THE ECONOMIC JOURNAL OF NEPAL, VOL. 45, No. 3 & 4, July-December, 2022 (Issue No. 158) © CEDECON-TU | 41
DOI: https://doi.org/10.3126/ejon.v45i3-4.63148

Assessing the Relationship Between Income Inequality and Economic Growth in South Asia

Khubi Ram Acharya[1], Himal Acharya[2]

Abstract

The trade-off between inequality and growth, and what should be done about it aresome of the most debated issues in economics. The study aims to assess the relationship between income inequality and economic growth in South Asia. With different kinds of literature assessing different relationships between these two variables, the effects of inequality on growth are still very ambiguous for researchers. The paucity of time series data on the 'Gini Ratio' for South Asia has been one of the primary reasons for a small or no contribution to the effects of inequality in growth in the region. Here, the study used the data on the income share ratio of the top 10 percentile and bottom 50 percentile from 1980 to 2015 as a proxy for inequality and see its relationship with growth using the 'Generalized Method of Moments' estimation technique. The study found that inequality has a significant positive relationship with growth, which provides the basis for a trade-off between equity and efficiency. This gives rise to important policy implications for policymakers dealing with inequality.

Keywords: *Inequality, Growth, Equity-efficiency, Trade-off, South Asia.*

JEL Classification: *D6, F43, 047, F43, I24.*

Introduction

An issue of both discussion and contention, the relationship between income inequality and growthhas been of increasing concern since the end of World War-II. One cannot speak of growth without serious consideration of the problem of inequality (Ray, 2004). Economists like Kaldor and Kuznets have argued that there is a trade-off between reducing inequality and promoting growth. They claim that economic growth eventually leads to a reduction in inequality. This is because the base of growth increases with time, leading to a more equitable share

1 Mr. Acharya is an Assistant Professor at Nepal Commerce Campus, Tribhuvan University, Kirtipur, Kathmandu, Nepal. Email: khubiram2013@gmail.com, ORCID: https://orcid.org/0009-0003-5344-4895.

2 Mr. Acharya (Corresponding author) is an undergraduate, School of Arts, Kathmandu University. Email: himal.acharya@student.ku.edu.np, ORCID: https://orcid.org/0009-0009-9751-1213.

of income among different income groups. Evidence from the economic growth of industrial countries during the 1950s and 1960s shows that the marginalized population with a small income share reaped greater benefits than the population with a higher income share growth.

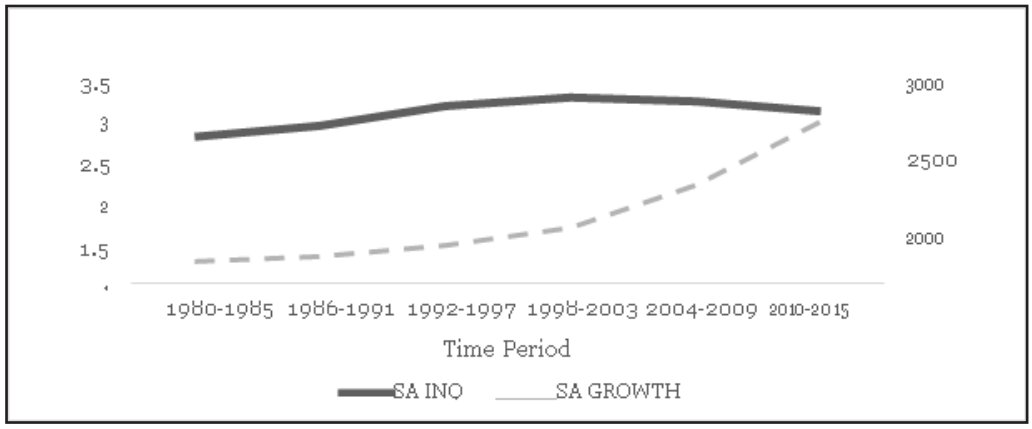
However, with the onset of globalization and structural change in economies around the world, late bloomers of East Asian economies have had relatively low levels of inequality coupled with high levels of growth rates. This phenomenon gave rise to a new body of literature that estimates a negative and significant relationship between inequality and economic growth. Although most of these studies focus on theories establishing a negative effect of inequality on growth, a careful reading of this literature suggests that this negative relationship is far less definitive than generally believed (Forbes, 2000).

