful when searching for heteroscedasticity and cross-sectional dependence in the residual terms of a panel data approach. Heteroscedasticity is the term used to describe the variance of the errors that varies between observations. This is the Breusch-Pagan LM Test's null hypothesis (H_0), assuming that there are no homoscedastic and unrelated deviations across cross-sectional units or cross-sectional dependencies. The alternative hypothesis (H_a) is that cross-sectional dependence exists. Pesaran CD Test is a statistical method used for cross-sectional dependency in panel data models. A variety of cross-sectional reliance patterns, especially weak cross-sectional dependence, can be found using this strong and effective test. Furthermore, administering and

interpreting the test is not too difficult. The Pesaran Scaled LM Test looks at a panel data model’s residuals to see if cross-sectional dependence is present. The test is called after Hashem Pesaran, who developed it. It uses a scaled Lagrange Multiplier statistic to adjust for contemporaneous correlation and heteroscedasticity in the residuals.

3.4. The Panel Autoregressive Distributive Lag Model (PARDL)

The ARDL model is mostly used to evaluate both long and short-term relationships between the chosen variables in a time series. It accounts for both short and long-term effects by capturing the dynamic association among independent variables and dependent variable. The variables in the ARDL model have lagged values, which usually follow an autoregressive structure. This indicates that a variable’s present value is dependent on its previous values. The ARDL framework is extended to panel data by the Panel Autoregressive Distributive Lag Model (PARDL). By accounting for cross-sectional dependence and taking into consideration the heterogeneity of the entities in the panel, it enables researchers to examine dynamic interactions between variables. An effective econometric framework for examining both short and long-term impacts when analyzing the dynamics of variables in panel data is the PARDL. It is a crucial tool for many types of empirical research and policy analysis because of its capacity to capture cointegration linkages and account for cross-sectional dependence. In order to improve decision-making and policy formation, researchers and analysts can utilize PARDL models to obtain a deeper understanding of complicated interactions in panel data. Long- and short-term effects are distinguished using the PARDL model. Cointegration denotes a long-term equilibrium or association among the variables. If an equilibrium relationship is shared by several entities across time, it is said to have cointegration relationships in panel data. Below is the panel ARDL model:

$$\begin{aligned}
 Y_{it} = & \beta_0 + \sum_{j=1}^n \beta_{1j} \Delta Y_{it-j} + \sum_{r=0}^s \beta_{2r} \Delta INF_{it-k} + \sum_{p=0}^q \beta_{2p} \Delta IQ_{it-k} \\
 & + \sum_{k=0}^m \beta_{3k} \Delta FDI_{it-p} + \sum_{e=0}^f \beta_{4e} \Delta DI_{it-h} + \theta_1 IQ_{it-1} + \theta_2 DI_{it-1} \\
 & + \theta_3 FDI_{it-1} + \theta_4 DI_{it-1} + \pi ECT_{t-1} + u_{it}
 \end{aligned} \tag{3}$$

Y_{it} represents the GDP growth rate; IQ_{it} indicates institutional quality; FDI_{it} indicates foreign direct investment; INF_{it} represents the inflation and DI_{it} represents domestic investment.

4. RESULTS AND DISCUSSION

The findings of numerous econometric techniques used to test the association between, FDI, institutional quality, inflation, and local investment on Latin America’s economic growth are presented in this section.

4.1. Panel Unit Root Analysis

A common approach for determining the series’ unit root is the Levin et al. (2002) technique. Table 1 presents the findings of the panel unit root test for the Latin American countries’ growth in

Table 1: Levin and Lin unit root test

Variables	At level	At 1 st Difference	Integration
	t-statistic (Prob.)	t-statistic (Prob.)	level
Y	0.964 (0.832)	-4.756 (0.000)*	I (1)
IQ	-0.307 (0.379)	-2.405 (0.008)*	I (1)
FDI	1.485 (0.931)	-9.086 (0.000)*	I (1)
DI	3.125 (0.000)*	-	I (0)
INF	0.964 (0.832)	-2.521 (0.006)*	I (1)

Source: Calculation of Authors. Where *, **and *** represent 1%, 5% and 10% level of significance (respectively)

