

The Effect of Globalization on Economic Growth: Panel Data Analysis for ASEAN Countries

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Abstract

Globalization is generally expressed as the integration of countries into the external world in economic, social and political contexts. One of the most important indicators of the level of development of a country is the economic growth performance of the mentioned country. It is therefore important to examine whether the globalization process affects economic growth. Although both the developing countries and the developed ones are deeply affected by the globalization process, it's clearly visible that developing South Asian economies get use of globalization better than many other regions of the world by implementing successful policy planning and policy implementations. In this framework, this study investigates the effect of globalization on economic growth of the member countries of ASEAN. The data used in the study is obtained from globalization index of KOF Swiss Economic Institute and national accounts database of UNCTAD. GDP and three dimensions of globalization variables of the ASEAN countries are evaluated using panel data analysis within the scope of study. The results of the analysis show that globalization has a significant effect on economic growth of the member countries of the ASEAN.

1 Introduction

Although many definitions are made to clarify globalization term, one of the extensive one defines it as an irrevocable power affecting the world through progressive free flow of capital, services, goods, people and opinions which results in unification of societies and economies (IMF, 2002). Economic dimension of the concept refers to expanding interdependence of countries all over the world due to the rapid and wide spread of technologies, flow of international capital and increasing scale of cross-border trade of services and commodities. It also demonstrates ongoing mutual unification and extension of market boundaries, and it is an irrevocable flow for the economic development in the entire world (Shangquan, 2000: 1).

Countries have become more and more open to forces arising from outside their borders, in this era of rapid globalization which lead to a distinct experience of economic growth. The fact that they have responded so individually is proof enough that national policy decisions are the ultimate determinant of economic growth. Meantime, the countries which have leveraged the impact of globalization to their benefit are the successful ones (Rodrik, 2007: 2). The globalization process proposes that the challenges in accomplishing forthcoming prosperity and growth, especially for the developing ones, will persist to intensify regardless of the size of countries. From this point, although sometimes it is the counter of globalization concept, many countries are trying to get into regional trade agreements with neighbouring states to provide themselves some kind of strategic protection (Read, 2004: 365).

A lot of developing countries have made effort to stimulate their economic growth via following outward-oriented policies aiming to integrate into the global economy. Although many studies covering economic growth have dealt with the topic from technological knowledge, natural resources, human capital and physical capital perspectives, regarding the influence of globalization phenomenon on developing economies, the focus of this study is to examine the effect of globalization on economic growth.

In this context, whether political, social and economic dimensions of globalization have an impact on economic growth within ASEAN countries between 1970 and 2015 is dealt within the frame of the study. Firstly, globalization term and how it is related with economic growth is debated theoretically. In the second section of the study some information about ASEAN is given as it is the sample of the study. In the last section the effect of globalization on economic growth is tested empirically. Globalization data used in the analysis of the study is extracted from KOF Globalization Index and economic growth data is collected from national accounts database of UNCTAD. The results of the analysis proved a significant relationship between globalization and economic growth of the member countries of the ASEAN.

2 Globalization and Economic Growth

The process of globalization presented a fundamental transformation of economic life which resulted in capital, people, products and application of technical systems becomes more effective, increase in production, circulation of knowledge and the generalization of market economy (Dăianu, 2009: 211). In the global economy no countries are self-sufficient anymore and they participate in commercial relationships at various levels to sell their products to buy their needs. As mentioned by the traditional economic theory, the economies generally make production more competently in some economic sectors than trade partners of them (Rodrigue et.al., 2006: 144) as a result

international trade is flourished by the widening globalization after 1980s. Although some citizens of United States can't locate Beijing city of China on the map, they already consume devastating numbers of goods which were produced in that city. A report of Federal Reserve Bank of San Francisco issued in 2010 presented that nearly 35 percent of all shoes and clothing sold in the United States were indeed produced in China while the domestic ones are only 3.4 percent. Many economists admit globalization to be beneficial for individual economies all around the world by limiting military clashes, increasing competition, making markets more effective and spreading wealth around the globe more uniformly. Nevertheless, the opinion of general public is towards that in the short-term, the risks that globalization exposed exceedingly outweigh the benefits of it (Kuepper, 2017). These benefits and risk associated with the globalization can be summarized as follows;

