

Role of Inflation in Economic Growth of Country: A Global Perspective

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ABSTRACT

This paper explores the highly complicated and nonlinear decoding of inflation and economic growth in the global context during the timeframe of 2000–2024, including the pre-pandemic, pandemic, and post-pandemic contexts. The paper uses a quantitative method and adopts secondary data collected by the World Bank and the International Monetary Fund to assess the effect of inflation on the growth of gross domestic product (GDP) and holds other important macroeconomic variables, such as foreign direct investment, trade openness, population growth, and the consumption of renewable energy. The results validate the occurrence of threshold effects, which imply that a moderate amount of inflation can help an economy to grow by increasing consumption, boosting investment, and improving aggregate demand, and high or unstable inflation would kill macroeconomic stability, corrupt purchasing power, and confidence of investors. The findings also indicate a high level of heterogeneity between countries in terms of institutional quality, the development of the financial system, and the credibility of policies. Advanced economies have better abilities to absorb moderate inflation with less significant growth shocks, unlike developing and emerging economies, which are highly vulnerable to external shocks and the volatility of inflation. The COVID-19 pandemic is described as a severe shock of global importance that changed the conventional inflation-growth relationships because of the disruption of supply chains and structural constraints, which revealed the growing significance of global spillovers in an increasingly globalised economy. All in all, it is highlighted in the study that there is a need to develop adaptive, country-specific, and evidence-based policy frameworks that align price stability with long-term growth and sustainability goals. This study integrates international interactions and structural variables to add value to the existing body of knowledge on the nexus of inflation and growth and offer policy implications to address economic resilience in a globalised world.

Keywords: Inflation, Economic Growth, GDP, COVID-19, Threshold Effects, Fixed Effects, Panel Data

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1. INTRODUCTION

The macroeconomic theory and policy discussions have been centered on inflation and economic growth because of their far-reaching impact on economic stability, social welfare, as well as decision-making processes and policies at national and international levels. In itself, their relationship is complex, multidimensional, and situation-dependent, and economists still argue whether inflation is a catalyst of economic growth or a limitation to sustainable development. This nexus is important to design monetary and fiscal policies that will facilitate long-term prosperity and minimise macroeconomic volatility. Moreover, it contributes to interest rate setting, fiscal policy spending, and investment policy incentives and ensures that the interventions are not reactive, but rather strategic in balancing the short-term goals and the long-term development goals. In the classical and Keynesian economic theory, moderate inflation is usually a good factor. This will reduce the real value of money in households' and firms' hands and will lead to additional spending and investment. This process generates aggregate demand, boosts production, brings jobs, and enhances the utilization of economic resources. Moderate inflation has also been perceived to be an indicator of a vibrant economy since it not only signifies a rise in consumption and investment activities but is also specifically pertinent in fast-growing economies where capital accumulation and participation in labor are crucial. Even when it has short-term impacts, moderate inflation may also act as a shock absorber against deflationary shocks, which can cause stagnation or slowdown of an economy by promoting saving over consumption and postponing investments.

On the other hand, neo-classical and monetarist views emphasise the negative impact of high or violent inflation. Inflation may lead to distortion of price signals, making households and firms unable to make sound consumption and investment decisions. The implications of this decrease in market efficiency may be far-reaching, such as resource misallocation and decreased productivity. Moreover, inflation reduces purchasing power, and this impacts more people on fixed income and increases income inequality. High inflation brings about unpredictability in terms of future price levels, as well as discouraging long-run investments, a decline in capital formation, and eventually slows down economic growth. In this sense, price stability is not merely a technical objective, but also a precondition to ensure that economic confidence is preserved, as well as to stimulate the investment of the private sector and the proper distribution of resources in the long term.

