



Breaking the Cycle: Exploring the Effect of Globalization towards Inflation and HDI in Pakistan and Bangladesh

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ABSTRACT

This research aims to evaluate the influence of globalization on inflation and the HDI in both Pakistan and Bangladesh. Using dependency theory and human capital theory as theoretical frameworks, economic data were analyzed between 1990 and 2023. To model long-term data, panel unit root tests and stationarity analysis were employed, while the ARDL model was employed to assess short- and long-run relationships. The results indicated that globalization is positive and significantly affecting both HDI and inflation, but the patterns differ from one country to another. In the case of Pakistan, while globalization counts to be positively significant in the long and short run over inflation, some of its lagged values tend to have a negative significance. On the contrary, globalization will be significantly enhanced in Bangladesh and positively maintained HDI according to time-varying but short-term effects. Hence, the conclusion states that while globalization tends to improve countries financially and in terms of human development, there needs to be a proper policy to ensure the smooth flow of such transformation without inflationary consequences, hence continuing the growth trajectory and keeping economies under control.

Introduction

Globalization has greatly reshaped economies in the world through trade, FDI, and technology. Despite its potential for development, it shapes specific economic factors, including inflation and the Human Development Index (HDI) for developing countries (Prados de la Escosura, 2021). Structural factors such as inflation through global market forces, volatility in prices of goods and services, and capital flows were argued to destabilize the economy by reducing purchasing power. They affect the lower end of the population in developing nations (Garriga & Rodriguez, 2020). On the other hand, HDI provides a clear depiction of the social and economic status of the citizens according to factors such as life expectancy, education, and income as compared to the basic idea of human development (Prados de la Escosura, 2021).

Regarding inflation, integration into global markets can fuel and counter the effects of inflation depending on the structure of an economy and the degree of its openness to global trade (Bezpalov et al., 2022). Economic instability may occur through high inflation rates about the masses' average income, which slows development in that economy (Haider et al., 2024). On the other hand, HDI offers information about how globalization-driven economic growth is reflected in human well-being concerning education, health, living standards, etc. The relationship between these two variables usually defines the level at which globalization enhances or hinders the development of developing economies (Nishat et al., 2022).

Emphasizing Pakistan and Bangladesh, two South Asian countries with different policies of globalization, this study investigates the effect of globalization on the inflation and human development index of the two nations ([Haider et al., 2024](#)). The nature of economic policies followed by Pakistan, where there is a heavy dependence on imports, has been facing inflation challenges while Bangladesh is enjoying export lead growth and has shown steady enhancements in the HDI. By comparing these two countries, the research seeks to show how globalization affects and interacts with economic growth and human development differently.

Problem Statement

The increase and decrease effects of globalization on inflation and HDI rates form a dilemma for developing countries ([Haider et al., 2024](#)). Thus, on one side, globalization helps the economy to grow, but on the other side, it leads to inflation, which minimizes purchasing power and adversely affects the stabilization of economies ([Prados de la Escosura, 2021](#)). On the same note, however, the results of globalization are not always mirrored in the human development index, which considers years of life, education, and income ([Bezpalov et al., 2022](#)). These effects are more pronounced in Pakistan and Bangladesh since the two countries have different economic systems and levels of globalization. This research aims to respond to the vital research question of how globalization affects inflation and HDI in these countries while showing the broad socio-economic effects ([Nishat et al., 2022](#)).

Research Gap

Research on the impact of globalization has been done in previous research ([Islam et al., 2021](#); [Wang et al., 2024](#); [Zhang et al., 2023](#)), which mainly focuses on the advancement in economic growth, trade, and poverty reduction in developing countries. It has also listed and discussed the effects of globalization on either inflation or human development ([Garriga & Rodriguez, 2020](#); [Nishat et al., 2022](#)). However, there is rare literature that directly addresses globalization's impact on both inflation and HDI at once in selected countries, especially in the South Asian region ([Zhang et al., 2023](#)). Furthermore, most of the research includes a limited number of countries, which leads to the absence of comparison regarding the impacts of globalization on inflation and HDI in Pakistan and Bangladesh; the two countries have different economic systems.

Purpose Statement/Research Question

By contrasting the impact of globalization on inflation and the HDI of Pakistan and Bangladesh, this study aims to bridge these disparities. Indeed, panel unit root tests and stationarity analysis will be employed for data modeling for long-term analysis in the study. Short-run and long-run connections among globalization, inflation, along with HDI will be tested using the ARDL model. Also, the study shed some light on how these aspects of globalization affect the macroeconomic variables in two South Asian countries. All the results will help policymakers and stakeholders to know how to control inflation in the course of globalization with the help of human development.

RQ1. How does globalization affect inflation and HDI in Pakistan and Bangladesh?

RQ2. How does the ARDL model reveal the short-run and long-run relationships between globalization, inflation, and HDI in these countries?

Structure of the Paper

The existing research paper has six sections that capture every step of the study endeavor. The first section, introduction, concludes here and includes an overview, problem statement and research gaps, purpose statement, and research questions. The second section, the literature review, will include a theoretical background leading toward hypothesis development. The third section, research methodology, will include research methods and data analysis techniques. The fourth is data analysis, which will consist of the research results. The fifth section will include discussions of the results. Also, the study's conclusion, policy suggestions, limits, and future research directions are all included in the sixth section.

