

## Can We Discern the Impact of Income Distribution on Poverty and Economic Growth in Asian Economies?

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### Abstract

It has become hard to believe in historically influential okun hypothesis of tradeoff between inequality and economic growth. Despite theoretically costly persuasion of equality like disincentive to work and leaky bucket, trade off does not exist when economic growth is looked over longer horizons. Igniting economic growth is much less important than sustaining economic growth. Inequality matters for economic growth and poverty reduction all over the world and Asian countries are no exception. Dissatisfaction resulting from unequal distribution of wealth is believed to contribute much of unrest in the middle east as well as south Asian economies. After empirical investigation of ten Asian economies over period of 1995-2017, this paper documents that economic growth and inequality are no more the two sides of same coin rather they appear to be at war in the long run. Indeed, inequality is essential for creations of incentives to work hard; however, inequality beyond acceptable level not only hinders economic growth but also creates poverty. Poor are less prepared to face declines in their incomes and resultantly inequality is equal to indebtedness. Unequal distribution also leads to social problems and thus belongs in the pantheon of important ingredients of growth as well as poverty reduction. The findings are robust to various measures of income inequality and poverty as well as various specifications of equations.

**Keywords:** Okun Hypothesis of Trade Off, Poverty, Income Inequality, Growth.

### 1. Introduction

Much of the unrest and protests that have put many south Asian economies into trouble and swept even many governments in the Middle East, can be attributed to gross socio-economic disparities, which elite power has refused to give up. These troubles, unrest and sweepings of governments have brought economic explanation of income distribution into spotlight and a hot debate is raging at many academic and research forums including International monetary fund, World Bank and organization of economic cooperation and development (OECD). This demands deeper analysis rather than just equity based explanation of income distribution. It creates a dire need to find out political and economic explanations of income inequality, its various dimensions and its effects on economic growth and poverty reduction.

Before 1945, inequality dropped to some extent. This drop can be attributed to great depression and war time. Both depression and war time decreased inequality by reducing income share of capitalists as capital income reduced significantly as result of shocks to capital investments. However, in last two decades especially before crisis, income inequality has risen to unacceptable level. This increase in inequality is likely to be linked with increase in capital income and inclusion of working executives in top 1% of the world (F & D Sep, 2011, International Monetary Fund ).

The concept of economic growth in the absence of income inequality seems counterintuitive. After all, some inequality is essential for growth otherwise, there will be no incentive for hard work and investment and it will also curtail proper functioning of market economy (Chaudhary and Ravallion 2007). But too much disparity may discourage economic growth. Beyond the fear that inequality may create potential for crash of financial markets, it may also bring disincentive for investment in the long run by creating political instability. Inequality may further make it difficult for governments to raise taxes and cut spending to avoid crisis.

Many leading economists have argued that income equality is not only important for poor, not only a moral imperative, not only vital for social well-being but it also plays crucial role in boosting economic growth and curtailing poverty. Many researchers have argued that income inequality is one the key causes

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of current economic and social unrest in the world. International Monetary Fund (IMF) has published an evidence that inequality has reduced economic efficiency, inequality leads to indebtedness (Rajan 2010) and reduces sustainability of economic growth. Van Treeck and Sturn (2012) survey the empirical evidence and document income inequality as a major ingredient of the recent great recession. According to Greenspan (2007), income inequality worsens the conditions of business. According to David Cameron (2009), countries with unequal distribution of income have social indicators in worse form. Income equality not only matters for sustainable economic growth but it also plays its role in reduction of poverty. Therefore, the key objectives of this study are to

1. Analyze the cross country patterns of income inequality in Asian economies.
2. Empirically investigate the effect of income distribution on economic growth and
3. Find out the impact of income equality on poverty in the sample economies.

Next section presents review of literature on relationship of income distribution with economic growth and poverty while data measurement, its related issues and patterns of inequality, economic growth and poverty have been explained in section 3. Section 4 presents empirical results while section 5 concludes the study with some policy implications.