The existing literature is said to have several major problems. Firstly, the negative association between inequality and growth is not robust and valid (Deininger & Squire, 1998). Secondly, these studies consist of two major econometric fallacies i.e., measurement error and omitted variable bias. Thirdly, cross-country work on inequality and growth is that policy question of how the level of inequality of a country will affect economic growth within that country (Forbes, 2000). However, this study tackles these issues and builds a more robust model with an updated data set to examine the relationship between inequality and growth. Section II provides an overview of the trend of inequality and growth in South Asia. Section- III reviews and discusses the previous research on this issue. Section IV describes the dataset and model to be used. Section V estimates the model specified, analyzes, and interprets the results. The conclusion with policy implicationscan be found in section VI.

Income Inequality and Economic Growth in South Asia

With a long history of colonialism, feudal structure, autocratic regimes, and lack of broad humancapital, South Asian economies were vastly unequal. With the onset of economic growth, inequality has steadily risen and then fallen, which resembles Kuznets's curve. Inequality peaked from 1998 to 2003 when South Asia started to reap the benefits of globalization. After 1998-2003, South Asia's growth has been comparatively equitable. When we take these standard indicators based on the monetary aspects of life, South Asia has a moderate level of inequality. The 'Gini Ratio' of South Asian countries lies between 0.28 and 0.40, which is lower than that of other countries like China, South Africa, Mexico, etc. The consumption share of the different population groups suggests that inequality is modest in South Asian countries (Rama, 2014).

Figure 1: Inequality Vs Growth in South Asia



Source: World Inequality Lab.

South Asia saw sluggish and comparatively lower growth than the world because of its inability to catch up with the technological advancements during the 1980s. But with the onset of globalization and the dot-com revolution, the growth trajectory of South Asia seems to be one of the best in the world. Increasing international trade, service sector, manufacturing industries, and political stability are the main catalysts of this growth (ADB, 2017).

Review of Literature

Previous works on the relationship between income inequality and economic growth have produced mixed and conflicting results. Some works draw the inference that the greater the income inequality, the lower the economic growth, while others argue the opposite. The difference in results between these papers might be due to endogeneity bias and faulty identification strategy. One of the earliest studies on this issue was made by Simon Kuznets, who observed that income inequality tends to increase in the early stages of economic development as some individuals and sectors become wealthier faster than others (Kuznets, 1955).

However, income inequality tends to decrease as the economy matures and becomes more equal. This observation led to what is now known as the 'Kuznets Curve,' which shows an inverted U-shaped relationship between income inequality and economic growth. In the 1980s and 1990s, several studies challenged the 'Kuznets Curve Hypothesis'. Krugman (1995) argued that globalization and trade liberalization could increase income inequality within and between countries. The study also noted that highly skilled workers in developed countries could benefit from increased service demand while low-skilled workers in developing countries could see their wages stagnate or decline as they compete with cheap labor in other countries.

In the early 2000s, several studies suggested that the relationship between income inequality and economic growth was more complex than the suggestion provided by 'Kuznets Curve'. Dollar and Kraay (2002) analyzed data from 92 countries and found that, on average, economic growth reduced poverty rates. However, they also noted that the benefits of growth were notdistributed equally and that inequality could still increase even as poverty rates declined. Piketty and Saez (2013) challenged the idea that economic growth was necessarily good for everyone. They argued that the concentration of income at the top of the distribution had reached levels not seen since the early 20th century and that concentration was not only unfair but could also lead to lower economic growth in the long run. They also suggested that progressive taxation could help reduce income inequality while promoting economic growth.