Literature Review

Theoretical Underpinnings

Dependency Theory

Dependency theory was put forward by several theorists like Raúl Prebisch and André Gunder Frank during the 1950s and 1960s ([Prebisch, 1962](#)). According to the theory, the economic growth of these countries depends more on their interaction with developed countries. From this view, it is asserted that the developing countries remain in a dependent relationship akin to the developed countries concerning capital assets, technology, and markets, leading to an unequal structure of the global

economy. It can lead to poverty and hinder sustainable development in the developing world ([Prebisch, 1962](#); [Toye & Toye, 2003](#)).

When thrown into the interface of research on globalization, inflation, and HDI in Pakistan and Bangladesh, the dependency theory offers an understanding of the possible negative impacts of globalization ([Wade, 2020](#)). As these countries get more liberalized, they are bound to experience inflationary pressures due to the use of foreign investment and volatile markets. Such a relationship can perpetuate and even deepen these disparities and constrain the prospects of Pakistan and Bangladesh to increase their HDI since prosperity occasioned by globalization is not harmoniously distributed ([Prebisch, 1962](#)).

Human Capital Theory

The human capital theory was introduced by economists in the early 1960s, especially by Gary Becker. The theory stresses using resources to purchase education, training, health, and skills, considered human capital to impact economic growth economy ([Becker, 1962](#)). On this account, raising the quality of human capital is associated with a higher growth rate, efficiency improvement, technological advancement, and productivity, promoting better living standards and human development ([Awogbemi, 2023](#)).

To the extent that the current research concerns itself, human capital theory underlines the ability of globalization to support the process of knowledge transfer and skills deployment in Pakistan and Bangladesh. When these countries are opened to the global markets, they might get better resources regarding education and health problems ([Becker, 1962](#)). However, it is envisaged that the extent of the positive impact of globalization in raising the HDI level will largely depend on how enhanced investments in human capital will be accomplished. Therefore, This theory makes it necessary to establish how globalization affects education and health and impacts the HDI of such developing countries ([Wade, 2020](#)).

Development of the Hypotheses

Relationship between Globalization and HDI

The relationship between globalization and HDI has several dimensions. Globalization supports increased international business operations, investment, and knowledge dissemination, improving economic returns. As nations incorporate further into the worldwide market, positive changes have been observed in income, education, and health, which are two parameters of HDI ([Haider et al., 2024](#)).

Although this relation is observed, there is not always a positive correlation. On the one hand, globalization fosters development. On the other hand, the process deepens inequity and creates a dualism of development and underdevelopment ([Nishat et al., 2022](#)). Globalization is linked with a country's economic growth as it raises income per head, education, and overall health services. When states export and import goods and services and invest internationally, resource and knowledge availability increases, thus enhancing human development ([Awogbemi, 2023](#)). Henceforth, it has been hypothesized that:

H1. Globalization has a positive effect on HDI.

Relationship between Globalization and Inflation

Globalization impacts inflation through the availability of products and services as provided and demanded in an evolving world market. Globalization can reduce inflation by enhancing the availability of merchandise and services through imports and exports, hence the availability of more substitutes that increase competition and thus reduce the inflation rate ([Hottman & Reyes-Heroles, 2023](#)). Opening markets and the integration process also benefit consumers because central inflation rates stabilize accordingly ([Awogbemi, 2023](#)).

However, some predict a dangerous effect of globalization, such as factors like FDI and capital inflows leading to inflation. These conditions can help push the prices of local counterparts, goods, and services, increasing the demand ([Nishat et al., 2022](#)). Moreover, credit financing linked to import mechanisms of international manufacturing chains is accompanied by unpredictable fluctuations in commodity prices and tensions between countries, adding to inflation. Therefore, globalization's aggregate effect on inflation means that global influences depend on various economic factors and how healthy governments counterbalance these forces ([Hottman & Reyes-Heroles, 2023](#)). Henceforth, it has been hypothesized that:

H2. Globalization has a negative effect on inflation.

Globalization and HDI: Comparison between Pakistan and Bangladesh

The trend of globalization coupled with HDI compares Pakistan and Bangladesh to identify how the two political economies have been shaped by their integration into the global economy ([Nishat et al., 2022](#)). Bangladesh has observed good gains in its HDI because of its active participation in the export markets, especially the clothing market, thus leading to better income, education, and quality of health. On the other hand, Pakistan has remained somewhat slower regarding HDI due to political and economic turmoil ([Haider et al., 2024](#)). Though both countries have similar globalization forces in operation, Bangladesh has better managed them to benefit its human development than Pakistan ([Nishat et al., 2022](#)). Henceforth, it has been hypothesized that:

H3. Globalization positively influences HDI in Pakistan and Bangladesh, but the effect is stronger in Bangladesh than in Pakistan.

Globalization and Inflation: Comparison between Pakistan and Bangladesh

The analysis of globalization and inflation in Pakistan and Bangladesh reveals that both countries undergo an initial stage of inflationary pressures upon engaging in globalization ([Haider et al., 2024](#)). These pressures are higher in Pakistan because of political instability, reliance on imports, and volatility in global prices of underlying commodities, which could potentially increase inflation rates ([Rahman, 2021](#)). However, due to its robust export-led growth in the textile industry, Bangladesh has reduced some inflationary impact, accumulating better foreign exchange reserves and a more stable macro environment. Thus, the dual problem exists, but globalization leads to inflationary pressures in Pakistan more than in Bangladesh ([Nishat et al., 2022](#)). Henceforth, it has been hypothesized that:

H4. Globalization initially exerts inflationary pressures in Pakistan and Bangladesh, but the impact is more significant in Pakistan than in Bangladesh.