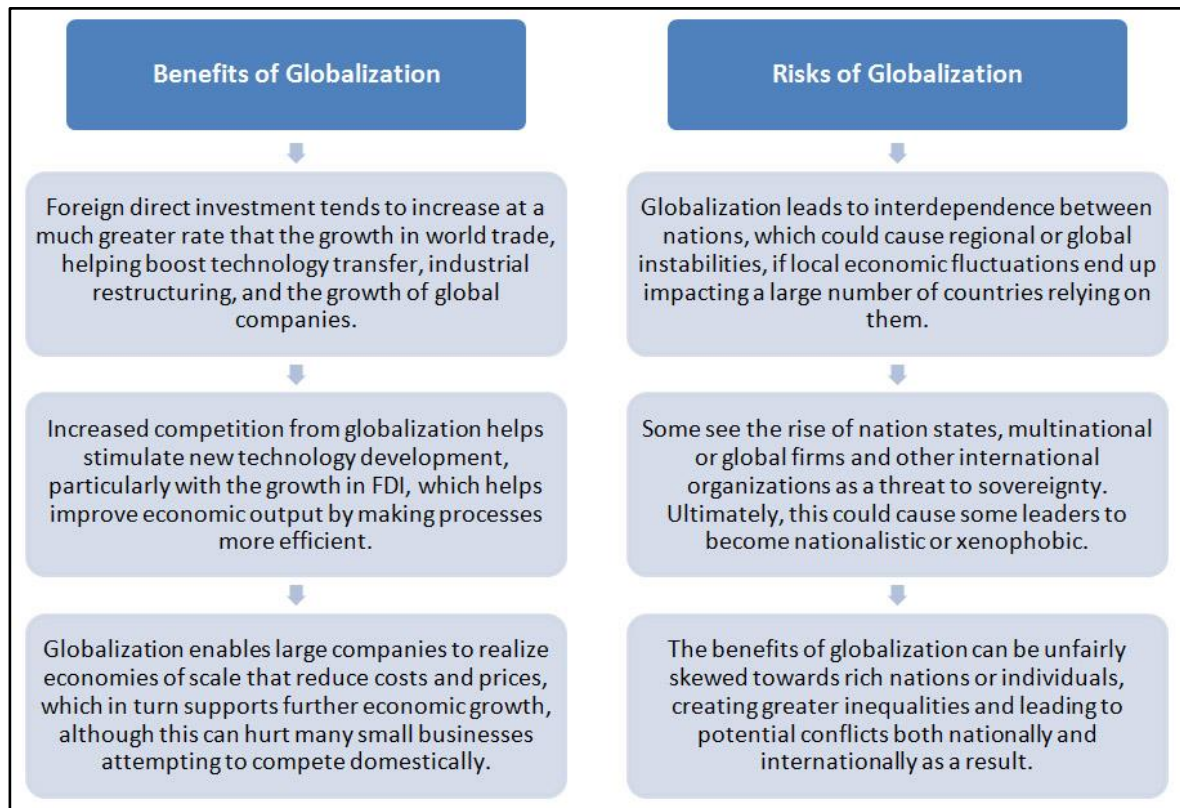


Figure 1. Benefits and Risks of Globalization; **Source:** Kuepper, Justin, 2017. *Globalization and its Impact on Economic Growth*, <http://www.thebalance.com/globalization-and-its-impact-on-economic-growth-1978843>.

Although the opinions on the topic is divergent, as seen in Figure 1, risks of globalization are mostly related with social and political issues while benefits are linked with economic ones. In the context of economic effects, the relevant dimensions are reliance and interaction between countries and other economic mediums in the world economy and the rise in the degree of international integration. Accordingly, in the economic meaning, globalization constitutes many different but related aspects (Read, 2004: 366) which can be summarized as follows:

- International trade is liberalized by the help of enhancing rules of GATT, tuning into WTO by 1995.
- The liberalization of exchange rate regimes and international capital flows which lead to rising flows of international capital and international capital mobility to increase in both forms of short and long term
- The broadening basis of universal production due to the industrialization process of developing countries such as the ones in Southeast Asia.
- Developments in communications technology, such as the rapid advancements in services and goods and flows of information.
- Multinational enterprises turning into the essential operator of capital flows and international economic activities as a result of the liberalization of international trade and investment rules.
- Rise in the international competition intensity both between nations and enterprises.
- The increase in the concentration of inter-firm competition in which lesser enterprises are taking part due to the growing entry barriers.