## 2. Review of Extant Literature

Income inequality is believed to be one of the most pressing problem of current time according to many commentators and economists. These include Rohac (2012) and Wilkinson and Pickett (2010). Later provide empirical evidence of negative repercussion of income disparity upon daily life of individuals. For example, killings are less in relatively equal income countries. Children face less violence, education is higher, medical facilities are better and general wellbeing is good in equal economies as compared to unequal societies (Wilkinson and Pickett, 2012).

The relationship between income inequality and poverty has been studied by various researchers in various countries. Major chunk of studies in this area has argued that unequal distribution of income increases poverty. These studies include Erhijakpor (2010), Saboor (2004) and Cheema and Sial (2012) for Pakistan, Ravallion and Chen (1997), Adams (2004), Ram (2007) and Fosu (2009 & 2010). White and Anderson (2001) found that minor fluctuations in income distribution might have potential threats for increasing poverty measured by headcount ratio. Other authors have documented that increase in unequal distribution not only affects poverty but it also matters for depth and severity of poverty (Wodon, 1999).

As decrease in income inequality reduces the poverty, therefore, elasticity of inequality is likely to be positive (Ravallion, 1997). Significant number of studies have documented that inequality is stable over time or changes very slowly and thus does not have significant contribution in the reduction of poverty. These include Deininger and Squire (1998). However, many other studies especially at country level refuse the use of average and document positive effect of income inequality on poverty. Thus remarkable empirical evidences counter to each other can be found on effect of income inequality of poverty. Mthuli (2013) divides these various studies into three main groups on the basis of propositions. First and dominant view negates the proposition that inequality and economic growth are two sides of same coin. According to this group, inequality is not final outcome of growth but plays crucial role in determining the changes in economic output (Bourguignon, 2004). Thus income inequality and economic growth seem to have negative association with each other. The corresponding studies are Davis (2007), Pede et al. (2009), Viaene and Zilcha (2003), and Alesina and Rodrik (1994).

The enhancing effect of fair redistribution of income on economic growth has been explained by various channels. Three of them have been explained by Bourguignon (2004). Because of imperfections in credit market, shifting of capital from rich capitalists to poor having low capital increases investment, growth and efficiency. The second channel is based on argument of political economy and postulates that higher redistribution has negative impact on wealth accumulation. The third one relates income redistribution through social conflict and states that inequality leads to social problems. Poor have no affordability of investment in medical and education as they have limited access to capital due to lack of collateral. According to second group of researchers, unequal distribution of wealth enhances economic growth as it creates incentives for hard work and boosts investment in the economy. Mentionable studies with these

findings are kaldor (1956) and Nahum (2005). Other authors have documented nonlinear relationship between income distribution and economic growth.

There are also many authors, who have documented that no clear relationship exists between economic growth and inequality. Significant studies proposing no relationship between the two include Panizza (2002), Castello and Domemech (2002) and Charles-coll (2013). All these three studies conclude inconclusive relationship between inequality and economic growth.

