

Print ISSN: 2288-4637 / Online ISSN 2288-4645  
doi:10.13106/jafeb.2021.vol8.no5.0011

# Economic Globalization and Financial Development: Empirical Evidence from India and Sri Lanka

Chinmaya BEHERA<sup>1</sup>

Received: December 15, 2020 Revised: March 06, 2021 Accepted: April 01, 2021

## Abstract

The paper examines the nexus between economic globalization, financial development and institutional reform in India and Sri Lanka during the period 1990–2017. Using the panel ARDL method, the study finds the long-run relationship between financial development, economic globalization, and institutional reforms. From the short-run equation, the study finds the negative and statistically significant impact of economic globalization on financial development in India whereas Sri Lanka has a positive impact of institutional quality on financial development. Then, the study finds no short-run causality between financial development, economic globalization and institutional reforms. However, the study finds bi-direction strong causality between economic globalization and financial development. Further, the study finds uni-directional strong causality from institutional quality to financial development and economic globalization. Moreover, there is an existence of long-run causality between financial development, economic globalization and institutional quality. For the robustness of the results, the study considers the financial market as a proxy for financial development. Then, the study applies the panel ARDL test and find the consistency in the results. The policymakers in India and Sri Lanka should focus on institutional reforms so that it can reap the benefit of economic globalization. In turn, the quality of institutional reforms can thereby lead to financial development.

**Keywords:** Economic Globalization, Financial Development, Institutional Reforms, Panel-ARDL, Financial Market

**JEL Classification Code:** F41, F43, F62, F63

## 1. Introduction

A plethora of empirical studies examine the impact on globalization on different economic sectors in recent times that provide us mixed findings (Villaverde & Maza, 2011; Baddeley, 2006; Bhanumurthy & Kumawat, 2020; Ali & Malik, 2020, Vu et al. 2020; Long, 2020; Nguyen et al., 2020). For instance, Villaverde and Maza, (2011) finds the globalization is the key determinant of growth. However, Baddeley (2006) finds globalization does not converge to the economic outcome. Further, Bhanumruty and Kumawat, (2018) study the financial globalization and economic growth in the South Asian region, and their findings suggest that the

nexus between globalisation and growth is weak. Similarly, Ali and Malik (2020) conclude that marginal change in the economic globalization has no impact on growth. Further, they find rich countries reap more benefits of globalization than poor countries. Similarly, several studies also focus on the financial development that leads to growth (De et al., 1995; Calderón et al., 2003; Redmond & Nasir, 2020). De et. al. (1995) find that financial development positively impacts growth in a cross-country sample. Calderón et al. (2003) find that financial development causes growth in emerging economies. Redmond and Nasir, (2020) conclude that financial development and institutional quality affect positively economic growth.

However, there have not been any studies that empirically prove the theory in the South Asian region after theoretical development by Mishkin (2009) on globalization and financial development. According to Mishkin (2009), globalization causes financial development through institutional reforms. The empirical research that focuses on the economic globalization and financial development is scanty in the case of India and Sri Lanka. The economic globalization means the widespread international movements of goods, services,

<sup>1</sup>First Author and Corresponding Author. Assistant Professor, General Management and Economics, Goa Institute of Management (GIM), India [Postal Address: F-21, Faculty Block, GIM, Sanquelim, Goa, 403505, India] Email: chinmayaeco@gmail.com

© Copyright: The Author(s)  
This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

capital, information and technology. However, there are few empirical studies that talk about the nexus between economic globalization and financial development in different economies (Law et al., 2014; Kandil, 2015). For instance, Law et al. (2014) find the long-run nexus between economic globalisation financial developments in East Asia whereas, on the contrary, Kandil et al. (2015) find that globalization does not cause financial development. In nutshell, there are mixed findings when it come to the nexus between globalization and financial development.

From the above-mentioned discussions, the major aim of the paper is to examine the nexus between globalization and financial development in India and Sri Lanka. To be precise, the study attempts to solve the following research questions:

- RQ1: Is there any persistence of a long-run equilibrium between financial development, institutional reforms, and economic globalization?
- RQ2: How does economic globalization and institutional reforms affect financial development?
- RQ3: Do economic globalization and institutional quality cause financial development?

