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How do Poverty and Income Inequality affect Economic Growth in Developing Countries?

^a Hamza Saleem, ^b Fatima Farooq, ^c Muhammad Aurmaghan

^a Ph.D Scholar, School of Management, University of Science and Technology of China, Hefei, China

Email: economist@mail.ustc.edu.cn

^b Associate Professor of Economics, Bahauddin Zakariya University Multan, Pakistan

Email: fatimafarooq@bzu.edu.pk

^c Ph.D Scholar, School of Economics, Bahauddin Zakariya University, Multan, Pakistan

Email: aurmaghan.khan@gmail.com

ARTICLE DETAILS	ABSTRACT
History: Accepted 22 May 2021 Available Online June 2021	<p><i>The major objective of this research is to examine the relationship between poverty, income inequality and economic growth from some selected developing countries. This study uses panel data for the period of 2002-2015. All the data is taken from world development indicators (WDI). To find out the results, we have used Hausman test an econometrics technique for panel data in this research. The results of the study indicate that poverty and income inequality have a negative impact on economic growth on the other hand Gross capital formation, labor force, total population and government consumption and expenditure have a positive impact on economic growth. The result tells us that changes in these variables have a significant and positive effect on the dependent variable. To achieve the goal of economic growth developing countries should reduce poverty and take meaningful steps to overcome the problem of inequality in the society which can be very helpful in achieving the goal of economic growth.</i></p>
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Corresponding author's email address: fatimafarooq@bzu.edu.pk

1. Introduction

To achieve the goal of economic growth employment opportunities must be increased, reduce poverty, increase foreign investment, equal distribution of wealth, and to control inflation in the country. According to the World Bank report, the poverty level is reduced around the globe since 1980's. Many countries take serious steps to get rid of poverty and income disparity but still millions of people live below the poverty line in different countries of the world. More poverty is reduced in middle-income countries as compared to low-income countries. Many countries of the world still facing the problem of poverty especially in Africa, but some countries achieve the goal of economic

growth like China. Millennium Development Goal to reduce poverty is not achieved in many developed countries. Many other issues such as increasing education level, gender equality, reducing infant mortality, to provide basic health facilities, are big issues for underdeveloped countries. To attain the purpose of economic development poverty must be reduced and increase income disparity in the country. Bretton Woods's agreement is important to attain the goal of economic development and to reduce poverty and disparity in different parts of the world. Serious steps are taken by the country to promote international trade, and flexible exchange rates to remove barrier from trade and to increase exports for the country. Due to these policies foreign direct investment increase in the country which is helpful to reduce poverty in the country.

Poverty increases when basic facilities of life such as food, health, education and shelter are not available to the people. Government must take serious steps to increase these basic facilities to improve the living standard of the common people in different parts of the world. In 1990 UNDP start a reform to increase these facilities which are helpful to increase the living facilities and to reduce poverty in different parts of the world. Human Poverty Indices (HPIs) are started to fulfill the basic needs of the people. The main objective of HPI is to measure the life of a newly born child, second the education level and third is to provide clean drinking water. Developed countries and other donors provide funds for this purpose to increase the basic facilities to the people of underdeveloped countries.

Poverty is one of the severe issues because different countries are affected due to this. Governments of different countries take the step to reduce poverty and increase the living standard of the people. The investment must be increased in basic facilities such as education, health, safe drinking water and to provide better facilities of life to the poor people living in the country. Many developing countries take serious steps to reduce poverty from their countries which are helpful in increasing the economic growth of the country. Developing countries cannot achieve the goal of economic growth without reducing the poverty of the country. Some southeast Asian countries perform well to reduce poverty in their country. China reduces poverty and achieves the goal of economic growth. Many underdeveloped countries use modern technology to increase the living standard of the common people in the country. The dynamics of every country is changing depending upon regional integration.

Various studies have been carried out to examine the association among poverty, income disparity and economic growth in some selected countries. There are several factors that affect the economic growth process in different countries. Poverty must be reduced to attain the goal of economic growth.

Fields (1989), Mehmood and Tahir (1984) used the Lorenz curve to measure the distribution of income in developing countries. The finding of the research shows that there is no association found between disparity and national income.