Methodology

Sample and Population

The sampling and population of this study concern Pakistan and Bangladesh, covering the time frame from 1990-2023. The study population includes data related to economic indicators like globalization indices, inflation rates, and the HDI of both countries. The sample includes information from reliable databases, government and international financial organization publications, and academic studies on globalization's effects on inflation and HDI ([Rahman, 2021](#)). Because this research examines the relationship between the two variables of globalization and inflation as well as the impact of each on the HDI within the context of two specific countries during the indicated years, the investigation will not only reveal patterns, fluctuations, and correlations of those factors but will help to comprehend the economic conditions of those countries.

Model Specification

Following are the econometric models of the study for Pakistan and Bangladesh individually.

$$\text{Model 1: } KOF_t = \alpha_t + \beta_1 (HDI)_t + \beta_2 (GDP)_t + \beta_3 (ER)_t + \varepsilon_t$$

$$\text{Model 2: } KOF_t = \alpha_t + \beta_1 (CPI)_t + \beta_2 (GDP)_t + \beta_3 (ER)_t + \varepsilon_t$$

The above models have denoted KOF as globalization measured by the KOF index at a specific time t , HDI as human development index at a specific time t , CPI as inflation measured by the consumer price index (annual %) at a specific time t , GDP as economic growth measured by GDP (annual growth %) at a specific time t , and ER as exchange rate measured by national currency per SDR at a specific time t .

The study uses data from reputable sources. For instance, globalization is sourced from the KOF Swiss Economic Institute, while the HDI comes from the UNDP. Inflation and economic growth data are obtained from the World Development Indicators (WDI), and Exchange Rate data is from International Financial Statistics (IFS).

Statistical Technique

The statistical techniques this research uses include the panel unit root test, stationarity test, and the Autoregressive Distributed Lag (ARDL). Panel unit root tests are used to investigate the presence of unit roots in the time series data for Bangladesh and Pakistan to ascertain if the series is stationary or their integration sequence ([Ahmad et al., 2022](#)). A stationarity check is essential to assess the econometric models' appropriateness. Next, the ARDL model tests the long-run and short-run co-integration among globalization, inflation, and HDI. This way, not only can dynamic interactions be studied,

but at the same time, different degrees of integration between the variables are considered. Using these techniques, the study will be positioned to provide reliable information on the economic correlation between the selected countries (Alhakimi & Shama, 2021).

Results and Discussions

Unit Root Analysis

Table 1 presents the result of unit root analysis based on ADF test.

Table 1:

Unit Root Analysis

ADF Test Statistic	Pakistan		Bangladesh	
	I(o)	I(1)	I(o)	I(1)
Globalization	-3.497**	-3.355**	-2.153	-4.512**
Inflation	-4.915**	-7.439**	-4.219**	-7.796**
HDI	-1.376	-2.534	-0.920	-5.264**
Economic Growth	-4.569**	-7.392**	-3.916**	-6.992**
Exchange Rate	5.524	-1.234	-1.222	-6.066**

** Significant at 5% ($p < 0.05$). Source: Authors' Estimation

The above table shows that globalization (ADF = -3.497, $p < 0.05$) has a negative and significant effect at both levels for Pakistan, while for Bangladesh, it has a negative and insignificant effect at level (ADF = -2.153, $p > 0.05$) but becomes significant after first differencing (ADF = -4.512, $p < 0.05$). Inflation has a negative and significant effect at both levels for Pakistan (ADF = -4.915, $p < 0.05$; ADF = -7.439, $p < 0.05$) and Bangladesh (ADF = -4.219, $p < 0.05$; ADF = -7.796, $p < 0.05$). Economic growth also has a negative and significant effect at both levels for Pakistan (ADF = -4.569, $p < 0.05$; ADF = -7.392, $p < 0.05$) and Bangladesh (ADF = -3.916, $p < 0.05$; ADF = -6.992, $p < 0.05$). However, HDI has a negative and insignificant effect at both levels for Pakistan (ADF = -1.376, $p > 0.05$; ADF = -2.534, $p > 0.05$), while for Bangladesh, it has a negative and insignificant effect at level (ADF = -0.920, $p > 0.05$) but becomes significant after first differencing (ADF = -5.264, $p < 0.05$). The exchange rate has a positive and insignificant effect at both levels for Pakistan (ADF = 5.524, $p > 0.05$; ADF = -1.234, $p > 0.05$), whereas for Bangladesh, it has a negative and insignificant effect at level (ADF = -1.222, $p > 0.05$) but becomes negative and significant after first differencing (ADF = -6.066, $p < 0.05$).

ARDL Bound Test

Table 2 presents ARDL bound test results for cointegration in Pakistan and Bangladesh.

Table 2:

ARDL Bound Test

Country	Model Equation	F-Stats	I(o)	I(1)	Decision
Pakistan	KOF = f (HDI, GDP, ER)	4.547	2.790	3.670	Cointegration
	KOF = f (CPI, GDP, ER)	4.792	2.790	3.670	Cointegration
Bangladesh	KOF = f (HDI, GDP, ER)	7.229	2.790	3.670	Cointegration
	KOF = f (CPI, GDP, ER)	4.055	2.790	3.670	Cointegration

The above table showed the ARDL Bound Test results for Pakistan and Bangladesh to check for cointegration among the variables. In Pakistan, both models (KOF = f (HDI, GDP, ER) and KOF = f (CPI, GDP, ER) have F-statistics (4.547 and 4.792) higher than the upper bound value (3.670), indicating a long-run relationship. Similarly, in Bangladesh, both models (KOF = f (HDI, GDP, ER) and KOF = f (CPI, GDP, ER) have F-statistics (7.229 and 4.055) exceeding the upper bound, confirming cointegration. This means that in both countries, globalization (KOF) has a stable long-run relationship with HDI, CPI, GDP, and the exchange rate, suggesting that changes in these variables have lasting effects on globalization.