To address the above-mentioned research questions, the study uses the IPS panel unit root test for stationarity. Furthermore, the CD and CIPS test is used to examine cross dependency and stationarity. Panel ARDL-PMG method is used to examine the long-run relationship between economic globalization, institutional quality, and financial development. The direction of the causality among the variables is also observed from Wald test. For the robustness of results, the study uses the financial market in place of financial development, and then, Panel ARDL-PMG is used to see the consistency in the results.

The study contributes to the existing literature in three ways. First, unlike previous studies, this study attempts to find the relationship between economic globalization and financial development in the case of India and Sri Lanka. Furthermore, the study takes institutional reforms as one of the determinants for financial development as per theory developed by Mishkin (2009). The study will help policymakers to formulate necessary policies to focus on intuitional quality and economic globalization that can lead to financial development.

Second, India and Sri Lanka make a crucial contribution to global growth. The lack of studies on economic globalization and financial development in emerging countries in South Asia regions motivates us to research by examining the dynamic relationship between economic globalization, institutional reforms, and financial development. The study finds a long-run relationship among the variables that comply with the findings of Law et al. (2014). This gives better insight for policymakers to issues related to economic globalization and financial development.

Finally, unlike recent studies, this study uses a broad sense of economic globalization and financial development variables. Economic globalization consists of trade and financial globalization whereas financial development index emanant from eight sub-indices that capture depth, access, and efficiency of market and institutions. Furthermore, the study considers the financial market as a proxy for financial development to check the robustness of the results. Moreover, an institutional reform index is created using principal component analysis. These results will help policymakers in an in-depth understanding of variables and their relationship for better policy prescriptions.

The next section represents relevant literature review. Section 3 depicts data and sources. Section 4 presents different methodologies. Section 5 represents the main findings. Finally, section 6 concludes the paper with policy insight followed by references.

## 2. Literature Review

After pioneer work by Mishkin (2009) on globalization and financial development, there are only a few empirical studies that focus on a single country or multi-country analysis with mixed findings. He theoretically explains globalization as facilitating trade and financial markets to foreign countries, which will trigger an inflow of new sources of capital, technical know-how, and products into a given economy. To accommodate this inflow, communication facility and deregulation in the economy will enforce institutional reform in an economy. Thus, the quality of institutions will able to channelize the resources efficiently for productive investment and hence, financial development. Mishkin further suggests that the legal course that processes agreement in quickly and transparently is necessary to strengthen the property rights and financial development. Hence, the robust property right and the legal system helps the economics and financial systems to prosper. Mishkin's (2009) theoretical development is a complement to the seminal paper developed by Ranjan and Zingales (2003).

Ranjan and Zingales (2003) earlier suggest that capital inflow and openness simultaneously support financial development. Falahaty and Law's (2012) findings reveal that globalization affects financial development and economic growth. However, their study confirms that globalization does not cause institutional reforms. Law et al. (2014) find the relationship between economic globalization, real GDP, financial development, and institution in East Asia. Furthermore, they conclude that globalization causes financial development with and without the medium of intuitional reforms. On the contrary, Kandil et al.'s (2015) findings suggest that globalization affect growth positively. However, globalization fail to cause financial development. Zaidi et al. (2019) find that globalization causes both financial development and growth.

This study is the extension of Mishkin (2019) and Law et al.'s (2014) paper. Katircioglu and Zabolotnov (2020) studies the impact of financial development on globalization. Using panel econometrics procedures on annual data of 181 countries, they find that financial development is crucial determinants of economic globalization. Further, they suggest that financial markets impact on positively on economic globalization in general except certain cases, where other macroeconomic variables such as national income, inflation, etc., might change the outcome (Redmond & Nasir, 2020).

### 3. Data and Sources

Annual data from 1990 to 2017 for a panel work has been used in the study. The country and time period are selected purely based on data availability. The study considers three variables, namely, financial development, economic globalization, and institutional quality for the analysis. Financial development index consists of eight sub-indices from financial markets and institutions developed by the International Monetary Fund (IMF) (Svirydzenka, 2016). It considers depth, access and efficiency of financial market and institution. The financial development data is extracted from IMF database. Further, trade and financial globalization together constitute economic globalisation index. The economic globalization data is taken from KOF Globalization index database.