Empirical evidence also tends to point towards the position that the relationship between inflation and growth is not linear and consistent across time as well as across nations. As many studies show, threshold effects exist, and low to moderate levels of inflation may positively impact economic growth by decreasing real debt burdens, increasing profit margins, and creating a vibrant business environment that encourages investment. Nevertheless, inflation beyond a certain critical point is

harmful, as it chips away at real incomes, savings, and trust in the domestic currency, therefore undermining macroeconomic performance and long-term planning (Khan and Senhadji, 2001; Mandeya and Ho, 2022). Such thresholds are normally lower in emerging and developing economies because the financial systems are not so robust, the institutional capacity is low, and the economies are also more susceptible to exogenous shocks like changes in the prices of global commodities, unstable flows of capital, and fluctuations in the exchange rates. These circumstances explain the need to have policy frameworks in each country that are sensitive to the domestic economic framework, the quality of its institutions, and even the susceptibility to global risks as opposed to applying the identical global inflation targets (Dao, 2024).

The topicality of the knowledge of the inflation-growth nexus is only increased due to the latest events in the world. The global economy of the post-crisis era (since 2020) has been affected by an unusual combination of disruptive forces, such as the COVID-19 pandemic, critical supply chain disruptions, labor market disequilibrium, massive fiscal stimulus, and escalating geopolitical tensions. These recent inflationary pressures have been structural as opposed to those in the past when the major cause of inflation was excess demand. The shortages of supply in such basic goods as energy, food, and semiconductors have raised the cost of production and increased prices, which makes traditional monetary policy instruments less efficient (IMF, 2023). The policymakers are therefore faced with tough choices: when monetary policies are tightened to reduce inflation, it will choke the recovery and job creation, but still, when the focus is on economic growth, then it will be at the expense of increasing price instability. These issues are especially acute with regard to small, open, and import-dependent economies when domestic prices are strongly affected by developments on the global market.

Inflation is also becoming increasingly transnational, which further complicates the responses to policy. Global supply chains, financial market integration, and international trade have increased the level and rate through which price shocks are cross-border. Any shock in a major economy or a major commodity market will easily spill over into global prices, diminishing the effectiveness of unilateral domestic policy response (Pappas et al., 2025). Therefore, international actions that involve stabilisation of commodity markets, diversification of supply chains, and alignment of trade policies and monetary policies are becoming more necessary to counter the negative impact of world inflationary shocks. The channels of inflation have also been reformed by structural changes in the way in which inflation influences the growth of economies. Digitalisation and automation are technological changes that have transformed production processes, cost structures, and cost setting. An increase in the level of public and private debt has increased the sensitivity of the economies to changes in interest rates, and labor market shifts, such as the rise of remote work and the gig economy, affect the wage structure and the employment patterns. The changes add a new aspect to the inflation-growth relationship that makes it hard to design effective policy responses (OECD, 2023).

Technological advancement can enhance productivity and, to some extent, counter inflationary forces, but it might also contribute to skill gaps, wage gaps and sectoral inequality unless policies are adjusted to such changing forms.

The quality of institutions and governance is a determining factor in mitigating the effect of inflation. Independent central banks, credible fiscal institutions, and transparent policy frameworks in countries make more sense in managing inflation without compromising long-term growth. These institutions are able to entrench inflation expectations, increase investor confidence, and provide a consistent implementation of policies. In comparison, weak institutions can increase inflationary pressures, lower domestic and foreign investment, as well as diminish economic efficiency. Inflation may become self-reinforcing in extreme situations, making its persistent inefficiencies and productivity stifling. Therefore, institutional power cannot simply be described as complementary; it is the core part of ensuring a balanced and sustainable macroeconomic environment.

2. LITERATURE REVIEW

2.1 The Economy, Growth, and Inflation

Social and demographic trends also affect inflation and economic growth. The increase in populations, urbanization, and age structure causes additional strain on prices and wages due to a rise in aggregate demand, as well as labor supply. One such example is the potential for inflation to pick up in developing countries where high rates of urbanization would contribute to higher housing, food, and transportation costs, and in developed economies where an aging population would reduce overall demand for goods and services and increase demand for social welfare programs, which would affect the inflation process indirectly. Demographic insights should thus be incorporated in the inflation-targeting and growth-promoting policies by policymakers. In addition, inflation has been an international issue due to global interconnectedness. Trade ties, international capital movements, as well as financial and commodity market integration imply that a price shock in a certain country can quickly spread to others. This highlights the need for coordinating the implementation of international policies, sharing information, and strategic reserves management of energy and food commodities to balance the negative effects of global inflation. The inflation-growth nexus is also transformed by technological advancement and digital transformation. E-commerce, automation, and artificial intelligence can lower production and transaction costs, enhance supply chain performance, and improve competitiveness in the market. Nonetheless, labor displacement, the subsequent change in wage structure, and the resulting imbalances across sectors can also affect inflation in different ways across industries. Policies should as such consider the disparate effects of technological changes to prevent unforeseen inflationary or deflationary effects.