**3. Data Patterns in Sample Economies and Measurement Issues**

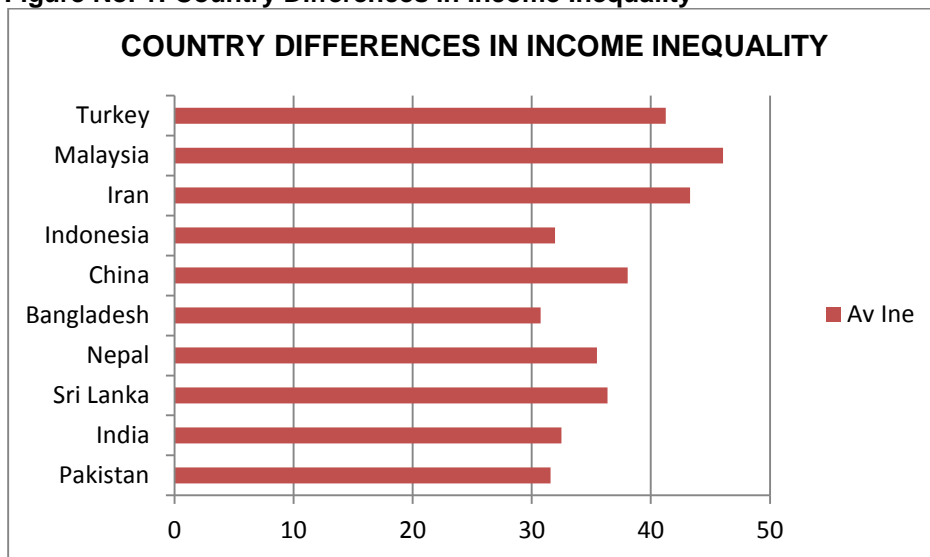
Three main variables of interest in this study are economic growth, income inequality and poverty. This study analyzes unbalanced panel data of 10 Asian economies over period of 1985 to 2017. Sample economies are Pakistan, India, Sri Lanka, Nepal, Bangladesh, China, Indonesia, Iran, Malaysia and Turkey.

**3.1 Income Inequality**

People measure their income through their bank deposits, investment in financial assets, home, they live in, cars they possess and other financial and real assets. Then they compare their wealth with their relatives, friends, neighbors and colleagues. However, economists conduct lot number of wide surveys. They interview many households, try to collect data of their monetary and in kind income. After surveys, total household income net of taxes from all sources is divided by total number of persons in that house and then ranked from poorest to richest person in the survey. Among many, Gini coefficient is widely used and reliable measure of income inequality. Its value varies between 0 and 100. Gini value of 0 means 100% equal distribution of income in the society while 100 means 100% of income is received by one individual.

Although survey approach of collecting data is not perfect. This may be attributed to refusal of upper rich class to be interviewed as well as evasion of public from providing correct data because of fear of taxes. Because of these issues, fiscal data has also been used in various researches to measure inequality like income share held by top 10% of population. Despite these inherent limitations of interviewing people, surveys are still widely used measures of collecting data. Study of Bukhauser et al (2009) is encouraging as it reports insignificant differences in these two different measures of income inequality. In this study, both Gini coefficient and fiscal measures have been used as measure of income inequality. Figure 1 shows graphical presentation of inequality in sample countries.

**Figure No. 1: Country Differences in Income Inequality**

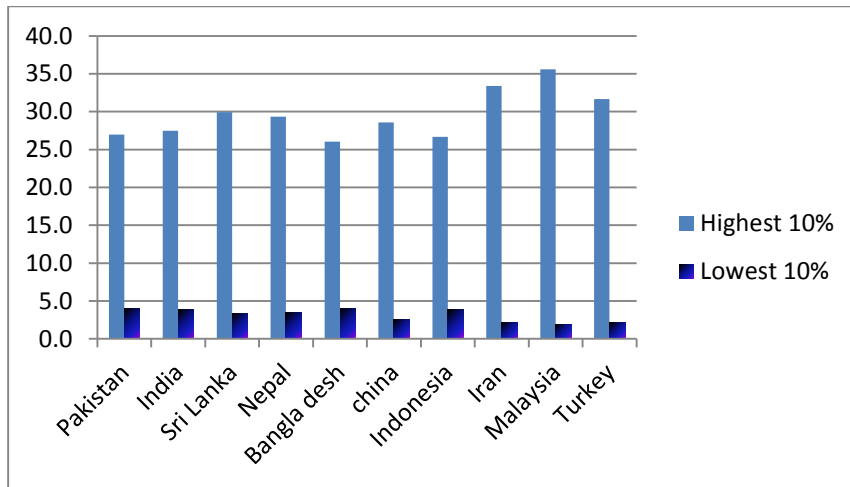


Note: Inequality has been measured by average of Gini over period (1985:2017)

What value of Gini is ideal or normal is still unanswered question. However, there are no confirmed cases of countries having Gini more than 60 or less than 25. In sample economies, Malaysia is having

higher value of Gini (46) followed by Iran(43) and Turkey(41) while Bangladesh has lowest Gini value (30) in the sample economies.