The institutional reforms data sets are from the International Country Risk Guide. The institutional reforms variables consider of time-varying factors for institutional development, which is available from the year 1984. Five indicators of Political Risk Services (PRS) have been consider where the parameters are scaled again from 0 to 10. Finally, all the variables are converted to log form. The rationale behind choosing India and Sri Lanka lies with the comparison of economic variables. For example, India is comparatively better in terms of financial development whereas Sri Lanka is better in the economic globalization. Further, India performs better institutional quality than Sri Lanka. However, whenever comparison is done in terms of parameters of institutional reforms. Sri Lanka comes first in some parameters of institutional reforms such as political stability, rule of law, etc. India, the largest democracy, comes after Sri Lanka in terms of institutional reforms. Furthermore, India leads in effectiveness of government, and voice and accountability.

### 4. Methodology

The study clarifies two preliminary issues before applying panel techniques. Firstly, the issue of controlling cross-sectional dependency across the panel members. The

innovative shock of that affect one country might affect other countries in the high magnitude of globalization and of financial development (Menyah et al., 2014). Pesaran (2007) illustrates the necessity of cross-sectional dependency testing under panel study. Further, he shows the biasedness in the result when cross-sectional dependence test is absent (Pesaran, 2007). Secondly, there may be country-specific heterogeneity as economies faces different stages of development. Breitung (2005) finds country-specific homogeneity might cover the individual economies-specific characteristics.

#### 4.1. Unit Root Test

The study uses panel unit root method to find the stationarity property of the three variables, i.e., financial development, economic globalization and institutional reforms. The test is developed by Im, Pesaran, and Shin (2003). The method adjusts the heterogeneity and finds  $t$ -statistics value from augmented Dicky-Fuller (ADF) regression. For the observation  $N$  group and time period,  $T$ , the IPS panel unit root regression can be written as follows;

$$\Delta x_{it} = \alpha_i + \pi_i t + \beta_i x_{i,t-1} + \sum_{j=1}^k \varphi_{ij} \Delta x_{i,t-1} + \varepsilon_{it} \quad (1)$$

Here,  $x$  refers observed time series,  $\Delta$  is the 1<sup>st</sup> difference operator,  $\varepsilon_{it}$  is the white noise error term. The white noise disturbance term. The  $\Delta x_{i,t-1}$  term allows for serial correlation that can achieve white noise disturbance term. Further, CD and CIPS has been used in the study. The method is propounded by Pesaran (2007). The CD test is to test cross sectional dependency whereas CIPS is for heterogeneity test across the group of countries.

#### 4.2. Panel ARDL-PMG Test

The study uses panel Autoregressive Distributed Lag (ARDL-PMG) method to examine the relationship among financial development, economic globalisation and institutional quality (Pesaran et al., 1999). The merits of this method are that it can detect long-run relationships even if there is different in integration order of series such as  $I(1)$  or  $I(0)$ . Further, this model addresses the problem of endogeneity by assigning lag length to both exogenous and endogenous variables. Further, it gives consistent and efficient estimators. The equation as follows;

$$\begin{aligned} \Delta FD_{it} = & \alpha_{1i} + \beta_{1i} FD_{it-1} + \beta_{2i} EG_{it-1} + \beta_{3i} IQ_{it-1} \\ & + \sum_{j=1}^p \gamma_{1i} \Delta FD_{it-j} + \sum_{i=0}^q \gamma_{2i} \Delta EG_{it-j} \\ & + \sum_{i=0}^q \gamma_{3i} \Delta IQ_{it-j} + \varepsilon_{1it} \end{aligned} \quad (2)$$

$$\begin{aligned} \Delta EG_{it} &= \alpha_{1i} + \beta_{1i} EG_{it-1} + \beta_{2i} FD_{it-1} + \beta_{3i} IQ_{it-1} \\ &+ \sum_{j=1}^p \gamma_{1i} \Delta EG_{it-j} + \sum_{i=0}^q \gamma_{2i} \Delta FD_{it-j} \\ &+ \sum_{i=0}^q \gamma_{3i} \Delta IQ_{it-j} + \varepsilon_{1it} \end{aligned} \quad (3)$$

$$\begin{aligned} \Delta IQ_{it} &= \alpha_{1i} + \beta_{1i} IQ_{it-1} + \beta_{2i} FD_{it-1} + \beta_{3i} EG_{it-1} \\ &+ \sum_{j=1}^p \gamma_{1i} \Delta IQ_{it-j} + \sum_{i=0}^q \gamma_{2i} \Delta FD_{it-j} \\ &+ \sum_{i=0}^q \gamma_{3i} \Delta EG_{it-j} + \varepsilon_{1it} \end{aligned} \quad (4)$$

Where, FD, EG, IQ, and  $\Delta$  refer financial development, economic globalization index, institutional quality, and first different operator, respectively. Further,  $\varepsilon$  refers the error term. The lag length selection criteria is based on AIC and SB Criteria. The null hypothesis of equation 2, 3 and 4 gives  $H_0: \beta_{1i} = \beta_{2i} = \beta_{3i} = 0$ . which indicates no cointegration and the alternative hypothesis,  $H_1: \beta_{1i} \neq \beta_{2i} \neq \beta_{3i} \neq 0$  refers existence of co-integration.