Table 2: Pedroni Residual Cointegration test

Alternative hypothesis: common AR coeffs. (within-dimension)				
Statistic type	Statistic	Prob.	Weighted statistic	Prob.
Panel v-statistic	-0.0720	0.529	-2.078	0.981
Panel rho-statistic	-2.758	0.002	-1.889	0.029
Panel PP-statistic	-14.987	0.000	-12.745	0.000
Panel ADF-statistic	-5.746	0.000	-6.003	0.000
Alternative hypothesis: individual AR coeffs. (between-dimension)				
Statistic type	Statistic	Prob.		
Group rho-Statistic	-1.092	0.137		
Group PP-Statistic	-17.747	0.000		
Group ADF-Statistic	-6.107	0.000		

Source: Calculation of Authors

Table 3: Kao Panel Cointegration tests

Test	Statistic	Prob.
Kao	-6.749*	0.000

Source: Calculation of Authors

Table 4: Fisher Rank Cointegration test

No. of CE (s)	Trace value	Prob.	Max-Eigen value	Prob.
$r_0 = 0$	312.2	0.000	209.8	0.000
$r_0 \leq 1$	163.6	0.000	94.64	0.000
$r_0 \leq 2$	92.71	0.000	51.25	0.0168
$r_0 \leq 3$	69.70	0.001	46.25	0.0495
$r_0 \leq 4$	79.87	0.000	79.87	0.0000

Source: Calculation of Authors

GDP, quality of institutions, domestic investment, inflation, and FDI. The findings indicate that as institutional quality, economic growth, FDI and inflation are integrated of order one, whereas domestic investment is integrated of order zero or integrated at level.

4.2. Panel Cointegration Analysis

The results of the panel unit test conclude that most of the variables are integrated at first difference, and have the unit root. So it becomes necessary to check whether there is long-term association or cointegration between the variables are not? The study employed the Johansen Fisher tests, Kao (1999) and Pedroni (2004) tests for this. The long-term relationship between the variables is indicated by the test statistics for the tests stated above. The Pedroni and Kao cointegration approaches use the dimensions of the ADF statistic, while the Fisher test uses the significance of the maximal Eigen value. Tables 2-4 present the test results for the aforementioned tests. ADF figures from the Pedroni test show a

long-term connection between FDI, institutional quality, inflation, and domestic investment and Latin America’s economic growth. Furthermore, the Kao test validates the long-term relationship since the ADF statistic value is significant and the Eigen value of the Fisher rank cointegration test indicates that at least one cointegration vector supports the relationship between FDI, institutional quality, inflation, domestic investment, and economic expansion in Latin America.

The result of the cointegration techniques reveals a long-term relationship among the variables.

4.3. Cross-Sectional Dependency Tests

The findings of the cross-sectional dependency tests are depicted in Table 5. The cross-section dependency or correlation in residuals is tested by The Breusch-Pagan LM test, Pesaran CD technique and Pesaran scaled LM test. All these three tests assume H_0 that there is absence of cross-section dependency or correlation in residuals. The Breusch-Pagan LM test is the first one used test. The value of the probability is 0.775 and the test statistic’s value is 0.285 which shows the non-existence of cross-sectional dependency. The Pesaran CD test findings show that the statistic has a value of 0.351 and a corresponding probability value of 0.726. Once more, the probability value exceeds 0.05, suggesting non-existence of cross-sectional dependency in the model. Another test is the Pesaran-scaled LM test. The results of this techniques show that the probability value is 0.496 and the statistic’s value is 0.682. Like the Breusch-Pagan LM test, this test concludes the non-presence of cross-sectional dependency between the variables in the model.

4.4. Panel Autoregressive Distributive Lag Model (PARDL)

The study also uses the panel ARDL technique to confirm the precise association between domestic investment, institutional quality, inflation, FDI, and growth of economy in Latin America. This approach examines how independent variables affect dependent variables over the long and short terms. Table 6, indicates the long-term results of PARDL for examining the effects of FDI, domestic investment, inflation and quality of institutions on Latin America’s growth of economy. The institutional quality has a coefficient value of 0.136. The t-statistic value is 2.813, and the low probability value of

0.007 shows that the association is strongly significant. These results imply that institutional quality is a significant factor in explaining the changes in the economic growth in the long-run. This shows that, keeping all other variables are constant, a one-unit increase in institutional quality is long-term correlated with an increase of about 0.136 units in the dependent variable, growth of economy of Latin America. The result of the study support the results of guyen, Su, and Nguyen (2018), Asghar et al. (2020), Shabbir et al. (2021), Khan et al. (2022), Mehmood et al. (2023), Uddin et al. (2023). According to the results of these studies, institutional qualities are very important for the economic growth of any country. When there are high-quality institutions it attracts FDI, which brings the latest technology to the hosting countries and the production cost decreases and productivity rise in the economy, which increases the jobs opportunities and income and causes the economic growth.