Using various approaches, the relationship between income inequality and economic growth has been highlighted as negative. Mo (2003) made a systematic cross-country analysis looking at four factors used to determine growth performance. The variables included the share of investment in GDP, population growth rate, initial real GDP per capita level, and Gini coefficient. It was expected that the coefficients on the variables for the Gini coefficient would harm the productivity of given factors in response to higher levels of inequality that lead to a decrease in economic growth. The study found that a 1 percent increase in the Gini coefficient negatively affects the GDP growth rate by 2.16 percent. A decline in economic growth is also likely to have adverse effects on investment and, subsequently, a negative effect on human capital stock, which relies on it. The study showed that approximately 55 percent of effects on the GDP growth rate can be explained by income inequality. The study also concludes that the effects of income inequality will differ depending on the stages of economic development.

Humphrey (2003) has focused on income inequality perpetuated by violence and civil conflict. The study analyzed the role of conflict on economic growth and productivity, highlighting inequality as a factor of GDP growth, government policy, wealth, poverty, economic structure, and trade. The study looked at inequality as a measurement for economic productivity, defined as 'inequality between individuals regardless of group membership', and horizontal inequality, which is inequality among the groups or regions. The study found that economic policy leaves room for policymakers to promote conflict as a form of personal economic gain, and these policies often lead to economic, political, and financial inequality. The study also found that a country with a GDP per person of 250 U.S. $ is likely to experience war with a probability of 15 percent compared to a 4 percent probability of nations with a GDP per person of U.S. $ 1250. Since extreme income inequality often leads to civil conflict, increasing wealth disparities will decrease GDP per capita. The unequal allocation of resources and wealth has contributed to the lack of development in some countries and

further exacerbated income disparities as a deterrent to economic growth and productivity.

Few literatures show the mixed relationship between income inequality and economic growth in urban and rural differences within states into consideration. Odedokun and Round (2001) looked at the direct effects of inequality on growth by regressing growth on income distribution variables, including the initial level of per capita GDP, 5-year population average annual growth rate, and the share of consumption expenditure borne by the government. The explanatory power of these variables proved low. So, further research into urban and rural areas was conductedacross a few countries. They found that the sign of the coefficient attached to the income share of the middle class was positive and statistically significant in rural areas, while it was negative and insignificant elsewhere. However, the analysis was limited to fewer countries than previous studies, which could potentially explain the conflicting results of income inequality on growth.

Barro (2000) has tried to see how different factors affect GDP by utilizing panel and cross-sectional data from multiple countries by identifying some macroeconomic consequences of income inequality like savings rates, credit-market imperfections, and political economy. The study draws upon a panel of roughly 100 different countries between 1960 and 1995, and uses regression models with variables like investments, terms of trade, democracy index, government consumption, etc., to determine the growth rate within these countries. The basic analysis of the study is related to the Gini coefficient and Lorenz curve. The study found that economic growth tends to fall with inequality when per capita GDP is below U.S. $ 2000 and rises with inequality when per capita GDP is above U.S. $ 2000. The study concludes that income inequality tends to slow growth in poor / developing countries while having an inverse effect on rich / developed countries.

Ikemoto and Uehara (2000) illustrated the Kuznets curve more specifically by looking at its relation to income inequality in Thailand. They hypothesized that Thailand would soon see a decrease in income inequality as there was rapid economic growth in the 1980s, and the industrial sector absorbed the underemployed rural labor force in the 1990s. After analyzing the Gini coefficient to poverty across Thailand, they were surprised to find that as the country had already passed the Kuznets Curve, the income inequality increased again with the U-shaped curve which is more likely an N-shaped curve. Then, they revisited Kuznet's hypothesis, which is based on transitioning from an agricultural economy to an industrial one. It is only supposed to happen a single time during economic development. They conclude that the changes in the new high-productivity industry could affect the Kuznets curve, and it should not be limited to only a change from an agricultural to an industrial economy.