Gagliani (1987), Sadoulet and Janvry (2000), Jamal (2003), Nel (2003) Perera and lee (2013) examine that economic development is helpful to reduce poverty in different parts of the world. Institutional quality play's vital role in decreasing poverty, income disparity and increase in economic growth.

Gafar (1998), Ahmad et al. (1990), and Contreras et al. (2001) found a close link between disparity, poverty, and economic growth in developing countries. Per Capita income is directly linked

with HDI and poverty reduction. The findings show that green revaluation is possible with the help of modern technology. On the other hand, education plays a vital role in poverty reeducation in the developing world. Result also shows that government takes steps to sport poor people in the country and to increase the living standard of the people which is helpful in the economic development in the developing world.

After the comprehensive discussion of past literature, the current study concludes three considerable impacts to the literature on poverty, disparity, and economic growth association. Even though there have been several previous kinds of research on this issue, but there seems to be limited comprehensive cross-country analysis between both the developing and developed economies. Fosu (2010) examined the effect of economic growth on poverty between the Middle East and North Africa (MENA), Eastern Europe and Central Asia (EECA), Latin American countries (LAC), South Asia (SAS) and Sub-Saharan Africa (SSA) but the present study implies the influence of poverty on economic growth. This study also evaluates the association between income disparity and economic growth among twenty-six developing countries.

2. Methodological Issues and Description of the Variables

In this research, we used panel data. 364 observations are included in this research from the year 2002 to 2015. The data from 26 different developed and underdeveloped countries have been estimated in this research. The data is obtained from world development indicators.

2.1 Model Specification

The main objective of this research is to find out the impact of poverty headcount ratio and Gini index on economic growth.

$$GDP = f(GCF, LFT, EGS, IG, GI, PHC, FDI, AVD, IVD, SVA, GC, PT)$$

A linear model is used to find out the relationship among these variables. The model shows changes in the dependent variable with respect to independent variables.

$$GDPC_{it} = \alpha_0 + \alpha_1 GCF_{it} + \alpha_2 LFT_{it} + \alpha_3 EGS_{it} + \alpha_4 IG_{it} + \alpha_5 GI_{it} + \alpha_6 PHC_{it} + \alpha_7 FDI_{it} + \alpha_8 AVD_{it} + \alpha_9 IVD_{it} + \alpha_{10} SVA_{it} + \alpha_{11} GC_{it} + \alpha_{12} PT_{it} + \mu_i$$

Where,

GDP as economic growth, GCF = gross capital formation, LFT = labor force total, EGS = export of goods and services, IG = import of goods, GI = Gini index, PHC = poverty head count, FDI = foreign direct investment, AVD = agriculture value added, IVD = industry value added, SVA = services value added, GC = general government consumption, PT = population total, and μ_i = error term.

2.2 Description of the Variables

In this section, we will discuss the variables related to poverty, disparity and economic growth. The explanation of these variables as follows.

GDP at current US dollar

Gross domestic product is considered as the most important variable to measure the performance of the countries, so in this research we consider the market rate of all the final goods and services manufactured in a country.

Gross Fixed Capital Formation (GCF)

This is another important variable of this research. In this variable, we consider all the capital expenditure made in the country such as expenditure on the construction of new roads, new hospitals, construction of new factories, purchase of advance technology, construction of new housing schemes, and all other expenditure which is made of the long term assist of the country.

Labor Force Total (LFT)

The labor force is considered as the backbone of the country. If the labor force is skilled, they can utilize their abilities well as compare to the unskilled labor force. All the labor force is included in the labor force total those who are working in an urban and rural area. Both the jobless, and workers are included in the workforce.

Export of Goods and Services (EGS)

Another important variable of this research is the export of goods and services. Export of goods means all the goods and services the resident of the country sends to another country. All the exports of goods and services are measured in current US dollars.

Import of Goods (IG)

The import of goods is considered as the independent variable in this study. Import of goods means that all the goods and services we get from the foreign country. The person who is involved in these activities is called the importer. International trade is helpful to fulfill the local needs of the people.