Diagnostic Tests

Table 3 presents diagnostic test results for serial correlation and heteroskedasticity tests.

Table 3:

Diagnostics Statistics

Country	Test Statistics	Model	F-Stats	Prob.
Pakistan	Serial Correlation	KF = $f(\text{HDI, GDP, ER})$	0.788	0.471
	Heteroskedasticity		2.052	0.085
	Serial Correlation	KOF = $f(\text{CPI, GDP, ER})$	3.279	0.061
	Heteroskedasticity		0.663	0.745
Bangladesh	Serial Correlation	KOF = $f(\text{HDI, GDP, ER})$	1.201	0.332
	Heteroskedasticity		1.410	0.258
	Serial Correlation	KOF = $f(\text{CPI, GDP, ER})$	0.154	0.859
	Heteroskedasticity		0.835	0.635

The above table compares the results of diagnostic tests for serial correlation and heteroskedasticity for the models taken into consideration for Bangladesh and Pakistan. For Pakistan, the model $\text{KOF} = f(\text{HDI, GDP, ER})$ shows no evidence of serial correlation (F-Stats = 0.788, $p > 0.05$) and no heteroskedasticity (F-Stats = 2.052, $p > 0.05$). Similarly, the model $\text{KOF} = f(\text{CPI, GDP, ER})$ does not exhibit heteroskedasticity (F-Stats = 0.663, $p > 0.05$) but is marginally close to significance for serial correlation (F-Stats = 3.279, $p > 0.05$).

For Bangladesh, the model $\text{KOF} = f(\text{HDI, GDP, ER})$ confirms the absence of serial correlation (F-Stats = 1.201, $p > 0.05$) and heteroskedasticity (F-Stats = 1.410, $p > 0.05$). Likewise, the model $\text{KOF} = f(\text{CPI, GDP, ER})$ does not suffer from serial correlation (F-Stats = 0.154, $p > 0.05$) or heteroskedasticity (F-Stats = 0.835, $p > 0.05$). Overall the results stated that the models are well evidenced as valid without much worry of autocorrelation in the residuals or variance stability.

Hypothesis Testing

Table 4 shows the result of autoregressive distributed lag (ARDL) for Pakistan.

Table 4:

Autoregressive Distributive Lag (ARDL) – Pakistan

Predictors	HDI		Inflation	
	Beta	t-Stats	Beta	t-Stats
CointEq(-1)	-0.112	-5.246**	-0.037	-5.362**
Constant	-0.836	-0.277	3.167	2.712**
KOF(-1)	0.888	12.292**	1.233	7.622**
KOF(-2)			-0.475	-1.954
KOF(-3)			0.205	1.276
HDI	-56.138	-0.821		
HDI(-1)	229.474	2.446**		
HDI(-2)	-158.220	-3.068**		
CPI			0.052	1.730
CPI(-1)			-0.045	-1.358
CPI(-2)			0.076	2.293**
CPI(-3)			-0.125	-4.264**
GDP	0.086	0.823	0.015	0.297
ER	-0.004	-0.448	-0.018	-2.778**
ER(-1)	0.028	2.238**	0.013	2.090**
ER(-2)	-0.018	-0.872		

ER(-3)	0.013	0.552
ER(-4)	-0.035	-2.112**

** Significant at 5% ($p < 0.05$). Source: Authors' Estimation

The above table showed that CointEq (-1) ($\beta = -0.112$, $p < 0.05$) has negatively significant effects on HDI, while CointEq (-1) ($\beta = -0.037$, $p < 0.05$) has negatively significant effects on inflation. Constant ($\beta = -0.836$, $p > 0.05$) has negatively insignificant effects on HDI, whereas Constant ($\beta = 3.167$, $p < 0.05$) has positively significant effects on inflation. KOF (-1) ($\beta = 0.888$, $p < 0.05$) has positively significant effects on HDI, while KOF (-1) ($\beta = 1.233$, $p < 0.05$) has positively significant effects on inflation. However, KOF (-2) ($\beta = -0.475$, $p > 0.05$) has negatively insignificant effects on inflation, and KOF (-3) ($\beta = 0.205$, $p > 0.05$) has positively insignificant effects on inflation.

HDI ($\beta = -56.138$, $p > 0.05$) has negatively insignificant effects on HDI. However, HDI (-1) ($\beta = 229.474$, $p < 0.05$) has positively significant effects on HDI, while HDI (-2) ($\beta = -158.220$, $p < 0.05$) has negatively significant effects on HDI. CPI ($\beta = 0.052$, $p > 0.05$) has positively insignificant effects on inflation. CPI (-1) ($\beta = -0.045$, $p > 0.05$) has negatively insignificant effects, while CPI (-2) ($\beta = 0.076$, $p < 0.05$) has positively significant effects. CPI (-3) ($\beta = -0.125$, $p < 0.05$) has negatively significant effects on inflation. GDP ($\beta = 0.086$, $p > 0.05$) has positively insignificant effects on HDI, while GDP ($\beta = 0.015$, $p > 0.05$) has positively insignificant effects on inflation. Additionally, ER ($\beta = -0.004$, $p > 0.05$) has negatively insignificant effects on HDI, whereas ER ($\beta = -0.018$, $p < 0.05$) has negatively significant effects on inflation. ER (-1) ($\beta = 0.028$, $p < 0.05$) has positively significant effects on HDI, while ER (-1) ($\beta = 0.013$, $p < 0.05$) has positively significant effects on inflation. ER (-2) ($\beta = -0.018$, $p > 0.05$) has negatively insignificant effects on HDI. Similarly, ER (-3) ($\beta = 0.013$, $p > 0.05$) has positively insignificant effects, while ER (-4) ($\beta = -0.035$, $p < 0.05$) has negatively significant effects on HDI.