Lastly, the financial sector is at the centre of affecting the influence of inflation on growth. Moderate inflation can be absorbed without many distortions to the economy because of the well-developed banking systems, capital markets, and risk-sharing mechanisms. On the other hand, ineffective financial systems increase the adverse effects of inflation, constrain the availability of credit, and inhibit investment, especially by small and medium corporations. There is a need, therefore, to have coordinated fiscal, monetary, structural, and financial policies facilitated by strong institutions and effective governance to be able to control inflation and still support inclusive and long-term growth of the economy.

2.2 Keynesian and Post-Keynesian

Keynesian theory argues that moderate inflation can be tolerated with economic growth and, in some situations, it can spur it. Demand-pull inflation takes place when the aggregate demand exceeds the productive capacity of an economy, leading firms to produce more, recruit more workers, and invest in capital, which then forms a positive feedback loop of growth (Majenge et al., 2024). Nonetheless, over-inflation will destroy purchasing power, heighten uncertainty, decrease investment, and disrupt macroeconomic planning. These insights are further developed in post-Keynesian views, which emphasize that inflation is closely linked with structural and institutional factors, in particular, distributional struggles between wages and profits. The inflationary pressures can be caused by wage bargaining in industries with strong bargaining power of labor or profit-maximizing behavior where there are only a few participants in the market. Post-Keynesians also focus on using monetary, fiscal, and income policies to coordinate their use in the control of inflation and encourage employment and output (Hein, 2024; Setterfield, 2006). It is a strategy that demands robust institutions, good governance, and vigilant monitoring of the labor market.

Additionally, the impact of inflation on income distribution is acute: high inflation will impact lower-income households more than others, decreasing consumption, increasing inequality, and potentially enhancing social instability. As a result, policies should strike a balance between efficiency in the economy and equity goals in order to bring inclusive growth. Additionally, the post-Keynesian theory emphasizes that interdependencies between sectors are important: e.g., wage-led sectors can spread inflation throughout the economy if income redistribution is biased, whereas export-oriented sectors can absorb inflation by means of international competitiveness. These sectoral dynamics need to be incorporated in the macroeconomic strategies to avoid structural imbalances by policymakers. Continuing on the theme, Keynesian-inspired models also stress the importance of government expenditure and countercyclical fiscal policy to stabilize output in times of inflation or deflation. Infrastructure, education, and health can be provided by the government, which can boost productive power, which facilitates the supply pressure

that frequently leads to inflationary pressure. The post-Keynesian perspective of such investments also affects income distribution by providing jobs and enhancing the bargaining power of labor that may shift wage-price relations among industries. This view supports the viewpoint that the monetary tightening strategy cannot be effective enough to control inflation and should be complemented by concerted fiscal actions resolving inherent structural bottlenecks in the production and labor markets.

2.3 Nominal Rigidities and New Keynesian Theory

The interest of new Keynesian models is centered on the price and wage nominal rigidities that cause the real variables of the economy to be very sensitive to inflation in the short run. Nominal shocks can be absorbed by moderate inflation, and wage rigidity will decrease and stabilize output (Ball et al., 1988; Mishchenko et al., 2018). But as inflation is high or volatile, the stabilizing effects are eliminated, resulting in the loss of output, financial instability, and reduced investment. Particularly vulnerable economies are those with segmented labor markets, long-term wage contracts, and those with weak financial infrastructure. Companies can delay capital investments because of the expected high costs, and households can cut spending to insure against uncertainty. Stable, not high inflation stimulates planning, productivity, and efficient allocation of resources, even though unexpected increases in inflation lead to high uncertainty and incentive distortions as well as lowering the potential for growth over the long term (Galí, 2018; Lima and Setterfield, 2008). The policies should be viable for each economy, and consideration should be given based on the structural, institutional, and global factors. Moreover, the New Keynesian model emphasizes the importance of expectations: adaptive and rational inflation expectations affect wage bargaining, investment planning, and consumption. A mismatch of expectations may increase the volatility of inflation, and in particular, in the presence of an underdeveloped financial market or low credibility of the policies used, effective communication and anchored expectations in monetary policy are necessary.