Banerjee (2003) observes many studies on income inequality and its effect on economic growth, and also analyzes why different approaches lead to mixed results. When one cross-section is used in OLS regressions, a positive relationship between inequality and growth is typically found, while the fixed effect approach produces a negative relation between changes in inequality and changes in growth rate. The researcher believes that it may not be possible to interpret the evidence in this literature casually and that variations in inequality could likely be credited to a range of unobservable factors associated with growth.

Tabellini and Persson (1994) analyzed the effects of inequality on growth based on eight countries in Europe and the United States of America. They used the data from the Post-World War-II period that involved a much larger set of countries due to improved data collection. They measured average skills through data on schooling. They also included political participation, investment, and initial GDP as regressors for economic growth. They concluded that inequality harms growth by leading to policies that do not protect property rights or allow for full appropriation of returns on investment.

Jauch and Watzka (2016) measured financial development as private credit divided by GDP covering the study period from 1960 to 2008 with observations of the sample size of 138 countries. They believed that it is a good proxy for financial development because the correlation between private credit over GDP and access to finance is high. They used gross income (i.e., all income from non-private sources) and net income (i.e., all types of public transfers and deductions) to measure income inequality. So, the number reflects both the actual amount an individual spends and the earnings of individuals through all social benefits. Their results suggested that economic theories predicting an income inequality-reducing effect of financial development should be rejected.

Raza et al. (2021) investigated the relationship between income inequality and economic growth in South Asian countries using panel data. The findings indicate that income inequality hurts economic growth in the short run, but there is no significant relationship in the long run. Similarly, using panel threshold regression, Jiranyakul (2022) examines the non-linear relationship between income inequality and economic growth in five ASEAN countries. The study concluded that income inequality has a negative impact on economic growth in the long run, but this effect is less pronounced in countries with lower levels of inequality.

Shin (2012) performed a case study of a few developing countries in East Asia and South America. The study found a negative relationship between income inequality and economic growth in those countries. Conversely, a case study of developed countries like the United States of America and France found a positive relationship between income inequality and economic growth. Similarly, the study found that income inequality in poor countries with GDP

per capita below 2070 retards economic growth due to the lack of opportunity to invest by the population of a developed country, which would lead to political and social instability. In contrast, income inequality in rich countries with GDP per capita over 2070 encourages growth. Income redistribution from the rich to the poor reduces the saving rate of the economy, which would lower the incentive for the rich to work hard.

The given review of literature shows that some studies declare a positive relationship and others support a negative one between income inequality and economic growth. However, there are also some studies in which no position is taken. Both sides of the debate are examined and analyzed. Hence, it can be said that the effects of income inequality on economic growth are contingent on the state of economic development, which varies whether the country is poor or rich or developing or developed.

Research Methodology

Research Design and Data

The study used both descriptive and quantitative analysis following the deductive method. The annual secondary data of 36 observations from 1980 to 2015 is used in the study which is divided into six groups of time period containing six years in each group. The study period up to 2015 is due to the paucity of inequality and human capital data (Appendix –I). The required data and information of selected variables were derived from various institutions and literature - income is obtained from the World Bank database; income share is taken from the World Inequality Database; male and female education data is obtained from the Barro and Lee dataset; and PPPI data is obtained from Penn World Lab. The study used the case of 6 South Asian countries: Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka. The study estimates economic growth as a function of initial inequality, income, male human capital, female human capital, market distortions, country dummy, and period dummy.