The panel ARDL bound test takes  $F$ -statistics or Wald statistics values for the interpretation. Bound tests, i.e., upper and lower bound critical values gives insight at certain level of significance (Pesaran et al., 2001). The initial bound test presumes that all observation are  $I(0)$ , then the next bound test presumes  $I(1)$ . The results reject no cointegration if calculated  $F$ -statistic value surpasses the upper critical bounds value. If  $F$ -statistic value falls within the bounds then the study considers cointegration as inconclusive. If  $F$ -statistic value is lower than the lower bound value then the null hypothesis cannot be rejected (Pesaran et al., 2001; Behera et al., 2020).

Next, the study uses ECM (error correction mechanism) to study the short-run deviation of the series. The error correction mechanism equation as follows:

$$\begin{aligned} \Delta FD_{it} &= \alpha_{1i} + \sum_{j=1}^{p-1} \beta_{1ij} \Delta FD_{it-j} + \sum_{i=0}^{q-1} \beta_{2ij} \Delta EG_{it-j} \\ &+ \sum_{i=0}^{q-1} \beta_{3ij} \Delta IQ_{it-j} + \mu_{1i} ECT_{1,it-1} + \varepsilon_{1it} \end{aligned} \quad (5)$$

$$\begin{aligned} \Delta EG_{it} &= \alpha_{1i} + \sum_{j=1}^{p-1} \beta_{1ij} \Delta EG_{it-j} + \sum_{i=0}^{q-1} \beta_{2ij} \Delta FD_{it-j} \\ &+ \sum_{i=0}^{q-1} \beta_{3ij} \Delta IQ_{it-j} + \mu_{1i} ECT_{1,it-1} + \varepsilon_{1it} \end{aligned} \quad (6)$$

$$\begin{aligned} \Delta IQ_{it} &= \alpha_{1i} + \sum_{j=1}^{p-1} \beta_{1ij} \Delta IQ_{it-j} + \sum_{i=0}^{q-1} \beta_{2ij} \Delta FD_{it-j} \\ &+ \sum_{i=0}^{q-1} \beta_{3ij} \Delta EG_{it-j} + \mu_{1i} ECT_{1,it-1} + \varepsilon_{1it} \end{aligned} \quad (7)$$

The estimators and parameters of the equation are acquired through pooled mean group (PMG) method. The advantage of PMG method is that it assumes heterogeneity of the short-run coefficients. Further, it assumes identical and homogenous for long-term coefficient for all panel units. Then, error correction mechanism (ECM) is used to find the impact of individual characteristics. Moreover, it gives good insight on the long-run relationship (Attiaoui et al., 2017).

### 4.3. Granger Causality

Granger causality (Engle-Granger, 1987) test has been used in the study to find causal link between the variables. Causality links are of three types.

First, the co-efficient value in the ECM equation 5, 6, and 7 determine the long-run causality. For example, the null hypothesis,  $H_0, \mu_1 = 0$  can be used to test long-run causality against whereas alternative hypothesis can be,  $H_1, \mu_1 \neq 0$ .

Second, the coefficient in the ECM equation where the series in first difference can be use used to get short-run causality. For instance, in equation 5, if the study wants find the short-run causality then (between institutional quality and financial development) the null hypothesis will be  $H_0: \beta_{3i} = 0$ , and the alternative hypothesis,  $H_1: \beta_{3i} \neq 0$ . Moreover, for paired short-run causality (from both economic globalization and institutional quality to financial development) with null hypothesis,  $H_0: \beta_{2i} = \beta_{3i} = 0$ , and alternative hypothesis,  $H_1: \beta_{2i} \neq \beta_{3i} \neq 0$ .

