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Human Development and Trade Liberalization A Comparative Study of Developing versus Developed Economies

Nigar Zehra[1]
Shaista Alam[2]

Abstract

The aim of this paper is a comparative study of developing versus developed countries regarding the relationship between human development and trade liberalization. Human development index is used as a measure of development (social development) it is a combined or composite measure of three main components which are education, healthy life, and a decent standard of living. For this purpose, we selected seven developing and seven developed countries and use the log form of trade openness (trade liberalization), HDI, population growth, economic growth (GDP) and inflation (CPI) for the period 2005-2012. Results of fixed effect technique reveal a positive and significant link of human development with trade liberalization and GDP and negative and significant effect of population growth for both sets of countries, while inflation has negative and significant effect on developed countries and showing insignificant effect on developing countries. These results showed that trade openness have same effects for both sets of countries.

Key Words: Human development; Trade liberalization; Population growth; Fixed effect; Economic growth; Inflation

Introduction

There is a major difference between human development and growth of an economy (Banik, 2009). Human development means achievement of good health, better education facilities and a good quality standard of living by the average citizens of the country. United Nations Development Program (UNDP) measures the development of a country by Human Development Index (HDI) which is an average of educational index, life expectancy index and income index of a country. It shows that development has an extensive concept than growth.

Therefore, for long run economic growth, it is necessary for a country to achieve economic growth and development both, the countries which overlook development but has good growth cannot achieve long run economic growth (Banik, 2009). Trade liberalization eliminates tariff and non-tariff barriers and encourages the free flow of export and import

1 Zehra is a Staff Economist/Lecturer at AERC University of Karachi
Email:nigar_zehra@yahoo.com

2 Alam is an Associate Professor at AERC University of Karachi
Email: shaista.aq@gmail.com

across countries. IMF in its 1990 report highlights that after implementing the trade liberalization policies, developing countries grew more rapidly as compare to developed countries in terms of their GDP because they paid high tariffs on agricultural and industrial products. It further stated that trade can produce major welfare gains by encouraging the allocative efficiency, increasing capacity utilization, attaining economies of scale in production and producing large number of products offered for consumption. Trade liberalization can expand the choices of people by growing the markets for different commodities and increase the level of employment. More jobs reduce income inequality and increase the income of poor. Hence, this rise in income leads to higher income available for spending on different social services and especially on education and health facilities.

IMF further in its 1990 report says that trade liberalization helps the industries of developing countries to become more competitive and efficient because of the easy excess to low cost of inputs which can be imported from foreign countries. Liberalization facilitates the industries in innovation and to produce commodities by using new technologies which increase their export demand. As export increases, it requires more labor to produce export items. In this way, it increases the employment in the industrial sector and thereby increases in income of the labor class that helps in raising their standard of living.

Trade liberalization encourages the inflow of foreign direct investment (FDI) and other capital inflows that lead to increase high competition, innovation and enhancing domestic firms to reduce cost of production. With greater trade and investment, developing countries can attain higher growth, generate more jobs, shrink poverty and increase the understanding, expertise, and efficiency of their labor force. Similarly, trade liberalization helps development by changing the prices which are faced by households for their major consumption items (Banik, 2009) that helps in increasing their purchasing power as well as standard of living. Hence, the elimination of trade barriers would induce the activities which are both labor and capital-intensive activities providing income, employment and knowledge for a huge segment of people, especially the poor. Hence, trade liberalization is good for both the developed and developing countries.

Theoretical Framework

The economic explanation for the hypothesis that trade liberalization encourages human development or the well-being of the economy is based on the theory presented by Adam Smith (1776) called 'Theory of Absolute Advantage'. In the theory, Smith argued that every nation would gain simultaneously if they practiced free trade and specialized in the production of the commodity in which they have absolute advantage and export it to other nations with the commodity in which they had absolute disadvantage. In this way, resources would utilize in the most efficient manner and increased the output of both commodities.