Model Specification and Variables Description

The model used in the study is very close to the models used in most of the empirical works focusing on the relationship between income inequality and economic growth especially used by Forbes (2000). Similar to Forbes's model, the study used country dummies to control time-invariant omitted variable bias and period dummies to control for global shocks that might affect unexplained aggregate growth in any period. In order to reduce any endogeneity that may persist, the model focuses on stock variables measured at the start of the period rather than flow variables measured throughout the study periods. To summarize, the model central to this study is as follows.

$$Grow_{it} = \beta_1 Ineq_{i,t-1} + \beta_2 Grow_{i,t-1} + \beta_3 MEdu_{i,t-1} + \beta_4 FEdu_{i,t-1} + \beta_5 PPPI_{i,t-1} + \alpha_i + \eta_t + \mu_{it} \ldots\ldots (i)$$

Where,

$Grow_{it}$ = Average annual growth for country 'i' during time period 't' which is measured by the 6 years period average of natural log of real GNP per capita,

$Ineq_{i,t-1}$ = Inequality for country 'i' during period t-1 which is measured by the 6 years period average of the ratio of income share of top 10 percentile and bottom 50 percentile population in terms of income,

$Grow_{i,t-1}$ = Economic growth that is measured by the 6 years average annual economic growth for country 'i' during time period t-1 in terms of log of Real GNP per capita calculated using Atlas Method[3].

$MEdu_{t-1}$ = Male education that is measured by the 6 years average of secondary schoolingin the male population aged over 25.

$FEdu_{i,t-1}$ = Female education that is measured by the 6 years average of secondary schooling in the female population aged over 25.

$PPPI_{i,t-1}$ = Price level of investment measured as the PPP of exchange rate relative to U.S. $ which is used to measure how the cost of investment varies between each country and The United States of Nation. It is meant to capture market distortions that affect the cost of investment such as tariffs, government regulations, corruption, and the cost of foreign exchange;

α_i = Country dummy;

η_t = Period dummy; and

μ_{it} = Error term.

'i' = each country and 't' represents each time period (t = 1, 2, …, T).

Tools, Technics and Econometric Analysis

Descriptive Statistics

Descriptive statistics is the term that helps organize, summarize, display, and describe the collected data and information in a meaningful way that creates important patterns in the data. It allows presenting a large amount of raw data applied to the study. Descriptive statistics show the nature of variables and their distributions. It helps to better understand the nature and interpretation of data. Descriptive statistics describe the 'Central Position / Tendency' and 'Measures of Spread' of a frequency distribution of collected raw data. In order to understand the behavior of data series of given variables, the study used descriptive statistics measuring mean, standard deviation, minimum, and maximum based on the 36 observations, as shown in Table 1.

3 Atlas Method is the method of GDP calculation that smooths the exchange rate fluctuations by usinga three year moving average price-adjusted conversion factor.

Table 1: Descriptive Statistics of the Variables

Variables	Full Form	Years	Mean	Stand. Dev^{n}.	Min.	Max.
$Grow_{i,t}$	Growth	1980-1985	5.72	0.46	5.075	6.39
		1986-1991	5.92	0.44	5.28	6.63
		1992-1997	6.16	0.66	5.31	7.24
		1998-2003	6.41	0.81	5.45	7.84
		2004-2009	6.93	0.80	5.43	7.82
		2010-2015	7.47	0.88	5.90	8.46
Ineq	Inequality	1980-1985	2.58	1.34	1.56	5.13
		1986-1991	2.78	1.20	1.78	5.15
		1992-1997	3.13	1.00	2.49	5.17
		1998-2003	3.27	1.01	2.31	5.09
		2004-2009	3.21	0.51	2.76	4.01
		2010-2015	3.04	0.64	2.56	4.13
$Grow_{i,t-1}$	Growth of one year lag period	1980-1985	-	-	-	-
		1986-1991	5.72	0.46	5.075	6.39
		1992-1997	5.92	0.44	5.28	6.63
		1998-2003	6.16	0.66	5.31	7.24
		2004-2009	6.41	0.81	5.45	7.84
		2010-2015	6.93	0.80	5.43	7.82
MEdu	Male Education	1980-1985	1.36	0.57	0.7	2.26
		1986-1991	1.46	0.38	1.13	2.05
		1992-1997	1.61	0.46	1.22	2.40
		1998-2003	1.91	0.83	1.00	3.20
		2004-2009	2.15	0.88	1.07	3.32
		2010-2015	2.39	0.76	1.48	3.40
FEdu	Female Education	1980-1985	0.73	0.69	0.14	1.72
		1986-1991	0.82	0.65	0.31	1.87
		1992-1997	0.94	0.70	0.37	2.29
		1998-2003	1.21	0.94	0.48	3.07
		2004-2009	1.30	0.95	0.54	3.16
		2010-2015	1.59	0.83	0.78	3.17
PPPI	Price Level of Investment	1980-1985	51.95	0.69	0.14	1.72
		1986-1991	42.93	0.65	0.30	1.87
		1992-1997	43.06	0.70	0.37	2.29
		1998-2003	38.99	0.94	0.48	3.07
		2004-2009	43.94	0.96	0.54	3.16
		2010-2015	51.68	0.83	0.78	3.17