Gini Index (GI)

The Gini index is considered the most important variable of this research. With the help of the Gini index, we measure the distribution of income patterns of the people. The range of the Gini index is between 0 to 1. When a figure is 0 it is considered as perfect equality and on the other hand, 1 represents perfect disparity.

Poverty Head Count Ratio (PHC)

With the help of the poverty headcount ratio, we can easily measure the population living below the poverty line. All the data is obtained with the help of a household survey. Poverty is the most important variable used in our research.

Foreign Direct Investment (FDI)

Foreign direct investment means the investment made by foreigners in another country directly or through existing business. Investment may be in the real estate business or in regulatory interest in a foreign company.

General Government Consumption Expenditure (GC)

Another independent variable is the general government consumption expenditure used in this research. The main objective of government expenditure is to provide better facilities of life to the general public of the country. The main objective of every government is to provide all the basic facilities to the common people of the country.

Population Total (PT)

Population total is considered as the independent variable in this research. The population of

the country is very important because resources are not equally distributed if an exact population is not known. To collect the total population census is conducted in the country. Census provides the exact number of people living in the country.

All the variables having the same units of constant united states dollars and are aggregated on annual basis.

3. Results and Discussions

The descriptive analysis gives us detailed information about the mean, median, maximum value, minimum value and standard deviation.

Table 1: Descriptive Statistics

	Gross Domestic Product	Gross Capital Formation	Labor Force	Poverty head count	GDP Deflator	GINI Coefficient
Mean	238,000,000,000	51,700,000,000	20,287,860	24.77	43,385,543	38.86
Median	62,200,000,000	14,600,000,000	5,077,773	20.15	10,260,157	37.33
Maximum	2,610,000,000,000	538,000,000,000	124,000,000	83.30	258,000,000	60.16
Minimum	1,280,000,000	188,000,000	243,762	1.50	609,828	23.72
Std. Dev.	444,000,000,000	93,800,000,000	31,061,283	16.44	65,185,959	9.85
Skewness	3.25	3.07	1.93	1.02	1.82	0.33
Kurtosis	14.21	12.80	5.59	3.33	5.08	1.96

Source: Author's calculation based on E-views a computer software.

Table 1 gives us a detailed description of the different variables used in this research. The descriptive analysis shows that the mean value of GDP is 238,000,000,000 maximum values is 2,610,000,000,000 on the other hand minimum values are 1,280,000,000 there is a large gap between maximum and minimum value, std. dev is 444,000,000,000 which show large divergence.

The average for gross capital formation is 51,700,000,000 with standard deviation of 93,800,000,00. The labor force is 20,287,860 with standard deviation of 31,061,283. The poverty headcount is 24.77 with a standard deviation of 16.44. The GDP deflator is 43,385,543 with standard deviation of 65,185,959. The Gini coefficient is 38.86 with a standard deviation of 9.85.

3.1 HAUSMAN TEST

Fixed Effect- Hausman test

Cross section fixed effects

Test summary	Chi-Square d.f	Chi-Square. statistics	Probability
Cross section random	5	34.533	0.000

Source: Author's calculation based on E-views a computer software.

The Hausman test gives information about the probability value which shows that the probability value is less than 5 percent. The value is significant so in this case, we accept an alternative hypothesis that tells us about the fixed effect model.

Now we apply the fixed effect model to obtain the results.

3.2 Fixed Effects

Dependent variable: GDP

Sample: 2002-2015

Cross section included: 26

Total panel (balanced) observation: 364

Table 2: Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic
LLFT	0.017571	0.049046	0.358248
LGCF	0.731233*	0.017037	42.91975
LGI	-0.765496*	0.142504	-5.371744
LPT	0.308706**	0.155347	1.987200
LPHC	-0.080102*	0.019444	-4.119671
C	5.466946**	2.447120	2.234032
R ²	0.995909	F-statistic	2686.092
Adjusted R ²	0.995538	Prob (F-statistic)	0.000000
Source: Author's calculation based on E-views a computer software.			
Note:	* Significant at 5 percent	** significant at 5 percent	***significant at 5 percent

Table 2 gives us detailed information of empirical examination of different variables used in this research. All the values are obtained in the current US \$. The result shows that a 1 percent increase in LLFT increases the GDP by 0.017 percent. The probability value is greater than 0.10. The result of this variable is insignificant. On the other side, LLFT has a positive effect on GDP.