David Ricardo in his book entitled 'Principles of Political Economy and Taxation' published in (1817) extended the theory of 'Absolute Advantage' by incorporating the 'Theory of Comparative Advantage'. According to the theory, even if one nation has absolute disadvantage in the production of both commodities with respect to other nation, there is still the basis for mutually beneficial trade if nations would specialize in the production of and export those commodities in which the absolute disadvantage is smaller or have comparative advantage and import those commodities in which there absolute disadvantage is greater or have comparative disadvantage in the production of those commodities. In this way, the countries which are more open can catch easily the more efficient technologies from rest of the world and encourages efficient allocation of resources

through comparative advantage and increases the competition in domestic and international market.

On the other hand, endogenous growth theory of Paul Romer, 1986 has also supported the positive effects of trade liberalization on HDI through growth because trade openness gives exposures to innovation incentives, technology flow and spread of knowledge. Similarly, endogenous productivity and monopolistic competition trade models with heterogeneous firms also provide theoretical support for a positive effect of trade openness on growth. The theory explains that growth boosts with trade liberalization because the less efficient firms exit from the country and transportation cost also reduced. Similarly, Heckscher Ohlin Theory (1920) also supports hypothesis of the study as a country should export the commodity which intensively used the factor in which the country has factor abundance and so on.

All the above theories provide strong evidence that trade liberalization effects on the growth of economy positively which in turn increases the per capita income and standard of living that is a key indicator to encourage education and health expenditures and thereby boost the HDI of the country. The study chose HDI because there are three approaches through which the study measures the wellbeing or development i.e. the neo-liberalism approach according to which wellbeing can be measured by maximum utility (GDP per capita); the basic-needs approach that measures the economic wellbeing on the basis of the availability of food and water; and the human development approach or HDI approach that measures wellbeing of the economy on the basis of the availability of education and health facilities and good standard of living (e.g. literacy, life expectancy, and gross national income (GNI) per capita).

The given three approaches of HDI claim to broaden the dimension of human development as compare to measure by the first and second approach. Similarly, HDI is acknowledged as a standard measurement of social development or well-being by all three Bretton Woods Institutions (IMF, WTO and The World Bank). Human development of an economy is also affected by the endogenous factor of population growth. If there is a quantitative growth of population, it becomes a burden on the economic and social growth of any economy and become a measure cause of poverty, reduces the standard of living especially in developing countries while the qualitative growth of population can help in encouraging the development of the country. Hence, HDI of the country can only boost if the population of the country is educated and healthy.

Economic growth does improve human development. Economic growth is necessary in developing countries for the reduction in poverty, better provision of social services and building capabilities of people to encourage human development. As economic growth of any country increases, it helps in increasing income of the country and then increases the standard of living of its population**.** Standard of living is a sign of economic welfare also explains the quality of life of the population in a country. With high living standard of people can able to fulfill their basic requirements easily like food, clean water, education and better place to live.

Inflation also plays an important role on human development or social wellbeing of any economy through its impact on standard of living. Inflation has a negative impact on the standard of living as it reduces the purchasing power of the population (Osiakwan & Armah, 2013). The reduction in purchasing power increases poverty and reduces the household

expenditure on health and education as the prices of medicines, books and other consumption items increased and worsens the development or HDI of the country.

Review of Literature

There are different studies exist on the issue regarding how trade liberalization effects human development indicators with varied results. Ahmad and Luqman (2012) focusing on trade liberalization, human development, poverty, income inequality, and political stability regarding Pakistan suggested on the basis of ordinary least square (OLS) method of estimation that there is a negative relationship between trade liberalization and poverty while population growth and income inequality increases poverty. Hamid and Amin (2013) analyzed the impact of trade on human development of OIC countries using the technique of generalized method of moments (GMM) in a panel data of 1980-2009. In their study, they distinguish the trade effect on HDI with income and HDI without income and found that there is a significant positive effect of trade on HDI across countries but there is a insignificant effect of trade on HDI without income means trade is only effect the HDI through income channel, while it does not affect the other components of HDI.

