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DISAGGREGATING GLOBALIZATION: EVIDENCE FROM ECONOMIC GROWTH AND EXPORT DYNAMICS IN SAARC ECONOMIES

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ABSTRACT

This paper decomposes globalization into three dimensions, i.e., economic, social, and political, and examines their individual and joint effects on economic growth and export performance in the SAARC countries over the period 1990-2024. To estimate the long-run relationships, advanced panel econometric techniques are employed. The techniques include Pesaran and Yamagata (2007) slope heterogeneity test, the Cross-sectionally Augmented IPS (CIPS) unit root test, the Westerlund (2007) cointegration test, and the CS-ARDL approach. The results confirm the presence of both cross-sectional dependence and slope heterogeneity across the panel. The CIPS test shows a mixed order of integration among the variables, which provides justification to use the CS-ARDL. In all the estimated models, the Westerlund cointegration results provide strong evidence of a long-run equilibrium relationship. The error correction terms suggest that around 60% of short-run disequilibrium in the growth models and almost 50% in the export models are corrected each year. This indicates a relatively fast adjustment toward the long-run equilibrium. Results of the CS-ARDL method reveal that combined globalization and its social aspect exert a positive and statistically significant impact on both GDP growth and export performance. On the contrary, political globalization appears insignificant in the growth models and shows a negative effect on export growth.

Keywords: *Panel Cointegration, Globalization, CS-ARDL, Export Growth, Economic Growth.*

Introduction:

Globalization, although formally termed in the late 1950s, reflects an idea rooted much earlier in classical economic thought. Ricardo's comparative advantage theory established how nations can increase their national income by manufacturing goods competently and getting involved in international trade. This viewpoint shows how trade helps countries in addressing scarcity and opportunity costs to allocate resources efficiently. The Great Depression of the 1930s strengthened the need for coordinated economic activity and the exchange of resources. Later, in the economic recovery, emphasis on the role of labor mobility and capital inflows expanded this understanding. These progresses advised that global integration can play an important role in reducing scarcity, improving productivity, and promoting diversification, while also contributing to improved living standards by broader social outcomes such as technological advancement.

Even with these advantages, the upshots of globalization keep on uneven. Though increased trade, investment, and technological diffusion

have helped some countries, others continue to face persistent challenges such as income inequality, limited financial access, and vulnerability to external shocks (Stiglitz, 2002). Moreover, the broader implications of globalization for political stability, cultural transformation, and economic resilience remain widely debated. In light of the mixed outcomes, it can be concluded that globalization is not a uniform process, and domestic conditions and policy frameworks are important factors to see its proper effects. Although there are concerns regarding unequal benefits (Friedman, 2005; Anderson, 2001), the General Agreement on Tariffs and Trade (GATT), and later the World Trade Organization (WTO), further facilitated international trade. Developing countries have indeed gained from these developments in terms of strengthened global economic linkages; however, they have been exposed to new forms of risks and dependencies.

Existing literature provides mixed results regarding the impact of globalization on economic outcomes such as exports and growth (Rodríguez, 2007). Although some research provides positive effects via trade expansion and inflows of capital, others emphasize the increased volatility and unfair distribution of gains. These inconsistencies lead to challenges for policymakers and highlight the need for more thorough empirical analysis that includes the multidimensional nature of globalization. This study fills this gap by analyzing the role of globalization and its disaggregated aspects, including economic, social, and political globalization, in influencing economic growth and export performance in SAARC economies. The region provides an important case due to its diversity, structural challenges, and varying degrees of global integration. Given that the region is exposed to both opportunities and risks attached to globalization, such an analysis is crucial for designing strategies that promote sustainable and inclusive growth. The remainder of the study is organized as follows. The next section provides a summary of relevant theoretical and empirical literature. Next, the methodology and data description are followed by a discussion of the empirical results, and the final section concludes with policy implications.