Given that the economic aspect of globalization is getting to the forefront, nowadays, many researchers are of the opinion that globalization's growth effects depend on the economic scheme of the economies in their globalization process (Samimi and Jenatabadi, 2014). The connection between economic growth and globalization is argued too much in the growth and development literature without being resolved. For now, theoretical growth studies are addressing a conflicting and ambiguous discussion on the relationship between growth and globalization. While some of the studies claim globalization to be harmful on economic growth of the countries which has weak political instability and institutions, others come up with positive effects through augmentation of capital, improvement in factor productivity, diffusion of technology and efficient allocation of domestic resources (Gourdon et.al, 2008). Optimistic aspect of the debate is presented in Figure 1 below.

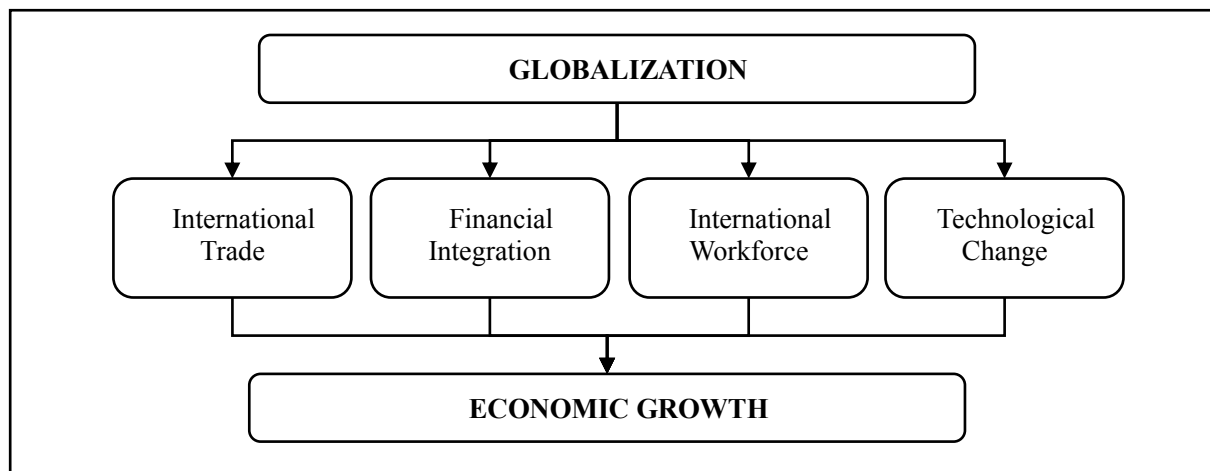


Figure 2. Globalization to Economic Growth Flow; **Source:** Husain, Ishrat, 2000. *Making Globalization Work for the Poor Case Study of Pakistan, EMP-CIDA Globalisation Project, Lahore University of Management Sciences, 1-28, p:2.*

As mentioned in Figure 2, although globalization flow towards economic growth includes financial integration, international workforce, international trade and technological change, it is remarkable that current movement of globalization is shaped by the increase in capital flows between developed countries and between developed and developing ones since 1980s. Although it's referred in economic literature comprehensively that these flows generally resulted with significant financial crises and collapse in growth rates in many developing countries some of these countries, such as the ones in South Asia region, achieved to obtain high growth rates thanks to this source (Prasad, 2005: 201). In this regards the scope of the following section will be the countries in that geography.

3 ASEAN Economic Cooperation

Southeast Asia presents one of the best examples of positive effect of globalization on economic growth of developing countries. New developing Southeast Asian countries revitalized the investments of domestic and foreign capital and input markets through positive state intervention in the market, orientation, coordination and incentives and have benefited well from international economic activities. It has been the development strategy of some of these countries to rely on domestic firms to acquire skills in workforce, technology and new products. Thus, the developing production infrastructure has attracted foreign capital and international companies to the region (Atalay and Turhan, 2002: 77-78).