The value of LGCF shows a 1 percent rise in gross capital formation 0.73 percent rise in GDP. The probability value is less than 0.10. overall this variable is significant. There is a positive relationship exists between gross domestic product and LGCF.

The result of LPHC shows that the coefficient value is -0.08 which shows that there is a negative relationship between LPHC and gross capital product. There is a negative impact on GDP. The probability value is less than 0.1. The results are according to the previous research.

Now in the case of LPT, the result shows that 1 percent in total population increase the 0.30

percent in GDP economic growth. Here, a positive association exists between population total and economic growth. The value of probability is less than 0.1 percent. The result of this variable is significant which is helpful for economic growth.

The result for the Gini index shows that a 1 percent increase in the Gini index decreases the GDP by 0.76 percent. There is a negative relationship exist among the Gini index and economic growth. The result is according to the previous research. The probability value is 0.10 percent.

3.3 Dumitrescu Hurlin Panel Causality Test

The main objective of this test is to check the causality that exists between different variables. There are two types of causality exist bi-directional causality and uni-directional causality. The causality shows the ability of one variable to effects the other variable. Some time no causal relationship exists in the variable. Dumitrescu Hurlin penal causality is used to check the causal relationship between different variables. The results of the panel causality test are given in table below.

Table 4: Pairwise Dumitrescu Hurlin Panel Causality Test

Null Hypothesis:	W-Stat.	Z-Bar-Stat.	Prob.
LGCF does not homogeneously cause LGDP	1.25	0.01	0.99
LGDP does not homogeneously cause LGCF	1.59	0.80	0.43
LLFT does not homogeneously cause LGDP	2.06	1.90	0.06
LGDP does not homogeneously cause LLFT	3.49	5.24	0.00
LGI does not homogeneously cause LGDP	1.20	-0.11	0.91
LGDP does not homogeneously cause LGI	3.75	5.86	0.00
LPHC does not homogeneously cause LGDP	1.82	1.33	0.18
LGDP does not homogeneously cause LPHC	4.43	7.47	0.00
LPT does not homogeneously cause LGDP	2.07	1.91	0.06
LGDP does not homogeneously cause LPT	12.48	26.32	0.00
LLFT does not homogeneously cause LGCF	2.04	1.85	0.06
LGCF does not homogeneously cause LLFT	4.27	7.06	0.00
LGI does not homogeneously cause LGCF	0.90	-0.82	0.41
LGCF does not homogeneously cause LGI	3.35	4.92	0.00
LPHC does not homogeneously cause LGCF	1.87	1.45	0.15
LGCF does not homogeneously cause LPHC	3.39	5.04	0.00
LPT does not homogeneously cause LGCF	3.20	4.57	0.00
LGCF does not homogeneously cause LPT	17.97	39.19	0.00
LGI does not homogeneously cause LLFT	1.94	1.60	0.11
LLFT does not homogeneously cause LGI	2.78	3.59	0.00
LPHC does not homogeneously cause LLFT	2.15	2.10	0.04
LLFT does not homogeneously cause LPHC	3.67	5.66	0.00
LPT does not homogeneously cause LLFT	4.56	7.76	0.00
LLFT does not homogeneously cause LPT	5.82	10.71	0.00
LPHC does not homogeneously cause LGI	2.42	2.74	0.01
LGI does not homogeneously cause LPHC	2.91	3.89	0.00
LPT does not homogeneously cause LGI	3.55	5.39	0.00
LGI does not homogeneously cause LPT	3.34	4.88	0.00

LPT does not homogeneously cause LPHC	3.61	5.52	0.00
LPHC does not homogeneously cause LPT	10.04	20.60	0.00

Source: Author's calculation based on E-views a computer software.

3.4 Explanation of causality between the different variables

The outcome of DH causality reveals that bi-directional causality exists among gross capital formation and GDP. The result tells us that both variables affect each other because bi-directional causality is considered in underdeveloped nations.

