

ECONOMIC GROWTH AND INCOME INEQUALITY

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ABSTRACT

This paper discusses the empirical evidence on the relationship between income inequality and economic growth. The starting point for the theoretical literature on the relationship between growth and income inequality is the *Kuznets hypothesis*. Studies of income inequality and economic growth have been well conducted by many other scholars and organizations. But there is still more work needed to be done in this research area. Despite the broad existing literature on income inequality and economic growth, there remains considerable disagreement on the effect of inequality on economic growth. Existing literatures find either a positive or a negative relationship. Through this paper, we found that (i) growth has a positive impact on inequality; (ii) growth has a negative impact on inequality; and (iii) no relationship between growth and inequality. Hence, policy needs to take into account of the fact that low socio-economic groups in unequal societies are likely to have underinvested in formal education. Thus, strategies to foster skills development must include improved job-related training and education for the low-skilled (on-the-job training) and better access to formal education over their working lives.

Keywords: Economic growth; Income inequality; *Kuznets hypothesis*; Gini coefficient; Poverty

1. INTRODUCTION

Economic growth is important for society as it increases real income and consumption, both in absolute and per capita terms, and hence makes us materially better off. Even minute increases in a country's growth rate can result in dramatic changes in living standards over just one generation. Economic growth refers to the steady process by which the productive capacity of the economy is increased over time to bring about rising levels of national output and income (Todaro, 1997). The benefits of growth, however, may not be shared equally. Some may gain less than others, and a fraction of the population may actually be disadvantaged.

The question of who benefits from economic growth is not new. During the early years of the current period of interest in economic development, roughly from 1950 to 1965, development specialists ignored the problems of inequality and poverty tacitly assumed that when per-capita GNP rises everyone becomes better off. Income inequality is defined as the existence of disproportionate distribution of total national income among households whereby the share going to rich persons in a country is far greater than that going to poorer persons (a situation common to most LDCs). This is largely due to differences in the amount of income derived from ownership of property and to a lesser extent the result of differences in earned income. Inequality of person's income can be reduced by progressive income taxes and wealth taxes (Todaro, 1997).

While inequality may strike people as more of a problem when per-capita income is growing than when it is stagnant, poverty is likely to be an even greater problem in periods and in East Asia. We should deal first with the concept of economic growth and income inequality.

- i. Income distribution is most common way to evaluate the effect of development on economic well-being. Two types of income distribution are generally cited: the functional distribution and the size distribution. Such as, functional distribution refers to the division of national income or output among the factors of production, traditionally identified as land, labor, and capital. The size distribution measures the amount of income of all functional kinds received by individuals of families. It shows the shares of total income received by high-, middle-, and low-income families, and is commonly used as a direct measure of welfare.
- ii. The Lorenz curve shows the %age of total income accounted for by any cumulative %age of recipients. The shape of the curve indicates the degree of inequality in the income distribution.
- iii. Equality is an objective statistical measure used mainly to determine how far any actual distribution diverges from the standard. The most popular measurement for income inequality is Gini coefficient, whose value ranges from 0 to 1: the higher the value the larger inequality.

The paper is organized as follows: Section 2 discusses on theoretical background of the study. Section 3 presents the empirical evidence on the relationship between income inequality and economic growth. Summary and conclusion is presented in Section 4.

2. THEORETICAL BACKGROUND

The starting point for the theoretical literature on the relationship between growth and inequality is the *Kuznets hypothesis*. The *Kuznets hypothesis* suggests that inequality is low at a lower income level but later increases at higher income level with economic growth. As the income level grows, inequality decreases. Thus the relationship between income distribution and income level can be described by an inverted U-curve.