Fatah et al., (2012) observed the growth rates of Malaysia, China, and Indonesia and studied the relationship of openness, life expectancy at birth, political rights, civil liberties, human development and foreign direct investment with economic growth. On the basis of least square quantitative technique, the study found that life expectancy, openness, foreign direct investment, and political freedom are significant determinants and had positive effects on growth in China, Indonesia and Malaysia during the year 1980-2005. The study also reveals that human development is also positively related to economic growth.

Ejaz (2010) used the time series data of Pakistan from 1973-2009 and examined the causality between trade growth and poverty and found that there is a bidirectional relationship exist among poverty and growth in long run but growth improve trade in short run but there is no relationship between growth and poverty in short run.

Gunduz, Hisarciklilar, and Kaya in their study employed a panel data of 106 countries revealed that the positive link between trade and human development only for high and medium income countries. While the positive link between trade and human development diminishes in lower-medium income countries when only non-income components of the index are taken into consideration.

Rigobon and Rodrick examined the link between openness, income, rules of law and democracy. On the basis of OLS models and GMM found that openness has positive effects on income level but t-statistic values are relatively lower. Although they found negative relationship between democracy and openness, positive relationship between openness and rule of law was found by GMM model.

Nourzad and Powell performed panel data analysis for forty seven developing countries for the time period 1965 to 1990 and found that there is a positive effect of openness on HDI and real GDP. They used different measures of openness like total trade volume over GDP, Dollar's openness index, and black market premium.

Li (2003) analyzed the impact of economic openness and democracy on income inequality. They used GINI coefficient as a measure of income equality and trade flows, foreign direct investment inflows, and financial capital inflows are used for economic openness. The study used pooled time series analysis for 69 developing and least developed

countries covered the period of 1960 to 1996. The results showed that trade openness raises income inequality in developed countries and shrinks income inequality in LDCs.

Eusufzai calculated the Pearson correlation coefficients between different types of HDIs for different types of country group and Dollar's openness Index and found positive and higher correlation among openness and HDI.

Objectives of the Study

The general objective of the study is to examine the relationship between human development and trade liberalization in developing and developed economies. However, the specific objectives of the study are to investigate the effects of population growth, economic growth and inflation on human development for both developed and developing economies, and also to suggest useful policy implication to improve HDI through trade.

Significance of the Study

The significance of the study is that it focused on the comparative study on human development and trade liberalization in developing versus developed countries using the control variables of economic growth, population growth and inflation that are not taken before. Besides, in most of the studies, it is found that there are only for developing countries and the countries selected by the study were not analyzed before. Similarly the study is different from other as HDI is used as a measure of poverty in most of the studies while the study used HDI as a composite measure of human development. It provides a better knowledge to understand that how trade openness or liberalization effects human development in developed and developing countries by using a panel effect technique.

Sources of Data and Model Used

The key purpose of the study is to look at the relations between human development and trade liberalization using the control variables economic growth, population growth rate and inflation. The study used the annual data of all variables. Data for trade liberalization (TL), Human Development Index (HDI) as a measure of human development, population growth rates (POP), Gross Domestic Product (GDP constant 2005) and Inflation (CPI) for the period 2005 to 2012 drawn from World Development Indicators for seven developed and seven developing countries.

The study used to analyze the panel data of HDI and trade liberalization of seven developing countries (Afghanistan, Bangladesh, Bolivia, India, Indonesia Nepal, and Pakistan) and seven developed countries (Austria, Belgium, France, Italy, Luxemburg, Norway, and United Kingdom). The selection of the countries is based on the availability of HDI data.

The model used by the study is as follow:

$lnHDI_{it} = \beta_{0t} + \beta_1 lnTL_{it} + \beta_2 lnPOP_{it} + \beta_3 lnGDP_{it} + \beta_4 lnCPI_{it} + v_{it}$ … (1) for developing countries

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Where, 'I' shows countries and 't' shows time period from 2005 to 2012

Where, HDI = (Education Index + Health Index + Income Index) /3 (UNDP Methodology)

TL = Percentage of total trade to GDP ratio = (Export +Import)/GDP *100

POP = population growth rate

GDP = Gross Domestic Product (GDP constant 2005) and

CPI = inflation

The logarithm form of all the variables is used to show the relationship.