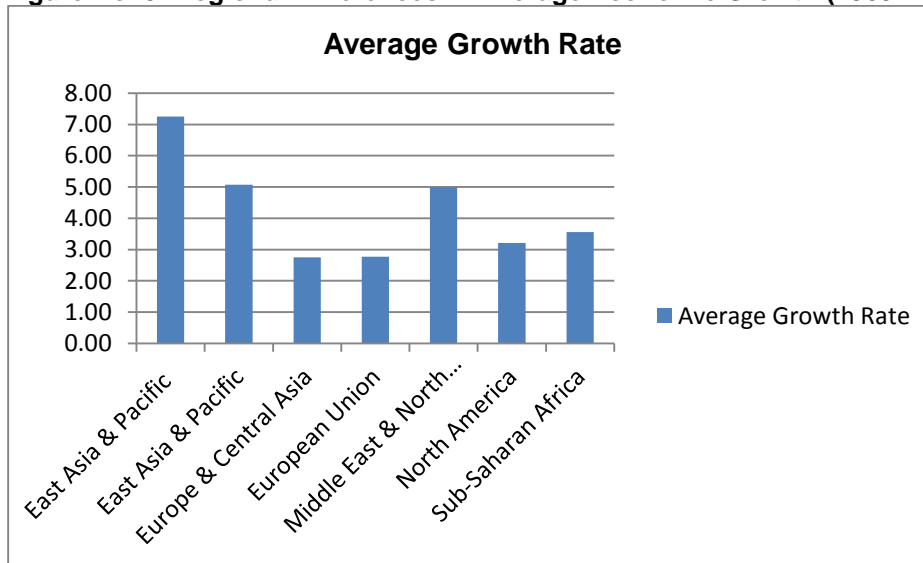
**Figure No. 2: Income Share Held By Highest 10% And Lowest 10% In The Sample Economies**



### 3.2 Economic Growth

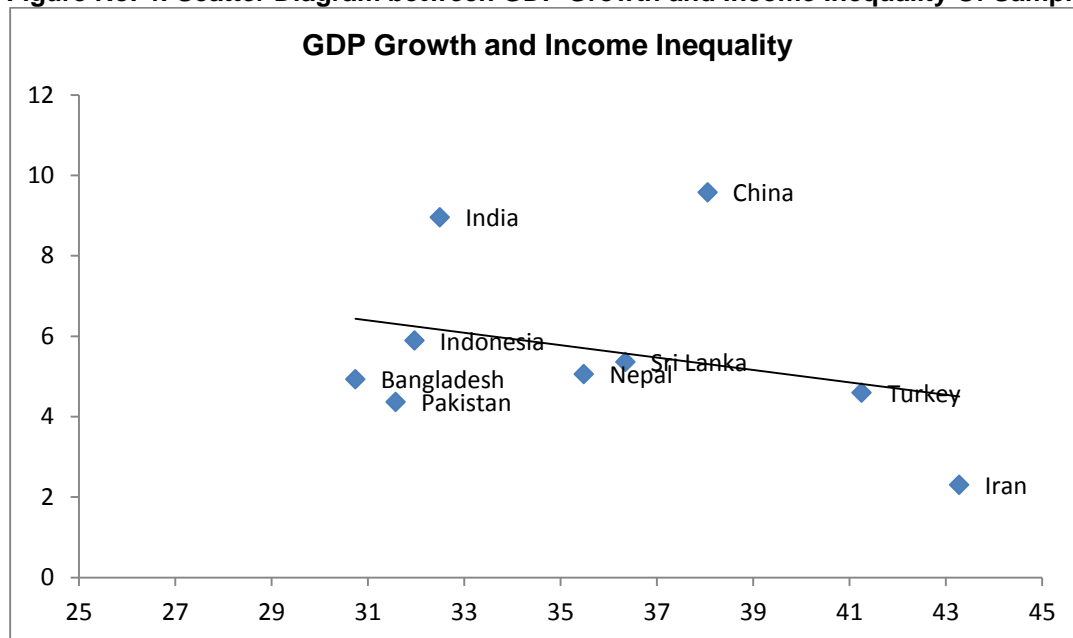
Like income inequality, there are various measures of economic growth. Due to brevity of explanation, pros and cons of all measures are not explained here. This study uses log of real gross domestic product per capita as measure of economic growth in regression analyses.