Regional cooperation among ASEAN countries went through three turbulent periods since 1945. The first period, which took place between the end of the Second World War and mid-1950s was primarily on the type and nature of regional association for Southeast Asia which was governed by the ideological dominance of the Britain and U.S. Traditional colonial linkages and political realities within the region strained organization of an unified Asia. Singapore, Borneo and Malaya territories were still British colonies and Cambodia and Laos were under the control of France until 1954. During that time, while Burma was under the influence of India, Thailand and the Philippines were in favour of U.S. rather than Southeast Asia or Britain. On the other hand, Indonesia looked as if it was uninvolved in the region. The Far East (ECAFE) and Economic Commission for Asia and the Colombo Plan could be established despite to the dissociation in the region in this period however they both were dependent upon the two superpowers to a great extent (ASEAN Secretariat, 1997: 15).

In the following period, as a natural result of the globalization process and their coordination efforts resulted in establishment of some sounding organizations in the region. One of the most striking organization in the region is The Association of Southeast Asian Nations (ASEAN) which was set up in Thailand in 1967 with the ASEAN Declaration by the founders of ASEAN, namely Thailand, Singapore, Philippines, Malaysia and Indonesia in 1984 Brunei Darussalam, in 1995 Viet Nam, in 1997 Myanmar and Lao PDR and in 1999 Cambodia joined to the

organization forming today's ASEAN which is formed of ten countries (The Association of Southeast Asian Nations, 2017). The objectives of ASEAN are to advance cultural development, further social progress promote regional stability and peace and stimulate economic growth in the region (Ying et.al., 2014: 25).

In 1992, The ASEAN Free Trade Area (AFTA) was established, which included a Common Effective Preferential Tariff (CEPT) to improve the free flow of goods within the member states. Although the newcomers couldn't fully met obligations of AFTA, they are officially regarded as a part of the Trade Area as they were needed to sign the agreement at the time of entry into ASEAN. Therefore, longer time frames were given to them so that they can meet tariff reduction obligations of AFTA (The Association of Southeast Asian Nations, 2011). The 11th ASEAN Summit held in Kuala Lumpur in 2005 constituted an important stage in the development of the Organization. During the Summit, the Kuala Lumpur Declaration for the Preparation of the ASEAN Charter was signed, providing a legal and institutional framework for achieving ASEAN goals and objectives and the establishment of the ASEAN Community based on the three pillars: the ASEAN Socio-Cultural Community, ASEAN Political-Security Community and the ASEAN Economic Community (Türkiye Cumhuriyeti Dışişleri Bakanlığı, 2011).

If ASEAN was viewed as a single economic body, it would rank among the top ten economies in the world by means of GDP. Member countries of ASEAN achieved an average economic growth between 3.8% and 7% during 1989-2009 period and annual GDP growth in the top five member states of ASEAN is predicted by the IMF as 6.4% in 2010. Lately, by the end of 2015, ASEAN formed a common market by creating the AEC with the intention of establishing an economic integration in the region. As an organization accommodating a population formed of 600 million hardworking people, the growth possibility of the integration is great (Panennungi, 2011).

4 Literature Review

Ying et.al. (2004) examined both short and long term relationships between globalization and the growth in ASEAN countries using the data covering 1970 - 2008 period. They investigated the effect of both three categories of globalization and using panel cointegration tests, the global determinants of economic growth was taken into account within the scope of study. They analysed the data using panel fully-modified OLS to determine the elasticity of economic growth. The results of their study show that although economic globalization has a positive and significant impact on economic growth, political globalization has non-significant and negative effect and finally, social globalization has a negative impact on economic growth.

In his study, Dreher (2006) developed a globalization index incorporating economic, social and political integration as the three main dimensions of the globalization. He analysed the data of 123 countries covering the years between 1970 and 2000 using panel data. He tried to measure the effect of both overall index globalization and its dimensions on economic growth. The results of his analysis present that while over all globalization index promotes economic growth, economic flows are the most effective on economic growth in developing countries and political integration wasn't significantly effective.