Source: Author's calculation, 2022.

Model Estimation

A wide range of different estimation techniques can be used to estimate our panel model. The study used 'Fixed Effects' and 'Random Effects' estimation techniques. Between these two effects, random effects could incorporate information across individual countries and periods. However, the problem with these two estimation methods is that the model contains a lagged endogenous variable. In order to fix this problem, the panel model can be rewritten with growth expressed as the difference in income level as given.

$$Income_{it} = \beta_1 Ineq_{i,t-1} + \gamma_2 Income_{i,t-1} + \beta_3 MEdu_{i,t-1} + \beta_4 FEdu_{i,t-1} + \beta_5 PPPI_{i,t-1} + \alpha_i + \eta_t + \mu_{it} \quad \ldots\ldots.(ii)$$

To simplify, this can be written as $y_{it} = \gamma y_{i,t-1} + X'_{i,t-1}\beta + \alpha_i + \eta_t + \mu_{it}$ ……...(iii)

Where, $\gamma_2 = \beta_2 + 1$, $\boldsymbol{\beta}$ is the matrix of regression coefficients; and $\boldsymbol{X'}$ = Matrix of all the independent variables.

Even if the lagged endogenous variable $y_{i,t-1}$ is error term, u_{it} are not correlated, the estimation done by 'Fixed Effects' and 'Random Effects' are not consistent and ***'t'*** does not approach infinity (in our case t = 6). To fix the problems that lead to inconsistency of random effect estimates, Chamberlain's π-matrix technique is also used. But this method pre-requires exogeneity of a large subset of the explanatory variables. In the given model, this condition is very unlikely to be fulfilled. A 'Hausman specification test' or 'Matrix Singularity Test' can be used to check the exogeneity of the explanatory variables of the study other than income.

The GMM estimator formulated by Arellano and Bond (1991) can be an efficient estimator for the panel model. Because, it corrects for bias introduced by the lagged endogenous variable andallows a certain degree of endogeneity in the explanatory variables. This estimator first-differences each variable to eliminate the country-specific effect and then uses all the possible lagged values of each of the variables as instruments (Forbes, 2000). Arellano and Bond rewrite the given equation (iii) as follows -

$$y_{it} - y_{i,t-1} = \gamma (y_{i,t-1} - y_{i.t-2}) + (X'_{i,t-1} - X'_{i,t-2})\beta + (\mu_{it} - \mu_{i,t-1}) \ldots\ldots\ldots\ldots\ldots.(iv)$$

In equation (iv), all the variables are now written as deviation from period means, which is done in order to control for period dummy variables. For period t = 3, this model uses $y_{i,t=1}$ as an instrument for ($y_{i,t=2} - y_{i}$. t = 1) and so on. The critical assumptions that must be met for this estimator to be consistent and efficient are that the $\mathbf{X'}_i$, t-k's must be predetermined by at least one period (E ($\mathbf{X'}_{i't}$ μ_{ik}) = 0 for all k > t) and the error term cannot be serially correlated E (μ_i μ**i**, t-k) = 0 and k ≥ 1).