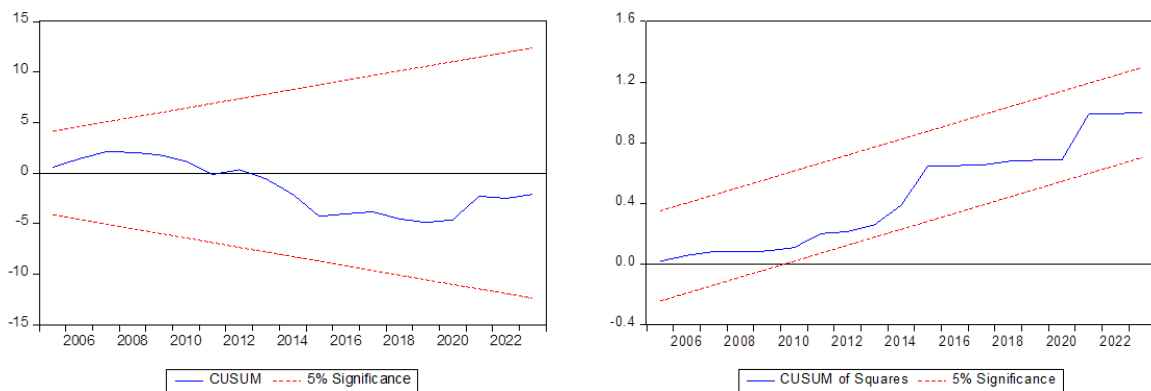


Figure 1: Stability Analysis (Globalization and HDI)

Figure 1 demonstrated CUSUM and CUSUM of squares for stability analysis of globalization and HDI. The left graph CUSUM maintains that the model is stable, as the blue line remains entirely within the two ends at the 5% parameter significance boundaries; however, on the right, the blue line under CUSUM of Squares goes nearer to the upper significance boundary over time, indicating possible instability and hence suggesting the possibility of structural changes or parameter instability in the model.

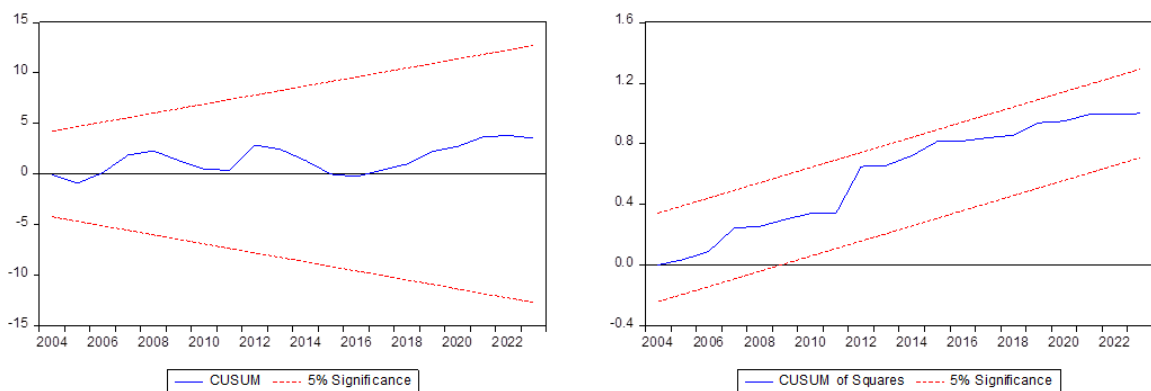


Figure 2: Stability Analysis (Globalization and Inflation)

Figure 2 illustrated the stability analysis of globalization and inflation using CUSUM and CUSUM of squares tests. According to the result obtained from the left graph (CUSUM), which shows that the blue line runs in between the 5% significance limits, model stability is confirmed by it. The result in the right graph (CUSUM of squares) suggests instability in time as it shows the inclination of the blue line towards the upper significance boundary, indicating that it will soon fall outside it, thus suggesting structural shifts or changes in model parameters.

Table 5 shows the result of autoregressive distributed lag (ARDL) for Bangladesh.

Table 5:

Autoregressive Distributive Lag (ARDL) – Bangladesh

Predictors	HDI		Inflation	
	Beta	t-Stats	Beta	t-Stats
CointEq(-1)	-0.959	-6.766	-0.178	-5.106
Constant	18.611	4.788	3.895	2.232
KOF(-1)	0.403	1.979	1.212	3.714
KOF(-2)	-0.242	-1.245	-0.259	-0.462
KOF(-3)	0.220	1.064	-0.865	-1.821
KOF(-4)	-0.340	-1.838	0.735	2.683
HDI	42.950	1.421		
HDI(-1)	5.144	0.128		
HDI(-2)	0.501	0.012		
HDI(-3)	-53.251	-1.716		
CPI			0.220	1.572
CPI(-1)			0.189	1.470
CPI(-2)			-0.261	-2.387
CPI(-3)			0.213	2.288
CPI(-4)			0.103	1.498
GDP	-0.109	-0.686	0.120	0.646
GDP(-1)			-0.203	-1.130
GDP(-2)			-0.054	-0.338
GDP(-3)			0.228	1.508
GDP(-4)			-0.213	-1.365
ER	0.085	3.271	0.025	0.972
ER(-1)	0.060	1.781		
ER(-2)	-0.003	-0.069		
ER(-3)	0.072	1.903		
kER(-4)	0.057	1.818		