**Figure No. 3: Regional Differences in Average Economic Growth (1965-2017)**



Over period of 46 years (1965-2017), East Asia and Pacific have surpassed economic growth of all other regions while Europe and central Asia have lowest average economic growth collectively.

**Figure No. 4: Scatter Diagram between GDP Growth and Income Inequality Of Sample Economies**



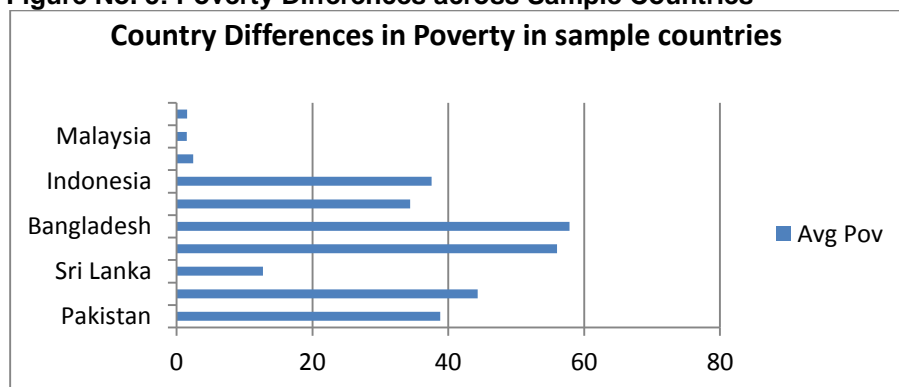
Source: Authors' estimations from World development Bank indicators

Scatter diagram (figure 4) shows graphical presentation of relationship between income inequality and economic growth. This shows us that as we move right side along X-axis (increasing Gini), graphic line trends downwards. This means that overall, countries with higher income inequality have experienced relatively less economic growth over sample period than countries having relatively less income inequality. Figure 4 indicates that hypothesis of Simon Kuznet (economic growth and inequality go hand by hand) seems less certain in sample economies. Bangladesh, Pakistan, Nepal and Iran are lying below trend line, India and China lying above while Indonesia, Sri Lanka, Nepal and Turkey are very close to trend line.

### 3.3 Poverty

Poverty can also be measured in different ways. In this study, we have used head count ratio at \$1.25 per day as measure of poverty.

**Figure No. 5: Poverty Differences across Sample Countries**



Note. Poverty has been measured by head count ratio at \$1.25 per day

Figure 5 shows that Turkey, Malaysia and Iran are countries with lowest poverty while Bangladesh and Nepal have highest poverty. Other sample economies live lie between 10 and 45 as per head count ratio at \$1.25 per day.

**4. Results of Empirical Estimations**

**4.1 Effect on Income Inequality on Economic Growth**

Using unbalanced panel data of 10 Asian economies, it has been found that income inequality negatively affects economic growth. Empirical estimation suggests that 1% increase in income inequality would result into reduction of economic growth by 3.2% keeping other things constant. The negative coefficient of Gini coefficient with economic growth indicates higher disparities are associated with lower growth in gross domestic product in sample Asian economies. Thus, income inequality is not good for achieving higher economic growth.