Table 2: Estimates of Variables Using Different Techniques

Estimation Methods	Fixed Effects (1)	Random Effects (2)	GMM Estimation (3)
Inequality	0.0086 (0.0033)	0.0076 (0.0034)	0.0083 (0.0025)
Growth	- 0.0151 (0.0038)	0.01728 (0.0060)	- 0.0182 (0.0030)
Male Education	- 0.0202 (0.0449)	0.0217 (0.0069)	- 0.0026 (0.0070)
Female Education	0.0285 (0.011)	- 0.0874 (0.0358)	0.0292 (0.0711)
PPPI	- 0.0008 (0.0002)	- 0.0009 (0.0002)	- 0.0019 (0.0001)
R- square	0.71	0.66	NA
Adj. R - square	0.48	0.51	NA
Countries	6	6	6
Observations	36	36	36
Periods	1980-2015	1980-2015	1980-2015

Source: Author's calculation, 2022.

Table 2 contains the estimates of the model by using fixed effects, random effects, and generalized method of moments (GMM) estimation. The parentheses contain standard deviation values. Even if the estimates are statistically significant, a test of the validity of assumptions must be conducted for each method. First, a Hausman test is conducted to compare the fixed effects estimates of column 1 and random effects estimates of column 2. The Hausman test rejects the fixed effects estimates with $\chi^2(5) = 10.76$ with a p-value of 0.057. However, due to the lagged income variable, both methods are inconsistent.

Another test is the matrix singularity test that rejects the exogeneity of the explanatory variables with a reciprocal conditional number very close to zero. Hence, Chamberlain's π-matrix cannot be used forestimates. Although there are no formal means of checking the first assumption of our model, the regression of inequality on lagged growth in the model suggests that the Xi, t-s's are predetermined by at least one period. For the second assumption, both the second-order serial correlation test and Sargan's test of over-identifying restriction are satisfied with a p-value of 0.039. Hence, although there is a possibility of endogeneity between inequality and growth, it undermines the requirements that $E(X'i,t\ \mu ik) = 0$ for all $k > t$. Thus, it is suggested by numerous evidences that the GMM estimator is both consistent and efficient in the study.

The reports in column 3 do not only agree with the literature that derives a positive relationship between income inequality and growth, but most are highly significant. The results show that the coefficient of initial income is negative and significant. Although it is not significant, the effect of male education on economic growth is negative, but female education has a significant positive impact on growth. Agreeing with the existing literature, the coefficient of market distortions is negative and highly significant. No matter, which estimation

technique is utilized, the coefficient of income inequality is always positive at significant at the 5 percent level. Even though this is not surprising, the magnitude of the coefficient is. A ten-point increment income in the inequality of a country is correlated with a 0.8 percent increment in the average annual growth rate over the coming six-year period. Unlikely, this shows the scale of the trade-off between promoting equity and growthin a country.

Conclusion

The results of the study challenge and complement the literature on the relationship between inequality and economic growth in South Asia. Although the results of fixed effects and random effects estimation are statistically significant, they are not as consistent and efficient as the GMM technique used in this study. One exciting aspect of the study's results is that no matter which estimation technique is used to estimate the panel model, the relationship between inequality and economic growth is always positive and statistically significant. This implies that in South Asia, inequality promotes economic growth with one caveat: the study only focuses on the short-term relationship. The lagged endogenous term has been considered, and theuse of GMM estimation technique also takes persisting endogeneity into account. Although it is not statistically significant, the impact of male education seems to negatively affect the economic growth rate which is a similar result across various pieces of literature.