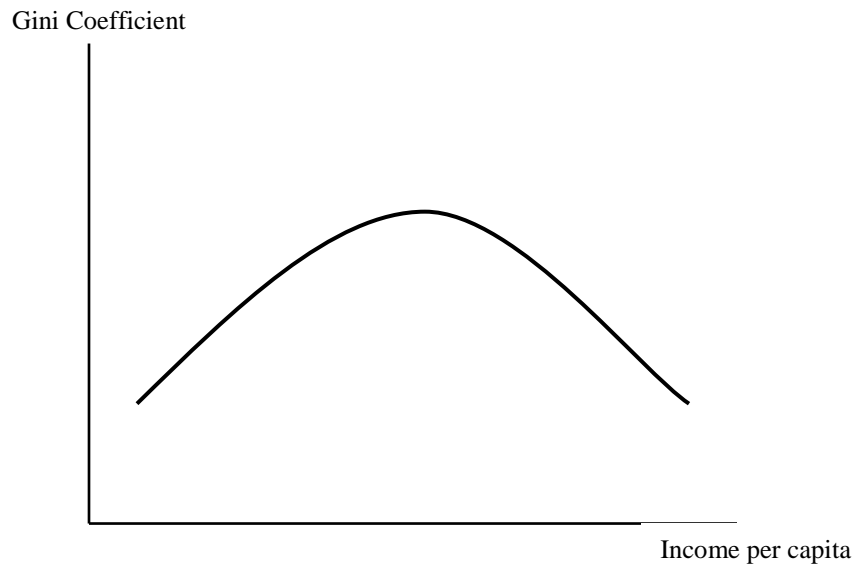


Figure 1: The “Inverted U” Kuznet’s Curve

Theoretical attention in economic inequality has a long history. The thought of fair distribution can be dated back to classical economists like David Ricardo and left-wing theoretical masters like Karl Marx. These theorists have already recognized the importance of distribution in the society, and among different classes. Especially the latter strand points out extreme unfairness of distribution in productive materials and income is the root of severe confrontation between classes and social conflict. The strand believes a complete equity of income distribution should be realized when the social welfare then can be maximized and social friction can be minimized. Its theory implies that economic growth would be sustained with the strict equal distribution.

Theory of economic growth also has its rich theoretical background which can be dated back to Adam Smith. According to his point of view, economic inequality is unavoidable with no doubt, since he appreciates an economy with social division as much as possible. Higher social division leads to higher productivity and the income gap between classes with higher productivity and those with lower productivity has to widen naturally. It is obvious that Smith does not view economic inequality a key issue. Along the neoclassical tradition, even the main-stream growth theory since 1950s does not have manifest linkage with distribution. The reason may be neoclassical assumption leads to no welfare implication in income distribution dynamics (Bertola, 2000).

The studies on the relationship between economic inequality and economic growth have reinvigorated gradually since the past twenty years. It is fairly obvious that this is because the analysis in this area has deviated from simple neoclassical framework by taking into account more realistic economic, political and social elements. Besides traditional theoretical studies, more empirical work has been conducted. However, there is still discrepancy of recognition of the relationship between these two variables. For example, Persson and Tabellini (1994) shows that there is significantly negative relationship between inequality and growth in democratic countries. Milanovic (1994) argues that inequality in richer countries decrease because those countries can be aware to build up a fairer social environment. On the contrary, Barro (2000) concludes that there is a negative relationship for poor countries, but a positive relationship for rich countries. With the finding that inequality in China and India comes along with their economic growth, Quah (2001) raises that inequality can increase or decrease economic growth.

On the inequality to growth link, the theoretical literatures are divided with some studies concluding that inequality leads to faster growth, and some others suggesting that inequality is likely to lower growth. There are three main arguments for the detrimental impact of inequality on growth. The first is the political economy argument (Alesina and Rodrick (1994)), which is based on the following three premises: (i) redistributive government expenditure and taxation are negatively related to growth because of their negative effect on capital accumulation; (ii) taxes are proportional to income but the benefits of public expenditure accrue equally to all individuals, which in turn implies that an individual's preferred levels of taxation and expenditure are inversely related to his income; and (iii) the tax rate selected by the government is the one preferred by the median voter. Taken together, those premises would imply that growth increases as inequality falls.

A second argument for an inequality-to-growth direction of causality relies on the so-called sociopolitical instability approach (Alesina and Perotti (1996)) which can be summarized as follows: (i) highly unequal societies create incentives for individuals to engage in activities outside normal markets, such as crime, etc.; and (ii) sociopolitical instability discourages accumulation because of current disruptions and future uncertainty. This approach would also imply that growth increases as inequality falls.