Third, the coefficients of series in first difference and ECT are consider to find strong causality. For example, in equation 5, if the study wants to find the strong causality (from institutional quality to financial development), it can be observed by testing the null hypothesis,  $H_0: \beta_{3i} = \mu_1 = 0$ , against the alternative hypothesis  $H_1: \beta_{3i} \neq \mu_1 \neq 0$ . Then, if the study wants to test strong causality from economic globalization and institutional quality to financial development then this can be obtained by testing null hypothesis,  $H_0: \beta_{2i} = \beta_{3i} = \mu_1 = 0$ , against the alternative hypothesis  $H_0: \beta_{2i} \neq \beta_{3i} \neq \mu_1 \neq 0$ .

To check robustness, the study uses financial market is the proxy for financial development. Then, Panel ARDL is applied to see the consistency in the result.

## 5. Main Findings

The study discusses main findings in this section. Descriptive statistics are reported in Table 1. The average value of financial development is negative whereas the average value of economic globalization and institutional quality are positive over time. Further, the volatility is measured through standard deviation. From the descriptive results, it is observed that globalization is comparatively more volatile than financial development and institutional quality. The possible reasons can be the integration of the world market. Finally, the minimum and maximum values ranges from negative to positive of all the variable under consideration.

The next step is to check stationarity property of the series under consideration using panel unit root test developed by Im et al. (2003). Panel unit root test results are reported in Table 2. The test is applied on the variables both in level and first difference. The results indicate that both financial

**Table 1:** Descriptive Statistics

Series	Mean	Standard Deviation	Maximum	Minimum	Observation
Financial Development	-1.20	0.27	-0.75	-1.78	56
Economic Globalization	3.63	0.37	4.01	2.65	56
Institutional Quality	3.39	0.32	3.85	2.52	56

**Table 2:** IPS Unit Root Model result

Series	Financial Development		Economic Globalisation		Institutional Quality	
	Without Trend	Trend	Without Trend	Trend	Without Trend	Trend
IPS	-2.24 (0.15)	-2.59 (0.08)***	-2.19 (0.13)	-0.71 (0.92)	-1.98 (0.22)	-2.79 (0.03)**
(Difference)	D(Financial Development)		D(Economic Globalisation)		D(Institutional Quality)	
	Without Trend	Trend	Without Trend	Trend	Without Trend	Trend
IPS	-4.59 (0.00)*	-4.62 (0.00)*	-3.42 (0.00)*	-4.13 (0.00)*	-5.09 (0.00)*	-5.26 (0.00)*

Note:  $p$  values reflect in the parenthesis. D(.) refers the 1<sup>st</sup> difference operator. \*,\*\* and \*\*\* indicate one percent, five percent and ten percent significant level, respectively.

**Table 3:** Cross-Sectional Dependence Result

Series	CD		Augmented IPS
	CD Test	Avg. Abs. Corr.	CIPS Test
Financial Development	3.08*	0.58	-2.76*
Economic Globalization	2.37*	0.44	-2.86*
Institutional Quality	-1.3***	0.26	-1.97***

Note: \* and \*\*\* indicate one percent and ten percent significant level.

development and institutional quality are stationary in the level, i.e.,  $I(0)$ . Further, economic globalization is non-stationary in the level, but stationary in the first difference, i.e.,  $I(1)$ . The mix results, i.e.,  $I(0)$  and  $I(1)$  indicate that the study can proceed with using panel ARDL approach.

The IPS panel unit root test does not address cross-sectional independence and heterogeneity. The study uses CD (cross dependency) test introduced by Pesaran (2004). Further, the study uses CIPS test developed by Pesaran (2007). Table 3 reports the cross-section dependency results. The results indicate the cross-section dependency among the panel units and having serial correlation among error terms. Bhattacharaya and Naranya (2015) find heterogeneity is the logic behind cross-dependency. Traditional panel unit root results stand void due to existence a cross-sectional dependency (Rath et al., 2019, Behera et al., 2020). Therefore, Pesaran (2007) develops cross-sectional augmented IPS

(CIPS) test to overcome the issues related traditional panel unit root test. The CIPS results are reported in Table 3 and it is observed that all the variables are having unit root.