Panel Fixed Effect Technique

If we run the pool regression on both data sets separately then we get the same intercept and slope values for all countries. Hence, it distorts the correct picture of the relationship between the dependent and independent variables across the countries and also captures the heterogeneity or omitted variable bias. Hence, for the two data sets of developed and developing countries a fixed effect panel data analysis is most suited because time period is greater than number of countries. Hence, the study performed fixed effect analysis.

By using fixed effect, the study takes into account the individuality of each country. For developing countries, the study used fixed effect by varying the intercept of each country with time that means intercepts are time variant but keeping constant the slope coefficients across countries (as shown in eq no. 1). This method controlled the unobserved heterogeneity. The fixed effect coefficients wipe out all the across country action and diminished the risk of omitted variable bias. Because fixed effects models depend on within group action. Hence, the estimated coefficients of fixed effect models are not biased.

For developed countries, the individuality of each country is considered by varying the intercept of each country but keeping constant time and the slope coefficients (as shown in eq. no. 2) that also controlled the unobserved heterogeneity and the estimated coefficients of fixed effect models are not biased.

Empirical Results

The descriptive statistics is determined for all the variables for both developing and developed countries and results are revealed in appendix-I. The results of fixed effect are below:

Table 1: Panel Fixed Effect Results for Developed Countries

Variables	Coefficients	t-values	Standard error
Intercept	2.949	4.613	0.639
ln Openness (TL)	0.033	2.217	0.015
ln Population Growth	-0.005	-2.837	0.001
ln GDP	0.077	3.127	0.024
ln Inflation	-0.149	-4.679	0.032

Effects Specification Cross Section and Period Fixed Dummy Variables

R-squared	0.991	Mean dependent var	4.482
Adjusted R-squared	0.987	S.D. dependent var	0.026
S.E. of regression	0.002	Akaike info criterion	-8.538
Sum squared resid	0.000	Schwarz criterion	-7.887
Log likelihood	257.087	Hannan-Quinn criter.	-8.286
F-statistic	255.454	Durbin-Watson Stat	0.944
Prob (F-statistic)	0		

Table 2: Panel Fixed Effect Results for Developing Countries

Variables	Coefficients	t-values	standard error
Intercept	4.515	3.614	1.249
ln Openness (TL)	0.235	3.542	0.066
ln Population Growth	-0.201	-3.989	0.050
ln GDP	0.031	3.296	0.009
ln Inflation	-0.268	-0.977	0.274

Effects Specification Period Fixed Dummy Variables

R-squared	0.478	Mean dependent var	4.000
Adjusted R-squared	0.347	S.D. dependent var	0.141
S.E. of regression	0.114	Akaike info criterion	-1.307
Sum squared resid	0.577	Schwarz criterion	-0.873
Log likelihood	48.599	Hannan-Quinn criter.	-1.138
F-statistic	3.663	Durbin-Watson stat	0.065
Prob(F-statistic)	0.000		

Table 1 shows panel fixed effect results for developed countries and table 2 shows panel fixed effect results for developing countries. On the basis of above results, it is seen that there is a positive and significant link between trade liberalization and HDI both for developing and developed economies showing that trade liberalization is necessary for human development because more open economy provide different opportunities of jobs to both skilled and unskilled labor which reduces the unemployment and increases standard of living so that people have more money to spend on their health and education.

But there is a negative and significant impact of population growth on human development for both economies but it is much severe for developing countries. As the population growth increases it creates burden both at micro and macro level and reduces the expenditures on health and education. The results show that economic growth positively and significantly impact the human development in both economies, because good economic growth encourages the standard of living of population and in turn increases their welfare. The results also showed that there is an inverse relationship between human development and inflation in both economies but significant for developed economies and insignificant for developing. It explains that inflation increases poverty and reduces the expenditure on health and education which are the key elements of human development.