A third argument for the proposition that increases in inequality lead to lower growth is the presence of credit constraints. Galor and Zeira (1993) note that if (i) the process of development is characterized by complementarity between physical and human capital so that growth increases as investment in human capital increases; and (ii) credit constraints prevent poorer individuals from investing in education, then inequality will adversely affect growth prospects by reducing the number of individuals who are able to invest in human capital. Similarly, Aghion et al. (1999), show that if (i) there are decreasing returns with respect to individual capital investments; and (ii) credit imperfections mean that individual investments are an increased function of initial endowments, then inequality would be detrimental to growth by concentrating investment in fewer richer people (with a lower marginal return to investment).

Admittedly, there are also models that predict that inequality is likely to be growth enhancing. First, one may consider Kaldor's hypothesis that the marginal propensity to save of rich people is higher than that of poor people. Then if the investment rate is positively related to the saving rate, and growth is positively related to investment, more unequal economies can be expected to grow faster. Bourguignon (1981) builds a more elaborate model and shows that with a convex saving function, aggregate output depends on the initial distribution and is higher the more unequal society is.

A second reason why inequality may lead to faster growth is related to investment indivisibilities. If new investment projects require large initial sums, in the absence of effective capital markets that allow pooling of resources by small investors, wealth concentration would support new investment and therefore lead to faster growth.

A third reason supporting this argument can be based on the potential tradeoffs between efficiency and equality. For example, compressed wage structures that do not reward merit will lead to more equal societies, but it is also likely that they will reduce workers' incentives to put in additional effort or aim at outstanding achievements Mirrlees (1971).

3. EMPIRICAL EVIDENCE

The early literature on the evolution of income inequality over the process of development used to be dominated by the so-called *Kuznets hypothesis*. Using both cross-country data and time series, Simon Kuznets (1963) found an inverted U-shaped relation between income inequality and GNP per head. This result was interpreted as describing the evolution of the distribution of income over the transition from a rural to an industrial economy: income inequality should increase during the early stages of the development (due to urbanization and industrialization) and decrease later on (as industries would already attract a large fraction of the rural labor force). And indeed, in the US the share of total wealth owned by the 10 % richest households rose from 50 % around 1770, to about 75 % around 1870, and then receded back to 50 % in 1970.

Up to the 1970s, the *Kuznets hypothesis* seemed to account for the experience not only of the US but also of the most of the OECD countries, where there appeared to be a virtuous circle: lower inequality would foster growth, which in turn would reduce inequality. However, the downward trend inequality experienced by these economies during the twentieth century has reversed sharply in recent times. In particular, the past 15 years have witnessed a significant increase in wage inequality.

Su (2001) studies the relationship between economic inequality and economic growth using panel data model which involved with factor movement. The empirical study contains two layers: one is in the scope of a group of 21 countries including developing, transition and developed countries; the other one is in the scope of developing and transition countries and developed countries respectively. However, they have not taken into account what the reason of driving the mobility are, which can content economic and non-economic factors.

The result of this study partially confirms the hypothesis of Kuznets (1955) since the negative relationship between inequality and economic growth shows up much strongly in developed countries, but less in less developed countries. Because there presents a positive sign for the relationship between inequality and economic growth in most groups of sample countries, it appears to be correct of the implication of Kuznets (1955) that inequality would be more likely to have negative relationship with economic growth. A similar point about the negative effect of inequality on economic growth is also discussed in Knowles (2001).

Sala-i-Martin (2002) used aggregate GDP data and within-country income shares for the period 1970-1998 to assign a level of income to each person in the world. He estimated the Gaussian kernel density function the worldwide distribution of income and computed world poverty rates by integrating the density function below the poverty lines. The study estimates global income inequality using seven different popular indexes: Gini coefficient, the variance of log-income, two of Atkinson's indexes, the Mean Logarithmic Deviation, the Theil index and the coefficient of variation. All indexes show a reduction in global income inequality between 1980 and 1998.