There is also bi-directional causality exist among GDP and labor force. The probability value is 0.06 percent which shows it is significant. This shows that both the variable homogeneously causes each other.

The result show, that in case of LGI does not homogeneously cause LGDP. But on the other hand, LGDP homogeneously causes LGI. The result shows that one, directional causality exists between LGDP and LGI. The probability value of LGI is 0.91 which is insignificant.

One directional causality, exit among LPHC and GDP. The result indicates that LPHC does not homogeneously affect the LGDP. On the other hand, LGDP homogeneously causes LPHC. The probability value of LGDP is 0.18 which is insignificant.

In the case of population total and GDP there is bi-directional causality exists among LPT and LGDP. The probability value of both the variable is significant. Both the LPT and LGDP homogeneously cause each other.

There is also bi-directional causality that exists among GCF and the labor force. The probability value of both the variable remains significant. Both the LLFT and LGCF homogeneously cause each other.

The result shows that one, directional causality exists between LGI and LGCF. It shows that the Gini index does not homogeneously cause LGCF. On the other hand, LGCF homogeneously causes LGI.

In the case of PHC ratio and LGCF does not homogeneously affect each other. There is a one-directional relationship exist between the poverty headcount ratio and LGCF. On the other hand, LGCF homogeneously causes LPHC.

The result shows a bi-directional causality exit between LPT and LGCF. The probability of both the variable is significant. LPT and LGFC both homogeneously cause each other.

On the other hand, LGI and LLFT one-directional causality exist in both these variables. LGI does not homogeneously affect the LLFT. But LLFT homogeneously causes LGI.

In the case of LPHC and LLFT bi-directional relationship exists among both these variables. Both the LPHC and LLFT homogeneous cause each other. The probability value show both the variable is significant.

Here is also bi-directional causality exists among LLFT and LPT. Both the variables are significant. LPT and LLFT both homogenously cause each other.

On the other hand, in the case of LGI and LPHC bi-directional causality exist among these variables. In the case of LPT and LGI, there is also bi-directional causality exists and both homogenously cause each other. In the last LPHC and LPT also bi-direction causality exists among these variables. Both LPHC and LPT homogenously cause each other.

4. Conclusion and Suggestions

The main objective of this study is to unearth the impact of poverty, disparity and economic growth in some selected countries. To attain the goal of economic growth poverty has to be reduced because economic development is not possible without removing poverty. In this study, we use panel data for 26 countries for the period of 2002-2015. Hausman test is used to obtain the end result of the research.

Finding tells us that there is a negative impact of poverty and income disparity on economic growth. On the other hand, expenditure on population total, labor force, gross capital formation, and government expenditure has a positive impact on economic growth. Bi-directional causality exists between an explanatory variable and economic growth. The gap between the rich and the poor increases day by day due to the increase in poverty in underdeveloped countries. In this research we estimate poverty, income disparity and economic growth with the help of panel data. The fixed-effect model is used to measure the poverty, income disparity on economic growth.

With the help of quality education and better health facilities, economic growth can be increased. It is the responsibility of the government to provide basic facilities to the common people in underdeveloped countries. Provide better employment opportunities to everyone in the country which is helpful to achieve the goal of economic growth. Unequal distribution of wealth increase poverty in the country.

The finding tells us that due to reduction in poverty and income disparity causes better economic growth in underdeveloped countries. The previous studies also show that poverty and disparity have a negative impact on economic growth.

Following are the main suggestion to reduce poverty and income disparity in developing countries which are helpful to increase economic growth in developing countries.

- Government must take steps to reduce poverty which is helpful in achieving the goal of economic growth.
- Inflation is another important issue for the developed countries. Developing countries must control inflation to archive the goal of economic growth.
- Increase employment opportunity in the country which is helpful to reduce poverty in the developing countries and increase the living standards of the common people.
- Developing countries must increase the exports of the country and reduce imports to archive the goal of economic growth.
- The developing countries provide attractive facilities which are helpful to increase foreign investment in the country which are helpful in achieving the goal of economic growth.