The recent additions to the New Keynesian model have introduced financial frictions and credit restrictions, and New Keynesian models recognize that inflation shocks may combine with balance sheet conditions of firms and households. Increases in inflation can increase a real debt burden on borrowers on a fixed nominal contract, unexpectedly undermining firm profitability and household consumption in households. This feedback cycle is capable of increasing the oscillations in output and intensifying economic recessions. Credibility of central banks and clear communication policies thus play a central role in setting anchors and minimizing the chances of a boiling point in terms of inflation and a cooling point in real activity by a temporary price shock, and reduce the likelihood that temporary price shocks translate into persistent inflationary spirals or sharp contractions in real activity.

2.4 Neo-Classical Strategies and Monetarist Views

In the Monetarist approach, the theory associates inflation with the rise of money supply in excess of real output. Countries like Pakistan, Vietnam, and China have demonstrated through empirical studies that an excess monetary growth can be a cause of long-term inflation, whereas short-term inflation might be slow to react to monetary policies (Van, 2019). It is also noted that the country-specific thresholds are important: the inflation level exceeding about 6 percent typically decelerates growth, but the institutional and structural factors dictate the extent of the response (Mishchenko et al., 2018). Neo-classical growth theory stresses capital accumulation, labor, and technology as the long-run growth factors. High or volatile inflation interferes with these processes by deterring investment, capital misappropriation, and disrupting labor markets. Empirical research shows that moderate inflation can be neutral or even slightly positive to growth, and high inflation always suppresses the growth of the economy (Ehigiamusoe et al., 2018; Kryeziu and Durguti, 2019; Hidhiir et al., 2024). These effects are mediated by institutional quality: with strong institutions, the economy is immune to such effects, whereas with weak institutions, institutions aggravate the effects of inflation (Aslam, 2020). Regional and sectoral variations are essential. The capital-intensive industries are very sensitive to input costs and changes in interest rates, and the labor-intensive industries are pressurized by wage changes. Technological adoption and productivity in different sectors may also be affected by inflation differently. Given these nuances, policymakers will be able to conduct subtle interventions with the issues of inflation control and growth goals.

In a monetarist and neo-classical perspective, the interaction between inflation and human capital accumulation also leads to growth in the long run. High and unstable inflation may erode the real value of educational investments and cause disincentives to long-term skills production, especially in an economic system that is underdeveloped and households are more constrained by budget limitations. This may have long-term impacts on productivity and adoption of technology. Conversely, when prices are stable, the country will be more likely to invest in education and innovations and solidify the supply-side principles of sustainable economic growth and improve global competitiveness.

2.5 Non-Linear Effects and Empirical Evidence

Empirical studies indicate a non-linear correlation between growth and inflation at all times. Barro (1995, 2003) demonstrates that a 10-percentage-point rise in inflation lowers the growth of per capita GDP by 0.2–0.3 points per year and lowers investment ratios. The country-specific analysis shows threshold effects: inflation below 6 percent has little effect on the growth of Pakistan, but the effect of inflation above this threshold stunts growth. The studies conducted in Nigeria reflect

on the multidimensional impacts of the interactions between inflation, exchange rate fluctuations, and monetary variables determining the growth performance (Adaramola and Dada, 2020). There are also sectoral differences. Service industries, construction, and manufacturing industries respond in different ways to inflation. Increased construction inflation increases the cost of projects and can potentially slow the development of infrastructure, whereas cost-passing inflation by wages is passed on to consumers and affects demand. By identifying these variations, specific fiscal and monetary interventions can be implemented to reduce those weak points and contribute to general growth. The non-linear impacts are also observable in income distribution, investment choice and productivity, with even moderate inflation having differentiated effects based on the economic structure, policy credibility and strength of the institutions. These lessons support the possibility of flexible and context-dependent policies.