The effect of other variables on economic growth may wrongly be attributed to income disparity due to specification error. This fear has been removed by inclusion of other control variables in the estimation. These control variables include trend, government consumption to gross domestic product ratio, inflation and primary school enrollment ratio. Economic growth shows positive persistence as coefficient of trend is 0.50 and significant at 5% level of significance.

Our results show that government consumption to gross domestic product is positively correlated with economic growth in the economy. This eliminates the risk of crowding out of resources for productive investment and suggests that the higher the government consumption on social and economic programs, the higher the economic growth. Another important dimension of our results is positive association of inflation with economic growth. This indicates that inflation and growth go side by side. This is what is generally accepted notion in monetary economics that economic growth is attained at the cost of higher inflation in the economy. This negates the uncertainty and instability based explanation of inflation effect on economic growth.

Our results also document positive relationship between primary school enrollment ratio and economic growth. This is in contradiction with one found by Mthuli (2013) in MENA countries. He reported negative coefficient and argued that primary school enrolment alone is not enough for enhancing economic growth.

**Table No. 1: Growth Equation**  
**Effect of inequality on economic growth measured by natural log of per capita real gross domestic product(growth)**

Variable	Coefficient	t stat
Intercept	13.84	2.64
Inequality	-3.20	-2.04***
Trend	0.50	5.84***
government consumption to GDP	0.009	1.57*
Inflation	0.08	2.11***
Primary school enrollment ratio	0.06	4.94***
R Squared	0.520	
Adj R Squared	0.420	

Note. \*\*\*, \*\*, \* represent significance at 5%, 10% and 20% respectively  
 Source. Authors' estimations

**Table No.2: Poverty Equation**  
**Effect of inequality on Head count ratio measured as 1.25\$ per day (Poverty)**

Variable	Coefficient	t stat
Intercept	3.238	1.81**
Inequality	0.633	1.32*
real gross domestic product per capita	-0.186	-2.57***
Foreign Direct Investment to GDP ratio	0.018	1.07
Government consumption to GDP ratio	-0.003	-2.04***
Inflation	-0.003	-0.41
Primary school enrollment ratio	0.010	1.95**
Trend	-0.128	-3.91***
R Squared	0.970	
Adj R Squared	0.960	

Note. \*\*\*, \*\*, \* represent significance at 5%, 10% and 20% respectively  
 Source: Authors' estimation

Results of Redundant Fixed Effect test ruled out the justification of Common Effects Model. While Hausman test did not favor random effects model. Therefore, Fixed Effect model was used. In specification of Fixed Effect model, Intercept dummies were included to capture intercept differentials over countries. To avoid dummy variable trap, 9 dummies were created and intercept of Pakistan was estimated by adding constant in the equation. Slope coefficients have been assumed to remain same over time as well as over countries.

#### 4.2 Effect of Income Inequality on Poverty

Table 2 reports the estimated results of effect of income disparity on poverty in sample economies. This table shows that increase in income inequality is bad for poor as it is positively associated with poverty. Estimated results suggest that one percent increase in income inequality increases poverty by 0.63%. However, this relationship is significant only at 20% level of significance. There are also some variables other than income inequality, which fuel poverty as suggested by estimations. These variables are foreign direct investment as percentage of gross domestic product, inflation and primary school enrollment ratio. However, effect of foreign direct investment ratio and inflation is not significant even at 20% level of significance. Positive sign of primary enrollment ratio shows that primary education alone does not have significant relationship with poverty. This argument has also been supported by many other studies, who argue that secondary school education is the threshold level of education to curtail poverty.

On the other hand, Ratio of government consumption as percentage of gross domestic product has been found affecting poverty negatively. The relationship indicates that one percent increase in government consumption as percentage of gross domestic product leads to 0.003% decrease in poverty in the sample economies. This suggests that government consumption is good for poor. Negative persistence of dependent variable has been found as coefficient of its lagged value is (0.128) and significant at 5% level.