Summary of Literature:

The existing literature largely suggests that globalization improves productivity by facilitating international trade, investment, and the flow of finance (Baldwin and Yan, 2021). For example, globalization provides investors with access to international markets and allows them to diversify their portfolios, whereas governments are provided with increased financial and institutional support. Globalization, at the same time, operates through several dimensions, for instance, economic, social, and political integration, each of which has a different impact on economic outcomes (Dreher, 2006). Economic globalization is associated with higher productivity through trade openness and capital flows, supported by the export-led growth hypothesis (Michaely, 1977; Balassa, 1978). However, empirical findings present a different picture, i.e., the effectiveness of trade requires other structural factors as well, such as technological capacity and macroeconomic stability (Feder, 1983; Marin, 1992; Nana et al., 2023).

Financial globalization and foreign direct investment are also considered important factors through which globalization impacts economic growth. Foreign direct investment plays a key role in promoting technological transfer, industrialization, and efficiency gains (Kokko, 2002; Zhang, 2001; Qasim & Su, 2022), though it requires better domestic institutional quality and human capital. On the contrary, numerous studies point out the risks associated with globalization, i.e., it increases dependency, volatility in finance, and unequal gains (Weiss, 1999; Rodrik, 2017; Mushtaq et al., 2026). Studies on the openness of trade have also provided mixed results. Some evidence suggests improved efficiency, while other studies point to growing inequality and economic instability (Winters et al., 2004; Agbeyegbe et al., 2006; Kandogan & Johnson, 2024).

The impact of globalization becomes further complicated when it is split into its multidimensional aspects. Social globalization, composed of migration, tourism, and information

flows, contributes to economic performance via knowledge transfer and expansion of markets (Şimşek, 2023; Haini et al., 2024), while, through international institutions and agreements, political globalization can influence investment and flows of international trade. Furthermore, political globalization may put constraints on policy autonomy and develop structural constraints (Yeates, 2002; Nash, 2009). Resultantly, the cumulative impact of globalization differs across countries and regions. The evidence becomes particularly unpredictable when it comes to the context of SAARC economies. Some studies support the export-led growth hypothesis, while others find a weak or insignificant impact of globalization on economic performance (Love and Chandra, 2004; Shirazi and Manap, 2005; Chandra Parida and Sahoo, 2007). These dissimilarities provide evidence of differences prevailing in economic structure, policy environments, and integration levels within the region. Additionally, persistent political tensions, trade barriers, and institutional weaknesses continue to put constraints on the ability of the region to fully reap the fruits of globalization. In light of these inconsistencies, it is evident that there is a clear need for a more comprehensive analysis that takes care of the multidimensional nature of globalization. By splitting globalization into its three important dimensions and focusing on a region characterized by both opportunity and structural constraints, this study aims to provide clearer insights into the globalization-growth and globalization-export relationships.

Modelling of Globalization:

The analysis begins by assuming the Cobb-Douglas production function as follows:

$$Q_t = \Gamma_t \, F(K_t^{\alpha}.L_t^{\beta}) \qquad (1.a)$$

This shows that economic growth (Q) is impacted by capital (K), and labor (L). Here, Γ represents total factor productivity, α and β stand for elasticities of inputs, and 't' is time.

Equation (1.1) can be transformed into the output per worker and capital per worker form as follows:

$$q_t = \Gamma_t \, f\,(k_t)^{\alpha} \qquad (1.b)$$

$$\text{Where, } \Gamma_t = \Gamma_n \, e^{gt} \qquad (1.c)$$

Here g_t represents overall globalization and Γ_n is factor productivity without the contribution of globalization. We apply the natural log (ln) on (1.b) and include (1.c) in the production functions, we get:

$$\ln q_t = \ln \Gamma_n + gt + \alpha \ln k_t \qquad (1.d)$$

g_t is the overall globalization which sums to economic (g_E), political (g_P) and social globalization (g_S):

Dreher (2006) developed KOF index of globalization, representing the role of economic, political, and social aspects. To see the variables with their respective weights, see the table in the appendix.

Methodology:

Specification of the Model:

This paper examines the impact of overall globalization and its key dimensions on economic growth in SAARC countries over the period 1990-2024.