Above table showed that CointEq (-1) ($\beta = -0.959$, $p < 0.05$) has negatively significant effects on HDI, while CointEq (-1) ($\beta = -0.178$, $p < 0.05$) has negatively significant effects on inflation. Constant ($\beta = 18.611$, $p < 0.05$) has positively significant effects on HDI, whereas Constant ($\beta = 3.895$, $p < 0.05$) has positively significant effects on inflation. KOF (-1) ($\beta = 0.403$, $p < 0.05$) has positively significant effects on HDI, while KOF (-1) ($\beta = 1.212$, $p < 0.05$) has positively significant effects on inflation. However, KOF (-2) ($\beta = -0.242$, $p > 0.05$) has negatively insignificant effects on HDI, and KOF (-2) ($\beta = -0.259$, $p > 0.05$) has negatively insignificant effects on inflation. Similarly, KOF (-3) ($\beta = 0.220$, $p > 0.05$) has positively insignificant effects on HDI, whereas KOF (-3) ($\beta = -0.865$, $p > 0.05$) has a negatively insignificant effect on inflation. KOF (-4) ($\beta = -0.340$, $p > 0.05$) has negatively insignificant effects on HDI, while KOF (-4) ($\beta = 0.735$, $p < 0.05$) has positively significant effects on inflation.

HDI ($\beta = 42.950$, $p > 0.05$) has positively insignificant effects on HDI. HDI (-1) ($\beta = 5.144$, $p > 0.05$) and HDI (-2) ($\beta = 0.501$, $p > 0.05$) also show positively insignificant effects on HDI. However, HDI (-3) ($\beta = -53.251$, $p > 0.05$) has negatively insignificant effects on HDI. CPI ($\beta = 0.220$, $p > 0.05$) has positively insignificant effects on inflation, whereas CPI (-1) ($\beta = 0.189$, $p > 0.05$) also has positively insignificant effects. However, CPI (-2) ($\beta = -0.261$, $p < 0.05$) has a negatively significant

effect, while CPI (-3) ($\beta = 0.213$, $p < 0.05$) has a positively significant effect on inflation. CPI (-4) ($\beta = 0.103$, $p > 0.05$) has a positively insignificant effect on inflation. GDP ($\beta = -0.109$, $p > 0.05$) has negatively insignificant effects on HDI, while GDP ($\beta = 0.120$, $p > 0.05$) has positively insignificant effects on inflation. GDP (-1) ($\beta = -0.203$, $p > 0.05$), GDP (-2) ($\beta = -0.054$, $p > 0.05$), GDP (-3) ($\beta = 0.228$, $p > 0.05$), and GDP (-4) ($\beta = -0.213$, $p > 0.05$) all have insignificant effects on inflation. ER ($\beta = 0.085$, $p < 0.05$) has positively significant effects on HDI, whereas ER ($\beta = 0.025$, $p > 0.05$) has positively insignificant effects on inflation. ER (-1) ($\beta = 0.060$, $p > 0.05$) has positively insignificant effects on HDI. ER (-2) ($\beta = -0.003$, $p > 0.05$) has a negatively insignificant effects on HDI. ER (-3) ($\beta = 0.072$, $p > 0.05$) and ER (-4) ($\beta = 0.057$, $p > 0.05$) have positively insignificant effects on HDI.

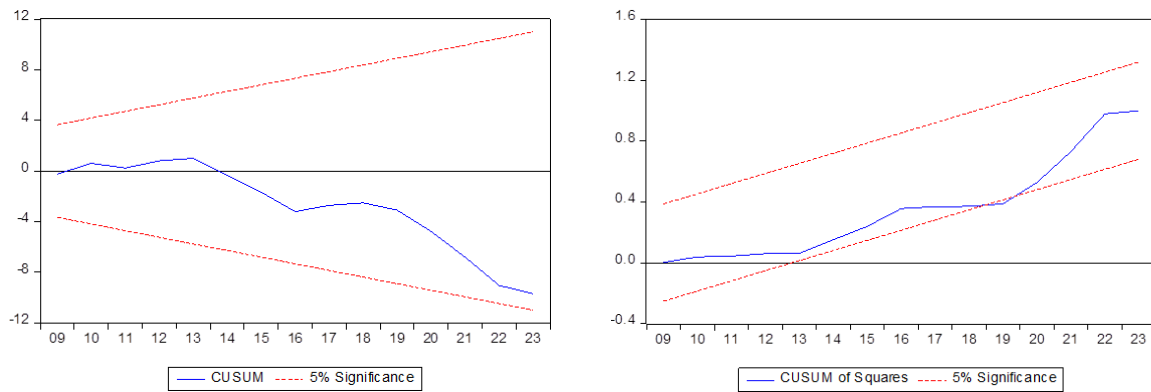


Figure 3: Stability Analysis (Globalization and HDI)

Figure 3 presented stability analyses of globalization and HDI using the CUSUM and CUSUM of squares tests. The left side of the CUSUM graph indicates model instability as its blue line crosses below the 5% significance boundary, indicating structural breaks. The right side CUSUM of squares also suggests possible instability since the blue line moves closer to the upper significance boundary with time, indicating model parameter changes over time.