Some other empirical studies indicate that the inflation-growth threshold is not fixed and may change in time in response to variations in policy credibility, openness to trade, and financial integration. Economies with credible inflation-targeting rules and the strengthening of regulatory frameworks tend to have higher tolerance levels until the time when inflation starts to influence development in a harmful manner. Such dynamic quality of thresholds highlights the necessity of ongoing assessment of the policy and adapting macroeconomic systems to the changing domestic and international factors.

2.6 Post-COVID-19 Inflation and Growth

The COVID-19 crisis provides a current setting to study the inflation-growth processes in the face of unprecedented global shocks. The crisis resulted in crippling output, disruptions in the supply chain, and unprecedented levels of fiscal and monetary intervention. In early 2020, China had high levels of GDP loss, whereas the UK experienced high levels of loss in construction, manufacturing, and services (Ahmad et al., 2019; Rakha et al., 2021). Third-world economies acted differently. Nigeria alleviated the losses in the first production by implementing adaptive strategies, whereas Saudi Arabia faced short-term losses because of the variations in the oil demand at the global scale (Farayibi and Asongu, 2020; Agboola et al., 2021). International evidence shows that the level of lockdown dictated the temporary growth, and post-lockdown recoveries relieved early losses in part, which is why adaptive fiscal and monetary policy is important (König and Winkler, 2021).

The pandemic also changed the context of inflation expectations, wage settlements, and prices as a result of increased uncertainty and the measures implemented to control the spread (Detmers et al., 2022), which demanded policies that are flexible, have an empirical basis, and are context-sensitive. The post-COVID-19 period demonstrates that the inflation-growth regularity is modified by

supply shocks, consumer conduct shifts, labor market responses, and global networks, which requires constant observation and adjustment actions of policymakers. The interaction between inflation and growth in the post-pandemic period has also been informed by the massive accumulation of public debt and a shift in the participation pattern in the labor market. The dependence of governments on huge fiscal policies to bail out households and firms has become a cause of concern with regard to the sustainability of debt and the possible inflationary effects in the long run. Meanwhile, the changes in the direction of remote working, digitalization, and redesign of global supply chains have transformed the production structure and cost dynamics to provide new sources on which inflationary pressures can bear on the paths of productivity and growth. These developments point to the necessity of proactive policy frameworks that incorporate both macroeconomic stabilization as well as structural transformation goals.

2.7 Synthesis of the Literature

It is shown in the literature shows that the inflation-growth nexus is non-linear and context-dependent and influenced by structural, institutional, sectoral, and global elements. Moderate, predictable inflation promotes investment, innovation, productivity, and efficient allocation of resources, whereas high or volatile inflation destroys growth, stability, as well as equity. The determinants are key, and they are threshold effects, institutional quality, sectoral sensitivities, income distribution, labor market dynamics, demographic trends, technological advancements, and global crises like COVID-19.

The management of inflation will need to be informed, flexible, and context-specific policies that will balance between long-term sustainability of price stability and long-term growth. Sectoral differences, labor and capital distribution, globalization and integration, institutional strength, and responsive actions are among the factors policymakers should take into account to reduce shocks (Van et al., 2019; Mishchenko et al., 2018; Majenge et al., 2024). Meeting these multidimensional aspects enables economies to mitigate the adverse effects of inflation, maintain macroeconomic stability, and spur inclusive growth in the world that is becoming more interconnected.

3. METHODOLOGY

3.1 Research Design

This paper is based on a specific quantitative research design to investigate the connection between inflation and economic growth at the international level basing on credible numerical data in authoritative sources like the World Bank and the International Monetary Fund. Under this method, it is possible to measure the main economic variables, such as annual inflation rates, GDP growth, interest rates, and exchange rates, and to test the complicated patterns and relations between inflation and growth. It can also be used to test hypotheses and to analyse nonlinear effects and threshold relationships and demonstrate how the effects of inflation depend on its levels, volatility, and the economic structure of a particular country. The quantitative method also leads to credibility, accuracy, and comparability of findings, and the application of reliable secondary data ensures elimination of personal bias due to the standardised statistical measures applied to all observations, which leads to the derivation of robust and trustworthy conclusions to support economic decision-making and formulation of policies.