We model the empirical equation as follows:

$$Qg_{it} = \alpha_0 + \alpha_1 OGLOBI_{it} + \alpha_2 L_{it} + \alpha_3 K_{it} + \alpha_4 Z_{it} + \varepsilon_{it} \qquad (4.1)$$

Where Qg stands for growth rate in GDP, OGLOBI is the overall globalization index, L and K represent labor force and gross fixed capital formation respectively. Z represents the set of control variables.

The role of the disaggregated aspects, i.e., economic, social, and political globalization in the regional economic growth is captured by the following model:

$$Qg_{it} = \alpha_0 + \alpha_1 EGLOBI_{it} + \alpha_2 SGLOBI_{it} + \alpha_3 PGLOBI_{it} + \alpha_4 L_{it} + \alpha_5 K_{it} + \alpha_6 Z_{it} + \varepsilon_{it} \quad (4.2)$$

Where EGLOBI stands for the index of globalization, SGLOBI stands for the index of social globalization, and PGLOBI stands for the index of political globalization.

Furthermore, the study also analyzes the impact of overall globalization and its other aspects on the SAARC countries' regional exports. The empirical relationship is being modelled as:

$$EXPG_{it} = \alpha_0 + \alpha_1 OGLOBI_{it} + \alpha_2 L_{it} + \alpha_3 K_{it} + \alpha_4 X_{it} + \mu_{it} \quad (4.3)$$

$$EXPG_{it} = \alpha_0 + \alpha_1 NFDI_{it} + \alpha_2 SGLOBI_{it} + \alpha_3 PGLOBI_{it} + \alpha_4 L_{it} + \alpha_5 K_{it} + \beta_6 X_{it} + \mu_{it} \quad (4.4)$$

Where EXPG represents exports as a percentage of GDP, NFDI represents net foreign direct investment inflows, and X is a vector of control variables. The above four empirical models are estimated to assess how globalization influences economic growth and exports in the SAARC region. The table below provides a summary of the variables:

Table 1: Summary of Key Variables

Variable	Operational Definition	Unit of Measurement	Source
Qg	Annual percentage change in real GDP, reflecting overall economic growth	% per year	World Development Indicators (WDI, 2019)
OGLOBI	Composite index measuring overall globalization (economic, social, and political dimensions combined)	Index (0–100)	Gygli et al. (2019)
EGLOBI	Index capturing cross-border economic integration, including trade, investment, and financial flows	Index (0–100)	Gygli et al. (2019)
SGLOBI	Index measuring social integration through information flows, cultural exchange, and personal contact	Index (0–100)	Gygli et al. (2019)
PGLOBI	Index reflecting political integration through international treaties, organizations, and diplomatic engagement	Index (0–100)	Gygli et al. (2019)
EXPG	Annual percentage change in total exports of goods and services	% per year	WDI (2019)
GDP	Gross Domestic Product, adjusted to constant 2010 US dollars	Constant USD (2010)	WDI (2019)
SAVR	Gross domestic savings taken as a percentage of GDP	% of GDP	WDI (2019)
EXR	Annual % change in the official exchange rate	% change	WDI (2019)

OFDA	Net official development assistance received, expressed as a % of GDP	% of GDP	WDI (2019)
INBT	Annual % change in indirect tax revenues	% per year	WDI (2019)

Econometric Techniques:

Cross-Section Dependence (CD) tests

Cross-sectional dependency among the most prominent issues with panel data. Any shock in one of the variables in a country may cause serious consequences for another country. Therefore, it is very important to check the cross-sectional dependence in the first place. Most of the second-generation tests do not account for this problem; this paper uses the CD test developed by Pesaran (2004). Furthermore, the Cross-Sectionally Augmented IPS (CIPS) unit root test and the Westerlund cointegration approach are employed to account for cross-sectional dependence and ensure robust, unbiased estimates.