Next, long-run equilibrium between financial development, economic globalization, and institutional quality is studied. The ARDL-PMG method developed by Pesaran et al (1999) has been used to find long-run equilibrium among the variables. The panel ARDL results are reported in Table 4. The long-run equation and bound test results indicate that there is an existence of long-run equilibrium between financial development, economic globalization, and institutional reforms as coefficients are statistically significant at one-percent level of significance. The bound test results are not reported in the paper due to space constraint. However, it is available from the author upon request. Further, the negative co-efficient of error correction term in the short-run equation indicates the presence of long-run relationship among the variables. This finding is complying with the finding of the Law et al. (2014). In overall scenario, the co-efficient of economic globalization is negative and statistically significant from the short-run equation results which indicate that economic globalization adversely affects financial development. The possible reasons could be the channel of transmission. As it is reported theoretically that economic globalization cause financial development via institutional reforms. However, institutional quality statistical insignificant.

Then, the study tries to use error correction model as it widely believed that there may short-run dynamics in the system. The error correction model results for individual

**Table 4:** Panel ARDL(PMG) Results

Series	Coefficient	Standard Error	t-Stat.	Probability
<b>Long-Run</b>				
Economic Globalisation	0.61	0.13	4.53	0.00
Institutional Quality	-0.46	0.11	-3.94	0.00
<b>Short-Run</b>				
ECT	-0.37	0.02	-18.70	0.00
D(EG)	-0.06	0.00	-12.33	0.00
D(IQ)	0.03	0.03	1.03	0.30
C	-0.67	0.18	-3.59	0.00

Note: (1) EG: Economic Globalization; IQ: Institutional Index; D(.) refers the 1<sup>st</sup> difference.

**Table 5:** ECM results for India and Sri Lanka

Series	Coefficient	Standard Error	t-Stat.	Probability
<b>(India)</b>				
ECT	-0.35	0.02	-15.32	0.00
D(EG)	-0.06	0.09	-0.64	0.56
D(IQ)	0.00	0.01	0.12	0.91
Constant	-0.48	0.11	-4.14	0.02
<b>(Sri Lanka)</b>				
ECT	-0.39	0.12	-43.22	0.00
D(EG)	-0.07	0.06	-1.18	0.32
D(IQ)	0.06	0.00	17.15	0.00
Constant	-0.88	0.10	-7.96	0.00

Note: (1) Here EG: Economic Globalisation; IQ: Institutional Quality; D(.) refers 1<sup>st</sup> difference.

countries are reported in Table 5. The coefficient of economic globalisation is statistically insignificant for both India and Sri Lanka. Further, the coefficient of institutional quality is statistically insignificant for India. However, Sri Lanka has positive and statistically significant of institutional quality on financial development. Further, the yearly speed of adjustment is quite negligible to achieve long-run equilibrium.

Next, the study tries to find the causal direction between the variables. The causality results are reported in the Table 6. There is no short-run causality between financial development, economic globalization and institutional reforms. However, the study finds bi-direction strong causality between economic globalization and financial development. The possible reasons could be economic globalization helps the country to bring capital and technical

know-how that brings institutional reform. In turn, that leads financial development in the country. Further, the study finds uni-directional strong causality from institutional quality to financial development and economic globalization. Finally, there is an existence of long-run causality between financial development, economic globalization and institutional quality. The finding complements the theory developed by Miskin (2009) and empirical research done by Law et al. (2014). Therefore, it is apparent that economic globalization play crucial role in India and Sri Lanka to bring financial development via institutional reforms.

Next, the study uses financial market as proxy for financial development to check the robustness of result. Panel ARDL applied to see whether there is consistency in the results. The results are available upon request. The coefficient of error correction term is negative and statistically significant,

**Table 6:** Causality Test Result

Statistics		Wald Statistics		Probability	
<b>Long-Run</b> DV: Financial Development		4.47*		0.00	
Direction of Causality	Short-Run Causality		Strong Causality		
	Wald Test	P-value	Wald Test	P-value	
EG → FD	0.64	0.52	10.05*	0.00	
IQ → FD	0.41	0.67	10.09*	0.00	
EG, IQ → FD	0.29	0.74	6.75*	0.00	
Statistics		Wald Statistics		Probability	
<b>Long-Run Causality</b> DV: Economic Globalization		5.65*		0.00	
Direction of Causality	Short-Run Causality		Strong Causality		
	Wald Test	P-value	Wald Test	P-value	
FD → EG	0.38	0.70	16.57*	0.00	
IQ → EG	0.38	0.69	15.97*	0.00	
FD, IQ → EG	0.11	0.88	11.05*	0.00	
Statistics		Wald Statistics		Probability	
<b>Long-Run Causality</b> DV: Economic Globalization		0.98*		0.00	
Direction of Causality	Short-Run Causality		Strong Causality		
	Wald Test	P-value	Wald Test	P-value	
EG → IQ	0.23	0.81	1.51	0.23	
FD → IQ	0.21	0.82	0.53	0.59	
EG, FD → IQ	1.03	0.39	1.02	0.39	