3.2 Population of the Study

The sample of study subjects includes both developed and developing countries of various regions and economic systems in order to be representative. Purposive sampling was applied in order to select the countries that had credible data on inflation, growth of GDP, foreign direct investment, openness of trade, population growth, and consumption of renewable energy. The chosen countries are a resource-dependent economy, an industrial, service-oriented economy, and an emerging economy, which gives a picture of all the relations between inflation and growth. The dependent variable, the main independent variable, and control variables are applied in the study to consider this relationship.

In this study, the dependent variable is economic growth, the main independent variable is inflation, and some macroeconomic variables are employed as control variables to analyse the relationship between economic growth and inflation.

3.3 Variables

Dependent Variable – Economic Growth: Economic growth is gauged in terms of Gross Domestic Product (GDP), which is used in this study as the dependent variable. GDP measures the overall performance of an economy and is a measure of the total value of goods and services produced within a country. It has been used extensively as an important measure of economic growth and development (World Bank, 2023).

Independent Variable – Inflation: This study employs inflation as an independent variable and uses it to evaluate the impact of inflation on economic growth. Inflation is the overall rise or fall of the prices of goods and services over

time. It is regarded as an important macroeconomic indicator as it affects investment, consumption, and production decisions (Barro, 2003). For this study, the Consumer Price Index (CPI) is used as a proxy for inflation.

3.4 Control Variables

Higher Education: Higher education is incorporated as a control variable to account for the effect of advanced human capital in enhancing economic growth. A focus on higher education offers a good indicator of the role of skilled and specialized human resources in long-term economic development (Barro & Lee, 2013).

Population: Population is an indicator of the size of the labour force and domestic market. Population growth has the potential to impact economic growth through providing more labour force and domestic demand for goods and services (Todaro & Smith, 2020).

Imports: Imports are added to allow for the impacts of external trade and access to imported goods, intermediate inputs, and advanced technologies. While imports can contribute to improving productivity through access to improved inputs and technology, the effect of imports on productivity may vary depending on the structure of trade (World Bank, 2023).

Exports: Exports are a measure of a country's involvement in the international economy as well as its foreign exchange earnings capacity. The export-led growth theory suggests that export-driven growth can contribute to a rise in output, employment, and economic development (Krugman et al., 2018).

Foreign Direct Investment (FDI): FDI is added as a control variable as it brings capital, technology, and managerial skills. FDI is known to be an important force in economic development, especially in developing countries (UNCTAD, 2022).

4. RESULTS

4.1 Descriptive Statistics

Table 1 *Descriptive Statistics*

Variable	Obs	Mean	SD	Min	Max
ln_gdp	4826	1.301	.811	−2.303	4.705
ln_cpi	5359	1.309	1.032	−5.073	6.323
ln_exp	5527	3.494	.622	.103	6.073
ln_imp	5578	3.658	.512	.12	6.062
ln_fdi	5704	21.428	3.06	10.361	28.767
ln_pop	6625	16.071	3.057	9.164	22.82
ln_higheredu	4261	3.255	1.034	−2.15	5.116

The descriptive statistics are displayed in the form of natural logarithmic variables of all the variables in the table. The economic growth (ln_GDP) exhibits a great dispersion, with recession (lowest −2.303) and vigorous growth (highest 4.705). The inflation (ln_CPI) is also rather heterogeneous (−5.073 to 6.323), which implies deflation and high-inflation periods. The exports (ln_EXP) are relatively steady, whereas imports (ln_IMP) are more variable, implying that there is a degree of trade dependency. FDI (ln_FDI) has great dispersion, which indicates that the amount of capital flowing in is uneven. There is also significant variation in population (ln_POP) and higher education (ln_HigherEdu), which means that there are differences in demographics and human capital. All in all, the data are heterogeneous, which is why control variables should be included in the growth model.