Slope Heterogeneity (Pesaran and Yamagata, 2007)

The problem of slope heterogeneity is another potential problem with panel data. Pesaran and Yamagata's (2007) test for slope heterogeneity detects such problems. Other tests, such as Seemingly Unrelated Regression Equation (SURE), do not account for this problem, making this test superior (Atasoy, 2017). Furthermore, Pesaran and Yamagata (2007) perform in the case of a small sample size and a larger time period, making it suitable for this study.

The following equations provide the regular dispersion statistic for testing slope homogeneity:

$$\tilde{\Delta}_{SH} = (N)^{\frac{1}{2}}(2k)^{-\frac{1}{2}}\left(\frac{1}{N}\tilde{S} - k\right) \quad (5)$$

$$\tilde{\Delta}_{ASH} = (N)^{\frac{1}{2}}\left(\frac{2k(T-k-1)}{T+1}\right)^{-\frac{1}{2}}\left(\frac{1}{N}\tilde{S} - 2k\right) \quad (6)$$

$\tilde{\Delta}_{SH}$ and $\tilde{\Delta}_{ASH}$ stand respectively for delta tilde and adjusted delta tilde.

Order of Integration

Several tests for panel unit root are employed across the literature to identify the order of integration in the series. Cross-sectionally augmented unit root test statistics (CADF/CIPS), first used by Pesaran (2007), are employed to take cross-sectional dependence into account. The problem of slope heterogeneity is also considered by these techniques.

In the general form, the regression equation is presented below:

$$\Delta W_{i,t} = \varphi_i + \varphi_i Z_{i,t-1} + \varphi_i \bar{W}_{t-1} + \sum_{l=0}^{p} \varphi_{il} \Delta\overline{W_{t-l}} + \sum_{l=1}^{p} \varphi_{il} \Delta W_{i,t-l} + \mu_{it} \quad (7)$$

Here, $\bar{W}_{t-1}$ and $\Delta\overline{W_{t-l}}$ represent the averages of cross-sections, and μ_t stands for white noise error term. For the i-th cross-section unit, we obtain ADF from the t-ratio after running OLS on equation (7) which is supposed to be CDF_i.

The CIPS statistic is given below:

$$\widehat{CIPS} = N^{-1}\sum_{i=1}^{n} CDF_i \qquad (8)$$

Whereas, CDF represents the Cross-Sectionally Augmented Dickey-Fuller (CADF) statistic obtained from the t-ratio of the coefficient of $Z_{i,t-1}$ in equation (7).

Cointegration Test (Westerlund, 2007)

The cointegration approach proposed by Westerlund (2007) focuses on structural dynamics rather than residual-based dynamics, thereby avoiding restrictions related to common factors. For models 4.1 to 4.4, we employ Westerlund's (2007) test for cointegration analysis. This test is superior due to the fact that it takes care of the cross-sectional dependency and slope heterogeneity issues (Kapetanios et al., 2011). The test is performed using the following procedure.

$$\Delta y_{it} = \alpha_i' d_t + \beta_i\left(y_{i,t-1} - \gamma_i' x_{i,t-1}\right) + \sum_{j=1}^{pi}\beta_{ij}\Delta y_{i,t-j} + \sum_{j=-qi}^{pi}\delta_{ij}\Delta x_{i,t-j} + \mu_{it} \qquad (9)$$

Where d_t represents the deterministic components in three steps. which has three cases. First, dt is set to zero in equation (9) for no deterministic terms. Second, d_t is set to one to generate Δy_{it} with a constant term. Third, we set d_t equal to $(i, t)'$ to generate Δy_{it} with a constant and a trend.