The long-run coefficient of FDI is 0.343, and the t-statistic value of 0.343 with a low P-value of 0.015 suggests that foreign direct investment is highly important in describing the variation in the dependent variable, Latin America’s economic growth, conclude that every unit change in foreign direct investment, there is 0.343 units change in the Latin America’s economic growth. It suggests that FDI is very significant factor of growth of economy of Latin America. The findings of the this study supports the results of Nguyen et al. (2018), Shabbir et al. (2021), Rehman et al. (2021), Liang et al. (2021), Odhiambo (2022), Sunde (2023). The results of these researches indicate a strong association between FDI and a nation’s economic expansion. The economy grows faster when there is more FDI. Foreign Direct Investment (FDI) bridges the gap when domestic investment falls short of the necessary level, which is critical for economic expansion.

The coefficient value of domestic investment is 0.188, and the t-statistic value is 3.812 with a very low p-value of 0.000 suggests that domestic investment is highly significant and has long-term impacts on the dependent variable economic growth of Latin America. It indicates that if there is a unit change in the domestic investment there is 0.188 unit change in the growth of Latin America and revealing that domestic investment is very important determinant of growth of economy in long-term in Latin America. The conclusion of the study similar the results of Ha and Thuy (2021), Nguyen and Darsono (2022), Sohail and Li (2023), and Sun et al. (2023). Shabbir et al. (2021), Sunde (2023). These studies indicate that investment is the primary determinant of growth in the economy. It is the fundamental element of growth theories. It involves distributing resources in order to generate additional productive capability. Innovative manufacturing

Table 5: Results of Cross-sectional Dependency Tests

Test	Statistic	Prob.
Breusch-Pagan LM	0.285	0.775
Pesaran CD	0.351	0.726
Pesaran scaled LM	0.682	0.496

Source: Estimation of Author

Table 6: Results of Long Run relationships

Dependent variable: Y				
Variables	Coefficients	Sd. Error	t-statistics	Prob.
IQ	0.482*	0.154	3.116	0.002
FDI	0.234*	0.066	3.560	0.000
DI	0.188*	0.049	3.812	0.000
INF	-0.045	0.0158	-2.820	0.005

Source: Estimation of Author

Table 7: Results of Short-term

Dependent variable: Y				
Variables	Coefficients	Sd. Error	t-statistics	Prob.
ΔIQ	0.493**	0.224	2.194	0.029
ΔFDI	0.258**	0.0864	2.983	0.003
ΔDI	0.819**	0.1557	5.260	0.000
ΔINF	-0.218	0.101	-2.155	0.032
Constant	-1.727**	0.173	-9.965	0.000
ECT	-1.445*	0.215	-6.733	0.000

Source: Estimation of Author

facilities can be constructed, equipment can be bought, or new technologies can be developed to achieve this. Businesses that invest boost productivity, add jobs, and produce more goods and services. Consequently, this results in increased earnings, increased consumption, and comprehensive economic expansion.

The long-term coefficient of inflation is -0.045, and the t-statistic value of -2.820 with a low p-value of 0.005 suggests that inflation is highly important in describing the variation in the dependent variable Latin America's economic growth, the negative value reveals the inverse relationships between the inflation and Latin America's economic growth, conclude that every unit increase in inflation, there is 0.343 units decrease in the Latin America's economic growth. It suggests that inflation is very significant determinant of economic growth of Latin America in long-run. The result of the study confirms the results of the studies; Sekwati and Dagume (2023), Iqbal et al. (2023), Khan et al. (2023), Nadilla and Ichsan (2023), Ayele et al. (2023). The results of these studies conclude that higher rate of inflation in the economy is harmful, because it decreases the economic growth rate due to uncontrolled prices the cost of production increases which causes to higher prices which becomes difficult to purchase and consume these products.

The short-run PARDL results to test the impacts of FDI, quality of institutions, inflation and domestic investment on Latin America's economic growth are displayed in Table 7.

The institutional quality has a coefficient value of 0.493. The low P-value of 0.029 reveals that the association is highly significant at the 5% significance level, implying that institutional quality is a substantial factor in short-term explanation of the dependent variable's fluctuation. This indicates that a one-unit rise in institutional quality is linked to a short-term rise in the growth of economies in Latin America of about 0.493 units with a low the probability value of 0.029.