We have also explored the robustness of our results by introducing some changes to our original specifications. Variance of economic growth and poverty explained by specified equations may wrongly be attributed to income inequality if specification error exists. We have included Population growth in poverty equation as it has been reported as potential variable by many researchers. Including it in poverty specification, income inequality did not lose its significance, thus ruling out the assumption of misspecification error due to missing relevant variables. Ramsey Regression Specification Error Test (RESET) also ruled out the possibility of missing relevant variables. Infrastructure and unemployment rate have also been used to explore the possibility of specification error. Trade openness was used in economic

growth equation to rule out alternative hypothesis. In all these specifications of growth and poverty equations, income inequality remained significant variable and results ruled out alternative explanations. Due to brevity, results of alternative specifications are not being reported and are available upon request. We have also explored specification error by employing alternative measure of income inequality in our specifications. In addition to Gini coefficient in our original specifications, we used one fiscal measure of income inequality i.e. income share held by richest 10% in both growth and poverty equations. Coefficient of income inequality still remained significant. Thus the results are robust to alternative measure of income inequality. Due to brevity, tables of robustness results are not being reported and are available with authors.

## 5. Conclusion

The main objectives of this study have been to investigate the cross-country patterns of income inequality, economic growth and poverty in 10 sample Asian economies. Empirical analysis of effect of income disparity on economic growth and poverty has been in the heart of this paper. Income inequality affects economic growth negatively while controlling for the effects of other explanatory variables. Primary school enrolment ratio, inflation and government consumption to gross domestic product affects economic growth positively.

Among other variables, income disparity affects poverty positively in sample economies. Other variables having positive contribution in poverty are foreign direct investment as percentage of gross domestic product and primary school enrollment ratio, however the former has insignificant impact. Variables contributing towards reduction in poverty are real gross domestic product per capita and government consumption.

These results have serious implications for governments, privates agencies working for poverty alleviation and other stakeholders. The fueling impact of income disparity on poverty in sample countries requires proper and feasible policy by governments so that this problem can be tackled. Literature has identified various possible tools to curtail inequality. These include channelizing investment towards education and health sector, employment programs, better nutrition, access to health and education, land and other property reforms to support population especially living in rural areas. Government expenditures and cash transfers can be good levers of poverty alleviation, however, only proper and transparent policies of government consumption can reduce poverty as given our results, primary school enrolment alone is not enough to reduce poverty. Government expenditures like subsidies and cash transfers can provide double benefits. In the short run, they will reduce poverty directly and in the long run, they will provide access to higher paying jobs to rural youth and thus will free them from intergeneration imprisonment of poverty. Given our result of insignificant effect of foreign direct investment ratio upon poverty, governments need to channelize foreign direct investment towards poor, needy and ignored sectors like agriculture so that poverty can be controlled.

Furthermore, Asian countries must increase their national income. Given our negative effect of real per capita gross domestic product on poverty, these countries must increase their competitiveness through various reforms and increasing economic activities in the countries through increasing quality jobs like shifting from low paying agriculture jobs to higher paying jobs in industry. Increasing real per capital gross domestic products also demands proper checks on population growth rates in the sample economies. Given the result of positive effect of inflation on economic growth, Central banks should take timely decisions and adopt some alternative measures to boost economic growth while controlling for inflation. Possible tools can be increasing economic activity through provision of jobs and access to financial markets while reducing controlling money supply through discount rate and open market operations.

## References

- Adams, R. H., Jr. (2004) Economic growth, inequality and poverty: Estimating the growth elasticity of poverty. *World Development* 32, 1989–2014.
- Alesina, A. and Rodrik, D. (1994) Distributive politics and economic growth. *Quarterly Journal of Economics* 109 (2), 465-490
- Anyanwu, J. C. and Erhijakpor, A. E. O. (2010) Do International Remittances Affect Poverty in Africa?, *African Development Review* 22:1, 51-91
- Bourguignon, F. (2004b) The Effects of Economic Growth on Social Structures, in Aghion, P. and Durlauf, S. (eds), *The Handbook of Economic Growth*, Elsevier, Amsterdam