We write equation (9) as follows:

$$\Delta y_{it} = \alpha_i' d_t + \beta_i y_{i,t-1} + \gamma_i' x_{i,t-1} + \sum_{j=1}^{pi}\beta_{ij}\Delta y_{i,t-j} + \sum_{j=-qi}^{pi}\delta_{ij}\Delta x_{i,t-j} + \mu_{it} \qquad (10)$$

Where $\gamma_i' = -\beta_i\alpha_i'$, and after a shock, based on parameter β_i, the speed of restoration towards equilibrium will be decided. A less than zero α_i, will suggest error correction, the evidence of a long-run relationship between y_{it} and x_{it}. However, α_i equal to zero on the other hand will suggest no long-run relationship. The group means test is performed in three steps. First, estimating equation (10) by OLS for each 'i' we get:

$$\Delta y_{it} = \hat{\alpha}_i' d_t + \hat{\beta}_i y_{i,t-1} + \hat{\gamma}_i' x_{i,t-1} + \sum_{j=1}^{pi}\hat{\beta}_{ij}\Delta y_{i,t-j} + \sum_{j=-qi}^{pi}\hat{\delta}_{ij}\Delta x_{i,t-j} + \hat{\mu}_{it} \qquad (11)$$

The lag variable p_i and lead variable q_i are determined using a data-dependent rule and letting them float freely across individuals.

The second step computes the following:

$\hat{e}_{it} = \sum_{j=-qi}^{pi}\hat{\delta}_{ij}\Delta x_{i,t-j} + \hat{\mu}_{it}$

$\hat{\beta}_i(1) = \hat{\lambda}_{\mu i}/\hat{\lambda}_{yi}$ is then calculated, where $\hat{\lambda}_{\mu i}$ and $\hat{\lambda}_{yi}$ are the Nawey and West (1994) estimators for the long run variance, based on $\hat{\mu}_{it}$ and Δy_{it} , respectively.

The third step computes the group-mean statistics as follows:

$$G_\tau = \frac{1}{N}\sum_{i=1}^{N}\frac{\widehat{\beta}_i}{SE(\widehat{\beta}_i)}, \qquad G_\alpha = \frac{1}{N}\sum_{i=1}^{N}\frac{T\widehat{\beta}_i}{\widehat{\beta}_i(1)}$$

Here $SE(\hat{\beta}_i)$ stands for the standard error of $\hat{\beta}_i$.

Panel tests are also computed in three steps. First, projection errors are calculated from the contemporaneous values by regressing Δy_{it} and $y_{i,t-1}$ on d_t, Δy_{it} including lags, and Δx_{it} including lags:

$$\Delta\tilde{y}_{it} = \Delta y_{it} - \hat{\alpha}_i' d_t - \hat{\gamma}_i' x_{i,t-1} - \sum_{j=1}^{pi}\hat{\beta}_{ij}\Delta y_{i,t-j} - \sum_{j=-qi}^{pi}\hat{\delta}_{ij}\Delta x_{i,t-j}$$

and

$$\tilde{y}_{i,t-1} = y_{i,t-1} - \tilde{\alpha}_i' d_t - \tilde{\gamma}_i' x_{i,t-1} - \sum_{j=1}^{pi}\tilde{\beta}_{ij}\Delta y_{i,t-j} - \sum_{j=-qi}^{pi}\tilde{\delta}_{ij}\Delta x_{i,t-j}$$

Error-correction parameter 'β' is then estimated in the second step by using $\Delta\tilde{y}_{it}$ and $\tilde{y}_{i,t-1}$ as follows:

$$\hat{\beta} = \left(\sum_{i=1}^{N}\sum_{t=2}^{T}\hat{y}_{i,t-1}^2\right)^{-1}\sum_{i=1}^{N}\sum_{t=2}^{T}\frac{1}{\hat{\alpha}(1)}\tilde{y}_{i,t-1}\Delta\tilde{y}_{it}$$

The standard error of β is obtained as follows:

$SE(\hat{\beta}) = ((\hat{S}_N^2)^{-1} \sum_{i=1}^{N} \sum_{t=2}^{T} \hat{y}_{i,t-1}^2)^{-1/2}$

Where, $\hat{S}_N^2$ is equal to $1/N \sum_{i=1}^{N} \hat{\sigma}_i / \hat{\beta}_i(1)$, and $\hat{\sigma}_i$ (estimated regression standard error in equation number 11).