References

- Ahmad, E., Ludlow, S., & Mahmood, M. A. (1989). Poverty, inequality and growth in Pakistan [with comments]. *The Pakistan Development Review*, 28(4), 831-850.
- Ali, S. S., Tahir, S., & Arif, G. M. (1999). Dynamics of growth, poverty, and inequality in Pakistan [with Comments]. *The Pakistan Development Review*, 837-858.
- Anwar, T. (2010). Role of growth and inequality in explaining changes in poverty in Pakistan. *The Pakistan Development Review*, 1-17.
- Anwar, T., & Bilquees, F. (2003). Trends in Inequality in Pakistan between 1998-99 and 2001-02 [with Comments]. *The Pakistan Development Review*, 809-821.
- Asad, M. A., & Ahmad, M. (2011). Growth and consumption inequality in Pakistan. *Pakistan Economic and Social Review*, 69-89.
- Castelló, A., & Doménech, R. (2002). Human capital inequality and economic growth: some new evidence. *The economic journal*, 112(478), C187-C200.
- Chaudhry, I. S., & Imran, F. (2013). Does trade liberalization reduce poverty and inequality? Empirical evidence from Pakistan. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 7(3), 569-587.
- Cheema, A. R., & Sial, M. H. (2012). Poverty, income inequality, and growth in Pakistan: A pooled regression analysis. *The Lahore Journal of Economics*, 17(2), 137.
- Fields, G. S. (1989). Changes in poverty and inequality in developing countries. *The World Bank Research Observer*, 4(2), 167-185.
- Gafar, J. (1998). Growth, inequality and poverty in selected Caribbean and Latin American countries, with emphasis on Guyana. *Journal of Latin American Studies*, 591-617.
- Jafri Muhammad, Y. khattak, A. (1995) "Income inequality and poverty in Pakistan". *Pakistan economics and social review*, 33, 37-58.
- Jamal, H. (2003). Poverty and inequality during the adjustment decade: Empirical findings from household surveys. *The Pakistan Development Review*, 125-135.
- Jamal, H. (2006). Does inequality matter for poverty reduction? Evidence from Pakistan's poverty trends. *The Pakistan development review*, 439-459.
- Janaiah, A., Bose, M. L., & Agarwal, A. G. (2000). Poverty and income distribution in rainfed and irrigated ecosystems: Village studies in Chhattisgarh. *Economic and Political Weekly*, 4664-4669.
- Khan Ali Ejaz, R. Sattar R., (2010) "Trade growth and poverty: A case of Pakistan". *Pakistan journal common social sciences*, 4 (2), 173-184.
- Mahmood, Z., & Tahir, S. (1984). Income inequality in Pakistan: an analysis of existing evidence [with comments]. *The Pakistan Development Review*, 23(2/3), 365-379.
- Majeed Muhammad, T. (2016) "Economic growth, inequality and trade in developing countries". *International journal of development issues*, 15(3), 240-253.
- Perera, L. D. H., & Lee, G. H. (2013). Have economic growth and institutional quality contributed to poverty and inequality reduction in Asia?. *Journal of Asian Economics*, 27, 71-86.
- Ravallion, M. (2008). Global poverty and inequality: a review of the evidence.
- Rehman, H. Khan S., and Ahmed, I. (2008) "Income distribution, Growth and Financial development across country analysis". *Pakistan economic and social review*, 46(1), 1-16.
- Saboor, A., Hussain, Z., Javed, M. S., & Hussain, M. (2004). Agricultural growth, rural poverty and income inequality in Pakistan: Emerging evidences. *Pakistan Journal of Life and Social Sciences*, 2, 168-173.
- Shahbaz M., "Income inequality, economic growth and non-linearity a case of Pakistan". *International journal of social economics*, 37(8), 613-636.

- Shujie, Y., Zhang, Z., & Hanmer, L. (2004). Growing inequality and poverty in China. *China Economic Review*, 15(2), 145-163.
- Tabassum, A., & Majeed, M. T. (2008). Economic growth and income inequality relationship: role of credit market imperfection. *The Pakistan Development Review*, 47(4), 727-743.