Samimi and Jenatabadi (2014) carried out a study to examine the impact of economic globalization on economic growth in the countries of Organisation of Islamic Cooperation. They also questioned if the mentioned impact varies according to the income level of countries. They employed a generalized method of moments estimator as a part of approach of dynamic panel data. The results of the study present statistical evidence showing that economic globalization has a significant impact on economic growth in the countries of Organisation of Islamic Cooperation. They also prove that this impact is related with the income level of the country due to the rise in development level of financial system and workers' education.

Açıkgöz and Mert (2011) examined whether globalization had an effect on Turkey's economic growth process. In the study, they not only focused on the economic dimension of globalization, but they also took the social and political dimension into account. In the study, the globalization indices developed in Dreher (2006) were used to investigate the effects of globalization on economic growth in terms of political, social and economic dimensions in the context of causality analysis. Analyzes cover the period 1970-2008 and long-standing relationships between the series was investigated with the boundary test based on autoregressive distributed delay model (ARDL). Causality tests have not shown that there is any causal relationship from economic globalization to economic growth for the examined period in Turkey. Nevertheless, there is a causality relation from social globalization to growth.

Kılıç (2015) tested the impacts of political, social and economic dimensions of globalization on economic growth of developing countries. He analysed the mentioned effect using causality relationship using fixed effects least squares and Granger causality tests. He used the data of 74 developing countries in the study covering 1981 - 2011 period. The results of the study reveal that while the economic and political globalization has a positive impact on economic growth levels of the developing countries, social globalization on the other hand produces a negative effect. Furthermore, the results causality test presents a one way causality relationship between social globalization and economic growth a two way causality relationship between social globalization, political globalization and economic growth.

Doğan and Can (2016) investigated the relationship between globalization and economic growth using Engel-Granger cointegration test. The data analysed in the study covers KOF overall globalization, social globalization and economic globalization indices of South Korea for 1970-2012 period. The research results show that economic, social and overall globalization have positive effect on growth.

5 Model

The aim of this study is to analyse both with cross-section and time dimensions of different countries. Because the data set covered by the study has cross-section and time dimensions together, it is eligible to use panel regression analysis for the study.

5.1 Data Set

In literature, many different measures are seen to be used to evaluate the effects of globalization on economic growth. Capital account openness index, foreign direct investment, openness to trade, actual trade flows can be counted as some of these popular measures (Dreher, 2006: 1091). However, The KOF Index of Globalization introduced in 2002 which covers economic, social, and political facets of the theme, provides a more comprehensive way of measuring globalization by allowing evaluating more complex relations. In the KOF Index, the dimensions of globalization are highlights as follows (Dreher et al. 2009);

Economic Globalization	Political Globalization	Social Globalization
Long distance flows of services, capital and goods as well as perceptions and information that attend market exchanges	Spread of government policies	Expansion of information, ideas, people and images

Table 1. Dimensions of Globalization

In this regard annual globalization indices of KOF Swiss Institute including economic, political and social dimensions are used as the globalization variables in the analysis of this study. Annual GDP per capita (constant, 2005) data collected from national accounts database of UNCTAD is used as an indicator of economic growth. The collected data encloses all 10 ASEAN countries and 1970-2015 period.

5.2 Method

The variables used in the study have to be stationary to prevent spurious relationships between the variables. So that in the very beginning of the analysis, variables are tested for stationarity using common unit root process developed by Levin, Lin and Chu (LLC) (2002) and assume individual unit root process developed by Im, Pesaran and Shin (IPS) (2003). The results of the tests are presented in Table 2 below;

Method	Variable	GDP	EGLB	SGLB	PGLB
Levin, Lin & Chu	stat	-1.78019	-14.4816	-14.7409	-20.5453
	p-value	0.0375	0.0000	0.0000	0.0000
Im, Pesaran & Shin	stat	-3.82840	-14.9505	-13.6014	-18.4121
	p-value	0.0001	0.0000	0.0000	0.0000