The third step computes panel statistics as follows:

$$P_\tau = \frac{\hat{\alpha}}{SE(\hat{\alpha})}, \qquad P_\alpha = T\hat{\alpha}$$

Where, P_α and P_τ represent the panel statistics.

Cross-Sectionally Augment ARDL (CS-ARDL)

This paper employs the CS-ARDL method introduced by Chudik and Pesaran (2013a). The first-generation cointegrating techniques contemplate the cross-sections to be autonomous. However, biased estimates will be produced in case any unseen common factors in economic growth and exports are correlated with explanatory variables. CS-ARDL takes care of such issues.

This paper estimates the following CS ARDL regression:

$$Qg_t = \alpha_0 + \sum_{j=1}^{p} \lambda_{it} Qg_{i,t-j} + \sum_{j=0}^{p} \acute{\alpha}_{it} X_{t-j} + \sum_{j=0}^{3} \ddot{\upsilon}_{it} \bar{Z}_{t-j} + \mu_{it} \qquad (12)$$

Where $\bar{Z}_t = (\Delta\overline{Qg}_{it}, \bar{X}_t', \overline{EGLOBI}_{it}', \overline{SGLOBI}_{it}, \overline{PGLOBI}_{it})')'$ & $X_{it} = (L_{it}, K_{it}, CONS_{it}, INFL_{it})'$.

For export growth the CS-ARDL regression can be written:

$$EXPg_t = \alpha_0 + \sum_{j=1}^{p} \lambda_{it} EXPg_{i,t-j} + \sum_{j=0}^{p} \acute{\alpha}_{it} X_{t-j} + \sum_{j=0}^{3} \ddot{\upsilon}_{it} \bar{Z}_{t-j} + \mu_{it} \qquad (13)$$

Where $\bar{Z}_t = (\Delta\overline{EXPg}_{it}, \bar{X}_t', \overline{EGLOBI}_{it}', \overline{SGLOBI}_{it}, \overline{PGLOBI}_{it})')'$ and $X_{it} = (SAVR_{it}, EXR_{it}, ODA_{it}, IBT_{it})'$.

Key Findings and Discussion:

The highly significant test statistics in the following table depict the dependence of cross-sections on each other, where the null hypothesis was that they are cross-sectionally independent. This is also evident from the fact that the statistics lie between the range 0.45 and 0.87.

Table 5.1: Cross-Section Dependence (Pesaran, 2004) test Results

Variable	CD Statistic	p-value	Average Correlation	Decision
Qg	9.01*	0.000	0.69	Cross-sectional dependence
EXPg	10.72*	0.000	0.64	Cross-sectional dependence
L	14.81*	0.000	0.59	Cross-sectional dependence
K	17.83*	0.000	0.81	Cross-sectional dependence
OGLOBI	14.74*	0.000	0.79	Cross-sectional dependence
EGLOBI	15.31*	0.000	0.76	Cross-sectional dependence
SGLOBI	14.29*	0.000	0.49	Cross-sectional dependence
CONS	13.61*	0.000	0.58	Cross-sectional dependence
INFL	13.09*	0.000	0.51	Cross-sectional dependence
NFDI	14.01*	0.000	0.46	Cross-sectional dependence
SAVR	19.88*	0.000	0.85	Cross-sectional dependence
EXR	20.76*	0.000	0.84	Cross-sectional dependence
OFDA	14.08*	0.000	0.63	Cross-sectional dependence
INBT	16.84*	0.000	0.75	Cross-sectional dependence

Note: * means 1% level of significance.

The findings in the table below clearly suggest that heterogeneity exists in all the models, as confirmed by the statistically significant test statistics.