Conclusions and Policy Implications

The purpose of this study is to analyze the impact of trade liberalization (trade openness), population growth, economic growth and inflation on human development in case of sample of developing and developed economies after evaluating the panel data of seven developed and seven developing countries found that there is a positive relationship between trade liberalization (openness) with human development in both developed and developing countries. To achieve the objectives, the study collects the data of HDI, population growth, GDP and CPI for the period 2005 to 2012 and apply fixed effect technique and concluded that openness has a significant and positive effect on both developing and developed countries, while the impact of other control variables like population growth and GDP also have the significant effect and their signs are according to the theory in both developed and developing countries. Only inflation has an insignificant effect on HDI for developing countries but significant and negative impact for developed nations.

Therefore, according to the results of the study, policy makers should adopt trade liberalizing policies because free trade has many spillover effects and it creates new job opportunities for labor and also increases the income of poor, and these increased incomes are the basic instruments to achieve quality education and health.

Moreover, trade itself directly provides the flow of resources which are used to provide health and educational services and used to build infrastructure for roads, ports and water supply that helps to upgrade human development situation in a country. Trade provides greater market access for the export of agricultural and non-agricultural commodities of developing countries which is very important to facilitate them from the benefit of trade liberalization. Beyond trade liberalization, another important policy for developing countries is to develop industrial sector. Educate their labor force which is the big hurdle in industrial development because developing countries have labor intensive industries.

There is a need of product diversification and value added commodity production to attract export by developing countries and develop their manufacturing sector to encourage export of manufactured commodities. Developing and developed countries should develop such type of programs which increases the literacy rate, control population and open health center to provide health facilities to encourage their HDI.

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Appendix - I
Descriptive Statistics for Developing Countries

Variables	LNHDI	LNTL	LNPOP	LNGDP	LNCPI
Mean	-0.604253	3.916647	0.459515	24.85875	4.487837
Median	-0.622689	3.847804	0.382960	25.17957	4.512054
Maximum	-0.384193	4.652649	1.324072	27.96293	4.810198
Minimum	-0.926341	3.467979	-0.001443	22.55985	4.013080
Std. Dev.	0.141893	0.297700	0.327225	1.800957	0.201467
Skewness	-0.194186	0.597372	0.787814	0.231965	-0.286877
Kurtosis	2.396002	2.676060	2.799185	1.636122	2.109029
Jarque-Bera	1.203177	3.575487	5.886844	4.842584	2.620386
Probability	0.547941	0.167337	0.052685	0.088807	0.269768
Observations	56	56	56	56	56

Descriptive Statistics for Developed Countries

	Log likelihood		257.0872		
	Hannan-Quinn criter.		-8.286435		
	F-statistic		255.4548		
	Prob (F-statistic)		0.000000		
	Durbin-Watson stat		1.079410		
Variables	LNHDI	LNTL	LNPOP	LNGDP	LNCPI
Mean	-0.123165	4.528330	-0.345220	27.06455	4.573807
Median	-0.130109	4.253334	-0.340429	26.74446	4.582830
Maximum	-0.058689	5.866195	0.876111	28.56615	4.676863
Minimum	-0.161343	3.819614	-1.760387	24.33357	4.436362
Std. Dev.	0.026594	0.632486	0.597137	1.384383	0.056995
Skewness	1.444553	0.991863	-0.047761	-0.611614	-0.189829
Kurtosis	4.030569	2.695604	2.591290	2.376825	2.318829
Jarque-Bera	21.95434	9.398263	0.411059	4.397473	1.418978
Probability	0.000017	0.009103	0.814216	0.110943	0.491895
Sum	-6.897254	253.5865	-19.33230	1515.615	256.1332
Sum Sq. Dev.	0.038897	22.00210	19.61149	105.4083	0.178664
Observations	56	56	56	56	56