An important policy implication of this study is that a trade-off exists between promoting equity and efficiency. When policymakers implement a pro-equity policy, they should also consider its negative effects on growth and efficiency. Even if the study reassesses the relationship between inequality and economic growth, it does not identify the channel through which inequality affects economic growth. A further body of literature theorizing the channels and paths through which inequality affects economic growth is very important to shed more light on this issue.

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Appendix – I: Data set of the Variables under Study

Years	Period	Countries	Growth rate of Income (%)	Inequality Index (6 years period average of the ratio of the income share of top 10 percentile and bottom 50 percentile popⁿ in terms of income)	Income (GNI per capita in US $)	Male education (6 years average of secondary schooling in the male popⁿ aged over 25)	Female Education ((6 years average of secondary schooling in the female popⁿ aged over 25)	PPPI (Price level of investment measured as the PPP of exchange rate relative to US $)
1980-1985	1	1. Bangladesh	3.70	1.90	230.00	1	0.31	69.33
1986-1991	2		3.71	2.16	293.33	1.13	0.48	55.85
1992-1997	3		4.69	2.61	346.66	1.23	0.68	56.31
1998-2003	4		4.79	2.87	436.66	1.41	0.93	48.20
2004-2009	5		6.09	2.93	605.00	1.73	1.18	40.56
2010-2015	6		6.19	2.64	1005.00	2.17	1.69	46.31
1980-1985	1	2. India	5.43	1.62	290.00	1.04	0.37	57.09
1986-1991	2		5.15	1.78	361.66	1.21	0.48	46.64
1992-1997	3		6.01	2.61	363.33	1.73	0.63	33.58
1998-2003	4		5.89	2.30	453.33	2.5	1.2	29.75
2004-2009	5		7.08	3.07	856.66	2.77	1.14	36.79
2010-2015	6		6.83	4.13	1456.66	3.06	1.44	40.58
1980-1985	1	3. Maldives	6.25	5.12	601.67	2.26	1.72	57.86
1986-1991	2		11.67	5.12	756.87	1.8	1.4	49.35
1992-1997	3		12.98	5.12	1403.75	1.39	1.09	58.33
1998-2003	4		13.51	5.09	2560.06	1	0.78	54.85
2004-2009	5		15.04	4.00	4751.00	1.07	0.54	63.95
2010-2015	6		9.85	2.75	7060.52	1.69	1.27	76.37
1980-1985	1	4. Nepal	3.77	1.55	160.00	0.7	0.14	42.73
1986-1991	2		4.88	2.20	196.66	1.14	0.3	33.82
1992-1997	3		5.00	2.87	203.33	1.22	0.37	29.26
1998-2003	4		3.74	2.82	233.33	1.35	0.48	28.25
2004-2009	5		4.26	2.75	368.33	1.43	0.62	36.14
2010-2015	6		4.36	2.61	761.66	1.48	0.78	53.29
1980-1985	1	5. Pakistan	7.35	2.73	340.00	1.35	0.33	50.25
1986-1991	2		5.67	2.68	386.00	1.47	0.4	38.27
1992-1997	3		4.00	2.49	455.00	1.71	0.57	38.70
1998-2003	4		3.71	2.78	496.66	2.01	0.77	32.966
2004-2009	5		4.88	2.83	821.66	2.6	1.18	42.38
2010-2015	6		3.61	2.56	1136.66	2.54	1.18	40.86
1980-1985	1	6. Sri Lanka	5.09	2.56	370.00	1.77	1.53	34.42
1986-1991	2		5.15	2.70	448.33	2.05	1.87	33.62
1992-1997	3		5.43	3.02	670.00	2.4	2.29	42.22
1998-2003	4		3.89	3.78	856.66	3.2	3.07	39.93
2004-2009	5		5.94	3.65	1496.66	3.32	3.16	43.79
2010-2015	6		6.48	3.49	3251.66	3.4	3.17	52.65