Table 5.2: Slope Heterogeneity (Pesaran and Yamagata, 2007) Results

Model	Test Statistics	Value
Model-1	$\tilde{\Delta}$	6.421* (0.000)
	$\tilde{\Delta}_{adjusted}$	9.416* (0.000)
Model-2	$\tilde{\Delta}$	7.132* (0.000)
	$\tilde{\Delta}_{adjusted}$	6.701* (0.000)
Model-3	$\tilde{\Delta}$	8.723* (0.000)
	$\tilde{\Delta}_{adjusted}$	9.753* (0.000)
Model-4	$\tilde{\Delta}$	8.824* (0.000)
	$\tilde{\Delta}_{adjusted}$	9.533* (0.000)

Note: * means 1% level of significance.

The table below provides the CIPS results. It shows that CONS and OFDA in both drift and drift-trend models are stationary at a 1 percent significance level; however, EGLOBI, INFL, and NFDI are stationary in only the drift-trend models. The remaining variables are stationary at the first difference. This mixed integration order leads to employing the 2nd generation methods.

Table 5.3: Panel Root Test Results (CIPS)

Variable	Level (No Trend)	Level (Trend)	First Diff. (No Trend)	First Diff. (Trend)	Integration
Qg	-1.822	-1.501	-4.279*	-4.241*	I(1)
EXPG	-1.326	-1.931	-4.239*	-4.267*	I(1)
L	-1.121	-1.829	-4.338*	-4.199*	I(1)
K	-1.11	-1.433	-3.237*	-3.129*	I(1)
OGLOBI	-1.331	-1.914	-4.190*	-4.498*	I(1)
EGLOBI	-1.419	-2.828*	-4.211*	–	Mixed
SGLOBI	-1.398	-2.179	-4.369*	-4.112*	I(1)
CONS	-2.601*	-3.242*	–	–	I(0)
INFL	-1.471	-2.661*	-4.351*	–	Mixed
NFDI	-1.813	-2.639*	-4.228*	–	Mixed
SAVR	-1.842	-2.272	-3.671*	-4.281*	I(1)
EXR	-1.622	-1.662	-4.259*	-4.579*	I(1)
OFDA	-2.723*	-2.849*	–	–	I(0)
INBT	-1.401	-1.809	-3.258*	-3.562*	I(1)

Note: * and **mean significance respectively at 1 and 5% level.

The results presented in the table below are based on the Westerlund Panel Cointegration Test. They indicate the presence of a long-run equilibrium relationship between economic growth and its determinants. The results also show the same between export growth and its respective determinants. In model 1 of economic growth and export growth, overall globalization is included with other determinants, whereas in model 2 the separate dimensions are included. In both models, further support of the existence of long-run relationships is provided by the group mean statistics. The error correction term, obtained using P_α=Tα ̂, suggests that approximately 58% of the short-run disequilibrium in the economic growth model is corrected annually. In a similar manner, more than 51% of the disequilibrium in the export growth model is adjusted each year. These findings indicate that over time, any short-run deviations in both models converge back to the long-run equilibrium.

Table 5.4: Westerlund Panel Cointegration Test Results (Summary)

Model	Dependent Variable	G_τ	G_α	P_τ	P_α	Conclusion
Model No. 1	Qg	-7.09*	-19.22*	-18.41*	-21.82*	Cointegration
Model No. 2	Qg	-6.69*	-14.21*	-17.44*	-19.36*	Cointegration
Model No. 1	EXP	-6.68*	-17.19*	-19.67*	-17.23*	Cointegration
Model No. 2	EXP	-6.37*	-17.08*	-20.07*	-16.29*	Cointegration

Note: * shows significance at 1% level.

The table below reports the CS-ARDL estimation results for the globalization-growth models. Column 2 (Model No. 1) captures the effect of overall globalization on economic growth, and Column 4 (Model No. 2) presents the impact of its three dimensions (economic, social, and political globalization individually). The findings from Model No. 1 suggest that overall globalization exerts a positive and statistically significant impact on economic growth. This is consistent with theoretical expectations and previous studies, for instance, Olimpia and Stela (2017), Kilic (2015), Ying et al. (2014), and Chang and Lee (2010). Model No. 2, both economic and social globalization are found to have a positive impact on economic growth. The positive association of economic globalization aligns with the findings of Olimpia and Stela (2017), whereas the results for social globalization are consistent with those reported by Gurgul and Lach (2014), however, contradict the findings of Stela (2017) and Kilic (2015). On the other hand, political globalization is found to hurt economic growth. This result contradicts Gurgul and Lach (2014), who report a positive relationship, but is in line with the findings of Kilic (2015) and Suci et al. (2016).