The coefficient of FDI is 0.258; t-value is 2.983 with probability value of 0.003 indicates that foreign direct investment is very significant determinant in the short-run for economic growth of Latin America. It is clear that the short-term variations in the dependent variable are explained by domestic investment, which has a coefficient of 0.819, the t- statistic value is 5.260 and a very low P-value of 0.000. It shows that domestic investment is very significant determinant of growth of economy of Latin America in short-run. The coefficient of inflation is 0.258; t-value is 2.155 with probability value of 0.032 indicating that inflation has significant impacts on the economic growth of Latin America, the negative value indicates the negative association among the inflation and economic growth of Latin America, for every unit increase in the inflation there is 0.258 unit decrease in economic growth of Latin America in short-run. Additionally, the results show that the ECT term is significant and that the associations between domestic investment, FDI, quality of institutions, inflation and economic growth in Latin America are dynamically stable over time. The model is dynamically stable, and the coefficient's negative sign and size of -1.445 indicate that the association's adjustment effect is -1.445 units.

Furthermore, it concludes that the model is dynamically stable in the short run.

5. CONCLUSION

The main objective of this research is to evaluate the effects of inflation, local investment, FDI, and institutional quality on the growth of economy of Latin America between 1996 and 2021. To test the long and short-term impacts of these variables on Latin America's economic growth, various econometric methodologies are used. Panel unit root tests are used to test whether a unit root exists. The test's findings show that some variables have unit root issues and that variables are integrated in different orders. It becomes essential to test whether cointegration or a long-term equilibrium relationship between the variables exists after the unit root is present. The panel cointegration approaches are utilized for this purpose, and the outcomes of these assessments establish the presence of equilibrium relationships. To determine whether cross-sectional dependency existed in various cross-sections of the chosen variables, the study used the cross-sectional dependence test. This test's outcome shows that cross-sectional reliance is not an issue for it. The panel ARDL technique is used to find the long and short-term effects of institutional quality, FDI, domestic investment and inflation on the economic growth of Latin America.

The test's outcome indicates that FDI, institutional quality, and local investment have a beneficial, both long and short-term impact on Latin America's economic growth. the results reveals that quality of institutions, FDI, and domestic investment are very important determinants of the economic growth of Latin America, so it is required to give special attention to attract FDI by increasing the quality of institutions and it also required to increase the local investment in the economy, where the findings are conclude that inflation has long and short-term negative impact on the growth of economies of Latin America. The result of the study suggests that special attention is given to reduce the inflation in the economy to increase the rate of economic development in Latin America.

Future research could involve expanding the timeframe, incorporating more countries and introducing diverse variables in the model for analysis. Additionally, to ensure the robustness of results, other relevant econometric techniques can be employed.

6. RECOMMENDATIONS

The results highlight various implications for Latin American policymakers for increasing the rate of economic growth:

- Improving the institutional quality ought to be the primary goal. To attract both domestic and foreign investors, governments must strengthen the rule of law, combat corruption, and establish an open and predictable regulatory framework. These initiatives can promote economic growth, ease the transfer of technology, and generate employment.
- It is recommended that political stability must be increased for Policy Continuity and Consistency in economic

management. Political stability allows for the development and implementation of long-term economic strategies, fostering investor confidence and attracting foreign direct investment.

- Prioritize the creation of an investment-friendly environment by ensuring regulatory clarity, transparency, and protection of property rights. Stable political conditions encourage businesses to make long-term investments, contributing to job creation and economic expansion.
- Political stability facilitates long-term planning and execution of infrastructure development, which is crucial for economic growth by improving connectivity, reducing transaction costs, and enhancing overall.
- It is essential to promote domestic investment. Promoting a business-friendly environment, guaranteeing financial accessibility, and encouraging innovation are crucial policies in promoting local capital development.
- Promoting domestic investment is essential to sustainability over the long run. Governments ought to concentrate on fostering an atmosphere that will allow regional companies to grow, from facilitating better access to capital to funding vital infrastructure and encouraging innovation.
- More regional and global collaboration, such as trade agreements and cross-border infrastructure initiatives that improve connectivity and economic integration, can be advantageous for Latin America.
- Policymakers should continue to be concerned with inclusive growth strategies that lower income inequality and raise living standards for all societal groups.
- It is essential to control the rate of inflation in the economy, because if it is not control then it will causes to reduce the growth rate in the economy.

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