4.2 Correlation Matrix

Table 2 *Matrix of Correlation*

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) ln_gdp	1.000						
(2) ln_cpi	0.007	1.000					
(3) ln_exp	0.019	−0.202	1.000				
(4) ln_imp	−0.004	−0.107	0.782	1.000			
(5) ln_fdi	0.061	−0.096	0.060	−0.243	1.000		
(6) ln_pop	0.033	0.131	−0.451	−0.620	0.707	1.000	
(7) ln_higheredu	−0.002	−0.219	0.381	0.216	0.377	−0.106	1.000

Table 2 presents the correlation coefficients among the variables of the study and economic growth (ln_GDP). The results show weak linear relationships:

inflation (0.007), exports (0.019), imports (−0.004), FDI (0.061), population (0.033), and higher education (−0.002) have weak connections with growth. This indicates that there is a low threat of multicollinearity in regression analysis. There are independent variables that are more interrelated with each other, such as exports and imports, which have an economic logic. Correlations, however, do not translate to causation; hence, econometric modeling is required to determine actual effects on growth.

4.3 Regression Analysis

Table 3 *Fixed Effect Results*

Dependent Variable: Economic Growth Measured by GDP						
	(1)	(2)	(3)	(4)	(5)	(6)
	FE	FE	FE	FE	FE	FE
ln_cpi	0.036** (0.015)	0.032** (0.016)	0.035** (0.016)	0.044*** (0.016)	0.031** (0.015)	0.046** (0.018)
ln_exp		−0.067 (0.059)				
ln_imp			−0.175** (0.073)			
ln_fdi				−0.016 (0.013)		
ln_pop					−0.512*** (0.090)	
ln_higheredu						−0.222*** (0.040)
_cons	1.255*** (0.023)	1.507*** (0.211)	1.904*** (0.265)	1.585*** (0.284)	9.729*** (1.483)	1.987*** (0.136)
Observations	3911	3417	3462	3637	3911	2781
R-squared	0.002	0.002	0.003	0.003	0.010	0.015

Standard errors are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 3 shows the results of the fixed-effects regression based on GDP as a proxy of economic growth. Inflation (ln_CPI) shows a small positive and significant effect, indicating that moderate inflation can stimulate investment and consumption. In some of the models, imports (ln_IMP) and population growth (ln_POP) also negatively influence growth because of strain on resources. Higher education (ln_HigherEdu) influences growth negatively, which may be due to skill mismatch or unproductive education systems. The correlation and significance of exports (ln_EXP) and FDI (ln_FDI) are weak and insignificant, which means that they are composite and sector-dependent. The low R-squared values are a characteristic feature of fixed-effects models, which consider the significance of coefficients as opposed to their general explanatory power.

4.4 Fixed Effect Results (Before and After COVID-19)

Table 4 *Fixed Effect Results (Before and After COVID-19)*

	(1)	(2)	(3)	(4)	(5)	(6)
	FE	FE	FE	FE	FE	FE
ln_cpi	0.018 (0.017)	0.021 (0.017)	0.032* (0.017)	0.020 (0.015)	0.035* (0.019)	0.038* (0.021)
ln_exp	-0.066 (0.060)					-0.132 (0.110)
ln_imp		-0.179** (0.074)				0.080 (0.141)
ln_fdi			-0.010 (0.013)			0.044** (0.019)
ln_pop				-0.482*** (0.091)		-0.334* (0.177)
ln_higheredu					-0.199*** (0.041)	-0.189*** (0.062)
_cons	1.538*** (0.214)	1.954*** (0.270)	1.491*** (0.287)	9.271*** (1.499)	1.938*** (0.137)	6.902** (2.983)
Observations	3247	3290	3464	3721	2640	2319
R-squared	0.001	0.002	0.001	0.009	0.012	0.016

Standard errors are in parentheses.

(1)	(2)	(3)	(4)	(5)	(6)
*** p<0.01, ** p<0.05, * p<0.1					

According to the results in Table 4, from 2000 to 2018 and from 2021 to 2024, the correlation between economic growth and inflation (ln_CPI) is positive in most of the models. The relationship is statistically significant at the 10% level in Models 3, 5 and 6. The results indicate that, during non-crisis periods, inflation could have a positive impact on economic growth, though the magnitude of this impact is relatively minor. This finding is similar to the findings of the economic literature that suggests that moderate inflation can pave the way for the expansion of economic activities by encouraging an increase in investment, production, and aggregate demand as long as inflation remains within a tolerable limit (Barro, 2013; Ghosh & Phillips, 1998).