Note: FD means financial development, EG refers economic globalization, IQ means institutional quality. \* refers 1% level of significance. DV means dependent variables.

which indicates the existence of long-run relationship among the variables. Further, from long-run equation results, it is observed that the coefficients of economic globalisation and institutional quality are statistically significant that confirms the existence of long-run relationship between financial development, economic globalization and institutional quality. The findings are consistent with the initial results. Therefore, it is concluded that the role of economic globalization is crucial in financial development of a given economy.

## 6. Conclusion

Several studies exist on the linkage between economic globalisation and growth. However, the nexus between economic globalization and financial development in

developing countries like India and Sri Lanka is scanty. Hence, this study examines the impact of economic globalization and financial development. The study uses panel data set from 1990 to 2017 on a sample of two selected developing countries, i.e., India and Sri Lanka. The result indicates interesting insights on the nexus between economic globalization and financial development. Mishkin (2009) in their work indicate theoretically the importance of economic globalization and transmission channel that impacts financial development. The study tries to explore empirically the relationship between economic globalization and financial development.

The main findings suggest the existence of a long-run relationship between economic globalization, institutional quality, and financial development through panel ARDL (PMG) test. That addresses our first research question.

The overall short-run equation indicates the negative and statistically significant impact of economic globalization on financial development. Further, only Sri Lanka has a positive impact of institutional quality on financial development. This addresses our second research question. Then, the study finds no short-run causality between financial development, economic globalization and institutional reforms. However, the study finds bi-direction strong causality between economic globalization and financial development. Further, the study finds uni-directional strong causality from institutional quality to financial development and economic globalization. Moreover, there is an existence of long-run causality between financial development, economic globalization and institutional quality. The findings address our third research question. The findings of this study complement both theory developed by Mishkin (2009) and empirical research done by Law et al. (2014). Finally, to test the robustness of results, the study uses the financial market as a proxy for financial development. Then, study apply the panel ARDL test for consistency in results. The results indicate the existence of long-run relationships among the variables which prove that the results are robust.

The findings of the study give interesting policy insights for policymakers in India and Sri Lanka. Policymakers need to focus on institutional quality along with economic globalization to see the impact on financial development as the value of the coefficient is low and statistically insignificant, respectively. Globalization should be integrated in such a way so that institutions reap the benefits of globalization. In turn, institutional reforms can lead to financial development. From the causality analysis, the study finds no strong causality from economic globalization to institutional quality. Even, financial development does not have strong causality to institutional quality. Therefore, it is essential for a policymaker to take necessary policy decision so that economic globalization and financial development can strongly cause institutional quality.

The current study can be extended by taking multiple countries and multiple variables such as trade openness, CO<sub>2</sub>, etc. Further, the study can be extended by segregating country on the basis of income to examine the impact of economic globalization on financial development.