Table 2. Panel Unit Root Test

The LLC and IPS test results display that while GDP variable is stationary at 5% significance level, EGLB, SGLB and PGLB variables are identified to be stationary at 1% significance level in their first difference and they are applicable for using in the panel data analysis. While years are the period dimension, the countries manifest the cross section dimension in the analysis. Individual effects of both years and countries have been estimated. So that these effects are outlined in equation 1 below. In the equation “i” units are individuals and “t”s are the periods.

$$GDP_{it} = \beta_1 EGLB_{it} + \beta_2 SGLB_{it} + \beta_3 PGLB_{it} \quad (1)$$

Test	Statistic	d.f.	Prob.
Redundant Fixed Effects	41.236496	(8,349)	0.0000
Hausman Test	11.452609	3	0.0095

Table 3. Estimation Tests

The equation is estimated with Redundant Fixed Effects and Hausman Tests, respectively for determining the suitable panel model. As the results of the tests show in Table 2. probability value of Fixed Effect test is below 0.5 value, the next estimation test is chosen as Hausman Test. As the Hausman Test also yielded $p > 0.5$ value, use of fixed effects model is suitable for the current data set, so that it is analysed with Panel EGLS Fixed Effects test in the following phase.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2136.160	670.7262	-3.184846	0.0016
EGLB	-525.9172	111.6459	-4.710584	0.0000
PGLB	-11.52430	56.28155	-0.204762	0.8379
SGLB	163.7139	17.34437	9.439022	0.0000
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.487513	Mean dependent var		3535.615
Adjusted R-squared	0.473168	S.D. dependent var		5408.304
S.E. of regression	3925.520	Akaike info criterion		19.41757
Sum squared resid	6.06E+09	Schwarz criterion		19.53620
Log likelihood	-3920.057	Hannan-Quinn criter.		19.46452
F-statistic	33.98618	Durbin-Watson stat		1.223123
Prob(F-statistic)	0.000000			

Table 4. Panel EGLS (Fixed Effects)

The results of Panel EGLS (Fixed Effects) test presented in Table 4 demonstrate that the overall results produced by the analysis are significant. However, when the variables are examined individually, while the relation between economic growth and economic and social dimensions of globalization are positive and significant, political globalization is found to have an insignificant relation. Finally, reliability of the results has been tested.

Wooldridge test for autocorrelation	F(1, 8)	Prob > F
	0.310	0.5927
Modified Wald Test for Heteroskedasticity	chi2(10)	Prob > chi2
	7.6	0.6679

Table 5. Autocorrelation and Heteroskedasticity Tests

Wooldridge Test for Autocorrelation and Modified Wald Test for Heteroskedasticity are performed respectively to check variance and autocorrelation problems. The tests rejected both heteroskedasticity and autocorrelation problems concluding that the results produced by the analyses are reliable.

6 Conclusion

Globalization term is explained with the developments such as deployment of nationalistic and local outlooks to a broader perspective of an interdependent and interconnected world with free transfer of services, goods and capital across national boundaries. It includes development of political, social and economic relations between the countries, better recognition of the beliefs and expectations of different societies and cultures and interrelated issues such as the intensification of international relations.

Globalization isn't a new concept however it's influence on the individual countries expanded its sphere rationally by 1980s. The economic consequences of globalization course led to rise in interdependence of the economies and proportion of cross-border trade of services and commodities increased exceptionally. Nevertheless these developments don't affect all economies of the world in the same way. While globalization process flourishes the industrialized economies with developed economic base well enough, the status of developing countries and less developed countries in this course changes from better to worse.

In this context, whether globalization is effective on economic growth in developing countries is a heated topic of interest. Regarding the fact that the countries in South Asia region achieved to obtain high growth rates because they could benefit well from globalization, the effect of political, social and economic dimensions of globalization on economic growth values of ASEAN countries for 1970-2015 period is dealt within the frame of the study. GDP and three dimensions of globalization variables of the ASEAN countries are evaluated using panel data analysis within the scope of study. The results of the analysis show that although overall globalization proved to have a positive and significant impact on economic growth of the member countries of the ASEAN when the variables are examined individually, while the relation between economic growth and economic and social dimensions of globalization are significant and positive, political globalization has an insignificant relation with economic growth.

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