Table 5.5: Growth Models (CS-ARDL):

Variable	Model No. 1 Coefficient	t-Statistic	Model No. 2 Coefficient	t-Statistic
OGLOBI	0.409*	-2.29	–	–
L	0.281*	-2.891	0.004*	-4.331

K	0.521*	-3.319	0.921*	-6.907
CONS	0.437***	-1.69	0.255*	-2.551
INFL	-0.421*	-2.709	-0.869***	-1.689
EGLOBI	–	–	0.139**	-2.108
SGLOBI	–	–	0.029***	-1.894
PGLOBI	–	–	-0.361*	-3.461
ECM (-1)	-0.583*	-3.608	-0.249*	-3.181

Note: *, **, and * mean significance respectively at 1, 5, and 10% level.**

Likewise, for the globalization-export model, we use the CS-ARDL approach. The results are reported in the table below. The 2nd Column (Model No. 1) presents the effect of overall globalization on export growth. It indicates a positive and statistically significant relationship, consistent with theoretical expectations. The 4th Column (Model No. 2) splits globalization into its three dimensions. The results indicate that social globalization has a positive impact on export growth, while political globalization exerts a negative effect. These findings are consistent with those reported by Majeed and Ahmad (2006).

Table 5.6: Exports Models (CS-ARDL):

Variable	Model No. 1 Coefficient	t-Stat	Model No. 2 Coefficient	t-Stat
OGLOBI	0.189*	-2.539	–	–
L	0.241*	-3.552	0.0041*	-3.432
K	0.719***	-1.688	0.879*	-3.498
NFDI	–	–	0.291*	-5.187
SGLOBI	–	–	0.043**	-1.869
PGLOBI	–	–	-0.005*	-2.569
SAVR	0.129*	-2.821	0.279*	-3.378
EXR	0.222*	-5.631	0.391*	-3.621
OFDA	0.283*	-4.021	0.015*	-2.689
INBT	-0.238*	-3.279	-0.906*	-6.009
ECM (-1)	-0.768*	-4.023	-0.439*	-4.168

Note: *, **, and * mean significance respectively at 1, 5, and 10% level.**

Conclusion and Implications:

This study explores the relationship between globalization, economic growth, and exports in SAARC economies by splitting it into economic, social, and political dimensions. Employing the CS-ARDL approach, the findings suggest a stable long-run relationship among the variables, reinforced by evidence of cross-sectional dependence and slope heterogeneity (Pesaran, 2004; Pesaran and Yamagata, 2007) and mixed order of integration confirmed by CIPS and Westerlund (2007) tests. The error correction mechanism shows that a considerable portion of short-run deviations is adjusted annually. The results suggest that overall, economic and social globalization are positively and significantly associated with economic growth and export performance in the region. On the other hand, political globalization is statistically insignificant for growth and shows a negative impact on exports. These results reflect the aforementioned structure of globalization, where economic and

social aspects directly support trade, capital flows, and technological diffusion (Cordona et al., 2013; Acemoglu et al., 2014; Raspor et al., 2017; Maurseth, 2018), whereas political globalization remains constrained by regional frictions.

The insignificant or negative contribution of political globalization can be explained by persistent institutional and political barriers in the region, together with trade restrictions, inadequate regional cooperation, and geopolitical strains (Jayaraman and Choong, 2012; Delinić, 2011). Evidence also suggests trade gains under such conditions did not translate into meaningful trade gains despite various agreements (Abbas and Waheed, 2015; Abbas and Waheed, 2019). To sum up, the results indicate that SAARC countries can reap the fruits of globalization principally through economic and social integration; however, these gains remain limited in case internal structural and political constraints are not addressed.

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