## References

- Ali, S., & Malik, Z. K. (2020). Revisiting economic globalization-led growth: The role of economic opportunities. *Journal of Public Affairs*, e2193. <https://doi.org/10.1002/pa.2193>.
- Attiaoui, I., Toumi, H., Ammouri, B., & Gargouri, I. (2017). Causality links among renewable energy consumption, CO<sub>2</sub> emissions, and economic growth in Africa: Evidence from a panel ARDL-PMG approach. *Environmental Science and Pollution Research*, 24(14), 13036–13048. <https://doi.org/10.1007/s11356-017-8850-7>.
- Baddeley, M. (2006). Convergence or divergence? The impacts of globalisation on growth and inequality in less developed countries. *International Review of Applied Economics*, 20(3), 391–410. <https://doi.org/10.1080/02692170600736250>.
- Bhanumurthy, N. R., & Kumawat, L. (2020). Financial globalization and economic growth in South Asia. *South Asia Economic Journal*, 21(1), 31–57. <https://doi.org/10.1177/1391561420909007>.
- Behera, C., Mishra, B. R., Priyadarshini, B. T., & Satpathy, L. D. (2020). Institutional quality and foreign direct investment inflows: evidence from cross-country data with policy implication. *International Journal of Economics & Business Administration (IJEBA)*, 8(2), 302–316. <https://doi.org/10.35808/ijebe/463>.
- Falahaty, M., & Law, S. H. (2012). The effect of globalization on financial development in the MENA region. *Transition Studies Review*, 19(2), 205–223. <https://doi.org/10.1007%2Fs11300-012-0242-6>.
- Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, 115(1), 53–74. [https://doi.org/10.1016/S0304-4076\(03\)00092-7](https://doi.org/10.1016/S0304-4076(03)00092-7).
- Kandil, M., Shahbaz, M., & Nasreen, S. (2015). The interaction between globalization and financial development: new evidence from panel cointegration and causality analysis. *Empirical Economics*, 49(4), 1317–1339. <https://doi.org/10.1007/s00181-015-0922-2>.
- Katircioğlu, S., & Zabolotnov, A. (2020). Role of financial development in economic globalization: evidence from global panel. *Applied Economics Letters*, 27(5), 371–377. <https://doi.org/10.1080/13504851.2019.1616058>.
- Law, S. H., Azman-Saini, W. N. W., & Tan, H. B. (2014). Economic globalization and financial development in East Asia: a panel cointegration and causality analysis. *Emerging Markets Finance and Trade*, 50(1), 210–225. <https://doi.org/10.2753/REE1540-496X500112>.
- Long, N. T. (2020). Do foreign direct investment, energy consumption and urbanization enhance economic growth in six ASEAN countries? *Journal of Asian Finance, Economics and Business*, 7(12), 33–42. <https://doi.org/10.13106/jafeb.2020.vol7.no12.033>.
- Mishkin, F. S. (2009). Globalization and financial development. *Journal of Development Economics*, 89(2), 164–169. <https://doi.org/10.1016/j.jdeveco.2007.11.004>.
- Nguyen, T. C. & Le, Q. H. (2020). Impact of globalization on coal consumption in Vietnam: An empirical analysis. *Journal of Asian Finance, Economics and Business*, 7(6), 185–195. <https://doi.org/10.13106/jafeb.2020.vol7.no6.185>.
- Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association*, 94(446), 621–634. <https://doi.org/10.1080/01621459.1999.10474156>.

- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289–326. <https://doi.org/10.1002/jae.616>
- Pesaran, M. H. (2004). General diagnostic tests for cross-sectional dependence in panels. *Empirical Economics*, 1–38. <https://doi.org/10.1007/s00181-020-01875-7>
- Pesaran, M. H. (2007). A simple panel unit root test in the presence of cross-section dependence. *Journal of Applied Econometrics*, 22(2), 265–312. <https://doi.org/10.1002/jae.951>
- Rajan, R. G., & Zingales, L. (2003). The great reversals: the politics of financial development in the twentieth century. *Journal of Financial Economics*, 69(1), 5–50. [https://doi.org/10.1016/S0304-405X\(03\)00125-9](https://doi.org/10.1016/S0304-405X(03)00125-9)
- Redmond, T., & Nasir, M. A. (2020). Role of natural resource abundance, international trade and financial development in the economic development of selected countries. *Resources Policy*, 66, 101591. <https://doi.org/10.1016/j.resourpol.2020.101591>
- Shahbaz, M., Mallick, H., Mahalik, M. K., & Hammoudeh, S. (2018). Is globalization detrimental to financial development? Further evidence from a very large emerging economy with significant orientation towards policies. *Applied Economics*, 50(6), 574–595. <https://doi.org/10.1080/00036846.2017.1324615>
- Svirydzenka, K. (2016). Introducing a new broad-based index of financial development. *International Monetary Fund*. <https://doi.org/10.5089/9781513583709.001>
- Villaverde, J., & Maza, A. (2011). Globalisation, growth and convergence. *The World Economy*, 34(6), 952–971. <https://doi.org/10.1111/j.1467-9701.2011.01359.x>
- Vu, T. V., & Huang, D. C. (2020). Economic development, globalization, political risk and CO2 emission: The case of Vietnam. *Journal of Asian Finance, Economics and Business*, 7(12), 21–31. <https://doi.org/10.13106/jafeb.2020.vol7.no12.021>
- Zaidi, S. A. H., Zafar, M. W., Shahbaz, M., & Hou, F. (2019). Dynamic linkages between globalization, financial development and carbon emissions: Evidence from Asia Pacific Economic Cooperation countries. *Journal of Cleaner Production*, 228, 533–543. <https://doi.org/10.1016/j.jclepro.2019.04.210>