- Burkhauser, Richard, Shuaizhang Feng, Stephen Jenkins, and Jeff Larrimore (2009) Recent Trends in Top Income Shares in the USA: Reconciling Estimates from March CPS and IRS Tax return Data, IZA Discussion Paper No. 4426
- Castello, A. and Domenech, R. (2002) Human capital inequality and economic growth: Some new evidence *Economic Journal* 112(478), 187-200.
- Charles-Coll, J. A. (2013) The Debate Over the Relationship Between Income Inequality and Economic Growth: Does Inequality Matter for Growth? *Research in Applied Economics* 5:2, 1-18.
- Chaudhuri, Shubham, and Martin Ravallion (2007) Partially Awakened Giants: Uneven Growth in China and India, in *Dancing with Giants: China, India and the Global Economy*, ed. by L. Alan Winters and Shahid Yusuf (Washington: World Bank)
- Cheema, A. R. and Sial, M. H. (2012) Poverty, Income Inequality, and Growth in Pakistan: A Pooled Regression Analysis *The Lahore Journal of Economics* 17:2, 137–157
- Davis, L. S. (2007) Explaining the evidence on inequality and growth: Informality and Redistribution B E. *Journal of Macroeconomics* 7:1
- Deining, K. and Squire, L. (1996) A new data set measuring income inequality. *World Bank Economic Review*, 10:3, 565-591
- Fosu, A. K. (2009) Inequality and the impact of growth on poverty: Comparative evidence for Sub-Saharan Africa. *Journal of Development Studies* 45:5, 726–745.
- Fosu, A. K. (2010) Growth, Inequality and Poverty Reduction in Developing Countries: Recent Global Evidence, OECD Development Centre, Background Paper for the Global Development Outlook 2010, Shifting Wealth: Implications for Development.
- Kaldor, N. (1956), Alternative theories of distribution, *Review of Economic Studies* 23, 83–100.
- Mthuli et al (2013) Inequality, Economic Growth and poverty in the middle east and North Africa (Mena) Working paper no. 195 African Development Bank
- Nahum, R-A. (2005) Income Inequality and Growth: A Panel Study of Swedish Counties 1960-2000, Arbetsrapport 2005:3, Institute for Futures Studies
- Panizza, U. (2002) Income inequality and economic growth: Evidence from American data, *Journal of Economic Growth* 7:1, 25-41.
- Pede, V. O., Florax, R. J. G. M. P. and Partridge, M. D. P. (2009) Employment Growth and Income Inequality: Accounting for Spatial and Sectoral Differences, *Agricultural and Applied Economics Association*
- Rajan, R. (2010) *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, Princeton University Press, Princeton
- Ravallion, M. (1997) Can high-inequality developing countries escape absolute poverty?, *Economic Letters* 56:1, 51-57.
- Ravallion, M. and Chen, S. (1997) What can new survey data tell us about recent changes in distribution and poverty? *World Bank Economic Review*, 11:2, 357–382
- Ram, R. (2007), Roles of income and equality in poverty reduction: Recent cross-country evidence. *Journal of International Development* 19, 919–926
- Rohac, D. (2012) Does inequality matter?, Briefing Paper, Adam Smith Institute
- van Treeck, T. and Sturn, S. (2012) Income inequality as a cause of the Great Recession?: A survey of current debates, Conditions of Work and Employment Series No. 39, ILO, Geneva
- Viaene, J. M. and Zilcha, I. (2003) Human capital formation, income inequality, and growth: Inequality and Growth: Theory and Policy Implications, 89-117
- Wilkinson, R. and Pickett, K. (2010) *The Spirit Level – Why Equality is Better for Everyone*, Penguin, Revised Edition.
- Wodon, Q. T. (1999) Growth, poverty and inequality: A regional panel for Bangladesh, Policy Research Working Paper No. 2072, World Bank, Washington, DC