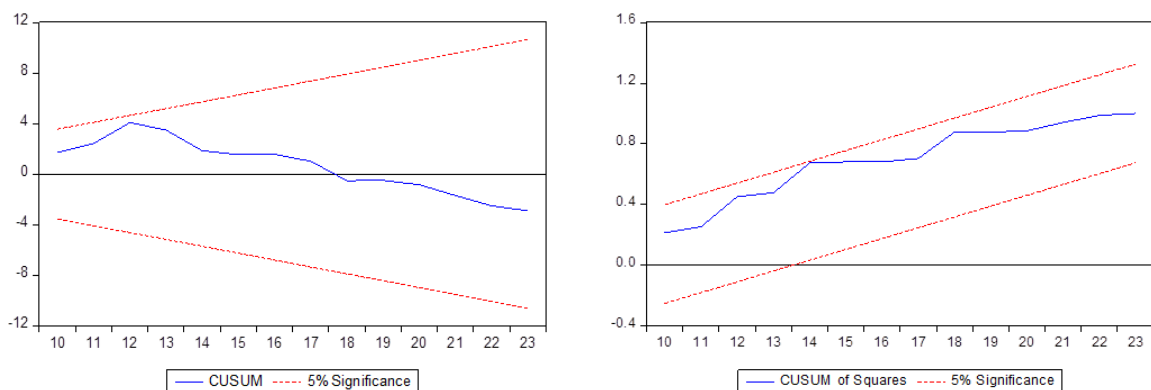


Figure 4: Stability Analysis (Globalization and Inflation)

Figure 4 represent the stability analysis of globalization and inflation. The CUSUM graph displays instability since the line crosses the lower boundary, while the CUSUM of squares graph shows probable instability because the line nears the upper boundary.

Discussions

Relationship between Globalization and HDI

The result showed that globalization has positively significant effects on HDI. This result is consistent with [Asongu and Odhiambo \(2024\)](#), who explained that globalization positively affects the HDI, as it helps create economic growth through foreign investment, job creation, and promoting technological advancement, leading to higher income and better living conditions. Moreover, [Elatroush \(2024\)](#) supported this result and stated that it provides access to quality education and health facilities by facilitating knowledge transfer and international sponsorship in modern infrastructural development; thus, life expectancy, levels of literacy as well as the overall quality of human life greatly improve, thereby making a valuable addition towards the enhancement of HDI.

Relationship between Globalization and Inflation

The study found that globalization has positively significant effects on inflation. This result is supported with [Yılmaz \(2024\)](#), who demonstrated that globalization controls inflation through fostering competition and efficiency in the markets, resulting in lower production costs among many others leading to a drop in prices paid by consumers. It allows access to a range of goods in the economy that diversifies supplies thereby equalizing demand and stabilizing prices. Also, [Zaman et al. \(2024\)](#) supported this result. They indicated that it further affects imports and foreign direct investment, which help heighten the value of currencies strengthen economies to withstand inflationary pressures and keep a level of pricing more balanced and sustainable within economies.

Globalization and HDI: Comparison between Pakistan and Bangladesh

The outcome showed that for Pakistan, globalization has a positively significant effect on HDI in both the short term and the long term. This result is supported by [Awan et al. \(2024\)](#), who explained that globalization records HDI for Pakistan because it attracts foreign investments, creates job opportunities, and increases access to modern education and health facilities. There are immediate benefits in income, literacy, and well-being. Also, [Nadeem et al. \(2024\)](#) stated that in the long run, globalization will result in technological advances, improvements, and upgrades in infrastructure and skills that would majorly drive the nation towards sustained growth. These will all result in an increased life expectancy, better education, and income levels, reinforcing the HDI of Pakistan over time.

Additionally, globalization has a positive and significant effect on HDI for Bangladesh, but with fluctuating short-term effects. The long-term effect remains significant. This result is supported by [Awan et al. \(2024\)](#), who concluded that globalization impacts the HDI of Bangladesh positively because it draws foreign investments into the country, leads to industrial uplift, and affects the state of medical care and education. It, however, comes with short-term impacts that fluctuate according to economic instability, variations in wages, and the dependence of internal markets on foreign ones. In the long run, infrastructure, technology, and skill enhancement developments ensure continual advancement at all phases: life expectancy, literacy rates, and income levels. Combined, these should ensure a significant and permanent positive impact on HDI ([Zulfiqar et al., 2024](#)).

Globalization and Inflation: Comparison between Pakistan and Bangladesh

The study found that in Pakistan, globalization has a positive and significant effect on inflation in the short term, but some lagged values are negative and significant. This result is supported by [Zulfiqar et al. \(2024\)](#), who demonstrated that globalization makes inflation stabilization possible in Pakistan in the short run since it proves market efficiency, reduces the cost of production, and generates a supply of goods. Extended negative lags can occur and have significant effects. It is supported by [Shenk et al. \(2024\)](#), who stated that due to delayed policy reforms, fluctuations in exchange rates, or outside trade imbalances. Such disruptions may bring temporary instability in prices before the long-term benefits of globalization fully unfold in the economy.