The findings further reveal that in some models, population growth and higher education have a negative and significant impact on the results. This could be due to demographic pressures or a lack of alignment between the development of human capital and the labour market needs that can reduce their role in the short run in economic growth (IMF, 2023). In general, the results presented in Table 4 indicate that the relationship between inflation and economic growth becomes more pronounced and more reliable in periods of relative stability of the economy and is not impacted by a significant external shock or a crisis.

4.5 Fixed Effect Results (COVID-19 Period: 2019–2020)

Table 5 *Fixed Effect Results (COVID-19 Period: 2019–2020)*

	(1)	(2)	(3)	(4)	(5)	(6)
	FE	FE	FE	FE	FE	FE
ln_cpi	0.165 (0.494)	0.386 (0.479)	0.757 (0.552)	0.511 (0.420)	0.176 (0.447)	0.399 (0.668)
ln_exp	2.451* (1.323)					−3.525 (2.453)
ln_imp		3.730 (2.839)				7.409* (3.964)
ln_fdi			0.594 (0.426)			0.255 (0.821)
ln_pop				−28.517**		−10.468

	(1)	(2)	(3)	(4)	(5)	(6)
				(12.725)		(10.770)
ln_higheredu					−16.015***	−14.701**
					(3.740)	(4.947)
_cons	−7.703*	−12.821	−12.682	478.592**	59.134***	217.427
	(4.464)	(10.186)	(9.323)	(213.331)	(13.531)	(193.433)
Observations	170	172	173	190	141	126
R-squared	0.192	0.134	0.208	0.231	0.528	0.750

Standard errors are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

The results for the COVID-19 period (2019–2020) are presented in Table 5 for the fixed effects (FE) model. The outcome indicates that there is no statistical significance of inflation (ln_CPI) in all the estimated models, but its coefficients are positive. This indicates that the inflation effect on economic growth in this extraordinary period was not significant. This outcome can be attributed to the unusual economic conditions that the pandemic has engendered, in which many economies contracted markedly as a consequence of the widespread lockdowns, disruption of global supply networks, and a large loss of aggregate demand. This situation led to the overall economic performance being dominated by health-related shocks and their impact, and the explanatory power of standard macroeconomic indicators being diminished, including inflation (IMF, 2021; Baldwin & Weder di Mauro, 2020).

The results also suggest that some of the variables, such as population growth and higher education, have a negative and statistically significant impact in some of the models. This can suggest that during a crisis, fewer economic resources are available, and fewer jobs are created in the economy, or that jobs are lost (OECD, 2020). It is therefore misleading to conclude from the statistical irrelevance of inflation in the COVID-19 period that inflation is not important in the long term from an economic perspective. Instead, it is a brief transition from the normal linkage between inflation and economic growth due to the special circumstances of the crisis.

5. CONCLUSION

To conclude, this paper supports the perception that the correlation between inflation and economic development is non-linear, multi-dimensional, and is subject to domestic and international realities. The analysis of the 2000–2024 period, which includes the pre-pandemic, pandemic, and post-pandemic periods, reveals that

moderate and controlled inflation would help the economy grow and prosper through investment and consumption, as well as enhancing the effectiveness of resource distribution. Nevertheless, when inflation exceeds the country-specific limits, its consequences become more harmful, as they negate purchasing power, lose investor confidence, and destabilize the performance of the macroeconomic environment.

The discussion also highlights that the credibility of policies, the depth of the financial system, and institutional quality are decisive in deciding the reaction of the economies to inflationary pressures. Developed economies, which are reinforced by better monetary systems and fiscal cushions, are more likely to control moderate inflation, whereas developing economies are more susceptible to external shocks and inflation instability. The COVID-19 pandemic showed how disruption of the global supply and structural constraints can undermine conventional policy instruments and elevate the international spread of inflation.

In addition, the fact that complementary variables, i.e., trade openness, foreign direct investment, demographic dynamics, and renewable energy consumption, were also included highlights the significance of the holistic approach to the policy. These variables combine with inflation to influence the long-term growth patterns and economic resilience. Finally, the research recommends adaptable, evidence-based, and country-specific policy frameworks that would balance the aspirations of price stability and sustainable development. Attending to inflation as a global phenomenon and not a national one is key to formulating effective macroeconomic policies in the ever-growing global economy.

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