Moreover, in Bangladesh, globalization has a positive and significant effect on inflation, but with fluctuating short-term effects. In addition, the long-term implications continue to suggest the linkage of inflation behaviors with globalization while external economic shocks may periodically destabilize the situation. This result is supported by [Awan et al. \(2024\)](#), who stated that Ensuring rain within the period of maintaining economic growth like globalization, according to history in Bangladesh, brought in-free conditions for short-time stabilization of inflation by providing much market efficiency, lowering production costs, and increasing supplies. Similarly, [Shenk et al. \(2024\)](#) supported this result and stated that it brings foreign investment or technology that gives durability in economic shocks availing always price stability over the long course; however, sometimes, the level of inflation flies by globalization methods, falling short of covering sporadic shocks of the international economy, such as trade wobbles or foreign currency movements.

Conclusion and Recommendations

Conclusion

The research aims to compare the effects of globalization on inflation and the HDI of both Pakistan and Bangladesh. Dependency theory and human capital theory for theoretical framework. The sample population includes data from 1990-2023 related to economic indicators like globalization indices, inflation rates, and the HDI of both countries. Panel unit root tests and stationarity analysis have also been employed for data modeling for long-term analysis in the study. Short-run and long-run relationships between globalization, inflation, and HDI have been tested using the ARDL model.

The finding showed that globalization positively affects both HDI and inflation. In Pakistan, globalization has a positive and significant effect on inflation in both the short and long term. Also, globalization has a positive and significant effect on HDI in Bangladesh. However, the short-term impact fluctuates, whereas the long-term effect remains significant. Additionally, the study found that in Pakistan globalization has a positively significant effect on inflation in both the short term but some lagged values are negatively significant. Also, globalization has a positive and significant effect on inflation in Bangladesh.

Overall, this study demonstrates that globalization has moved hand in hand with HDI and inflation for the two nations, Pakistan and Bangladesh. While globalization contributes to the betterment of the human race, its effect on inflation should be controlled if one does not want to experience long-term effects on economic instability. More efficacious policies put in place by both countries will give them the chance to exploit all the great gains delivered by globalization while at the same time ensuring sustainable economic growth and welfare.

Theoretical Implications

In terms of theory, the study offers multiple contributions by developing a better comprehension of the dependency theory and human capital theory as applied to inflation and human development within the globalization framework of developing nations like Pakistan and Bangladesh.

Firstly, the research supports dependency theory by discussing how globalization maintains dependence on the developing world. The outcome shows that after the two countries have embraced globalization, they are still sensitive to global economic shocks. This goes well with the dependency theory, which postulates that developing countries become more dependent on developed nations due to globalization. The work adds something by explaining how, rather than enhancing economic development, globalization leads to the continuation of inflationary tendencies and an increase in economic inequality ([Wade, 2020](#)).

Secondly, the study contributes to human capital theory by providing evidence that globalization may benefit human development, given that nations invest in education, health, and skill training. This research supports this theory by establishing that Pakistan and Bangladesh, with increased human capital, can better implement globalization strategies to improve their HDI. This also confirms the theoretical postulation that human capital is vital to economic development and growth in a world increasingly encouraging globalization ([Awogbemi, 2023](#)).

Recommendations

The following recommendations can be proposed to overcome globalization's impact on Pakistan's and Bangladesh's inflation and HDI. These two governments should devise commendable economic policies that will take advantage of globalization while simultaneously taking measures to counteract these shortcomings. They should provide policy frameworks that will foster fair competition and protect local markets from volatile fluctuations in the global market.

Investing in education and vocational training is important to enhance human capital. Programs should be designed according to the needs of emerging sectors and train the workforce to face employment challenges in globalization. This will lead to increased production and development, greatly improving HDI. Also, both countries should expand export-led development models and focus especially on textile and agriculture. Defaulting export income can be minimized through product or market diversification, hence reducing the inflationary tendencies spikes by hemming the supply chain.

It is important to point out that to shield certain groups from repercussions of globalization – for example, price shocks or unemployment – it is essential to put the correct social safety net programs in place. Unbiased cash gifts and food distribution can cushion inflation greatest in low-income families. Furthermore, increasing the effectiveness of the actual component of the economy and lowering production costs depend on the growth of infrastructure, such as power, communication, and transportation facilities. Economies that fix their infrastructure can trade effectively, enhancing investment, thus resulting in steady economic demeanors and a slow rising inflation rate.

Pakistan and Bangladesh should also strengthen regional cooperation to address common challenges globalization poses. Collaborative efforts in trade, technology transfer, and capacity building can enhance economic resilience and promote shared growth. Finally, regular assessment of economic policies and their impact on inflation and HDI is necessary for informed decision-making. To assess the success of initiatives that have been put into place and make the required modifications, authorities should set up monitoring systems that make use of data analytics. By adopting these recommendations, Pakistan and Bangladesh can better navigate the complexities of globalization, ultimately enhancing economic stability and improving the quality of life for their citizens.

Limitations and Future Research

A methodological limitation of this research is that due to secondary data, the most up-to-date and accurate trends regarding economic changes in Pakistan and Bangladesh might not be fully reflected. Therefore, Future research could overcome this by using questionnaires or interviews to elicit more concrete information about the nature of local economies. However, another weakness is the choice of only two countries, leading to limited possibilities for generalizing the conclusions. Future works may include the extensibility of this work to other developing nations, findings of which would provide more comparisons on the impacts of globalization on both inflation and the HDI.

Also, this study mainly employs a quantitative research paradigm, which can hide qualitative characteristics of the phenomenon under investigation, such as political and cultural factors that define globalization. Perhaps future research could use a mixed-methods approach to examine the data on these qualitative dimensions. However, the study revolves around how globalization influences a specific period; this can also be disadvantageous if the researcher does not capture the long-term implications. Future studies could extend the analysis over a longer period to enhance the understanding of the shifts in globalization.

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