On the other hand, this study indicates that most global disparities can be accounted for by a cross-country, not within-country, inequalities. Within-country disparities have increased slightly during the sample period, but not nearly enough to offset the substantial reduction in across-country disparities. The across-country reductions in inequality are driven mainly, but not fully, by the large growth rate of the incomes of the 1.2 billion Chinese citizens.

Chen (2003) carried out study on the relationship between initial income inequality and long run economic growth using cross country data. The study proposed an Inverted-U relationship, and estimated it using Barro-type model. The result of this study are reminiscent of the Kuznet's Curve (1966), according to which income inequality first increases and then decreases with the level of income. This finding differs from the Kuznets Curve, in that the long run income growth rate first rises and then declines with the initial income inequality. Therefore, this result did not conflict with the Kuznets Curve. However, an Inverted-U relationship did not exist in the short run. The main reason laid in the data that income inequality changes very little for different period, whereas economic growth rate very much more.

On the growth-to-inequality link, the empirical literature is quite unanimous that growth does not have a systematic impact on inequality. Deininger and Squire (1996), Chen and Ravallion (1997), Easterly (1999) and more recently, Dollar and Kraay (2002) all suggest that growth, as such, does not have an impact on impact on inequality. This would suggest that on average a typical pro-growth strategy would not be useful in addressing high levels of inequality and that there is no virtuous circle between higher growth and falling inequality levels.

Unlike the empirical literature for growth-to-inequality link, the inequality to growth link empirical literature are divided with some studies concluding that inequality leads to

faster growth, and some others suggesting that inequality is likely to lower growth. Like the theoretical literature, the empirical results are not unanimous on the existence of a causal link between inequality and growth. Alessina and Perotti (1996) find a negative relationship from inequality to growth; Barro (2000) and Lopez (2004) finds no relationship; and finally, Li and Zhou (1998) and Forbes (2000) find a positive relationship between income inequality and economic growth.

One can find several explanations for this apparent contradiction of results. For example, Forbes (2000) explores the role played by five different factors: (i) use of different variables; (ii) different samples; (iii) data quality issues; (iv) time span; and (v) omitted variable bias in the papers using a cross section. She concludes that that the most likely reasons for the discrepancy are country specific, time-invariant, omitted variable bias and the length of the period under consideration. Banerjee and Duflo (2003), on the other hand, explain the differences arguing that the growth rate is an inverted U-shaped function of net changes in inequality. In addition to being able to explain the discrepancies, they also show that changes in inequality (in either direction) would be associated with lower growth in the next period.

Studies by Aghion et al. (1999) provide a good discussion on the effects of inequality on growth. Their study shows that in some instances, greater inequality may reduce an economy's rate of growth. In light of the recent evidence, new theories are needed to understand the impact of growth upon inequality. Economic growth during the past twenty years has been closely associated with three phenomena: trade liberalization, technical change, and the emergence of new organizational forms. They divide their survey into two parts which concern with different concepts of inequality. The first part concentrates on wealth inequality, while the second focuses on wage inequality. When looking at the effects of inequality on growth, they interested in the ways in which "*distribution*" can affect aggregate output and growth through its impact on individual investments in human or physical capital. Second, they looked at the effects of growth on inequality and distinguish a priori between changes in labor earnings and other sources of income.

Finally, they find that growth and economic development do not necessarily entail a reduction in inequality, as the recent experience of many OECD countries shows. They imply that technological change only affect earnings inequality insofar as they are associated with technical change. Hence, technical progress is by itself is a crucial source of inequality whenever it is not neutral, that is if it affects differently the productivity of the various types of labor. They had seen that in the case of general purpose technologies (GPTs), the diffusion process generates a rise and then a decrease in wage inequality, thus giving rise to a "*temporary*" Kuznets' curve during the transition from the old to the new GPT.

They conclude that overall, technological change appears both as the major source of economic growth and as the main vector through which the growth process is likely to affect the distribution of earnings. It is therefore at the core of the relationship from growth to inequality. However, they find that the extent to which the growth process

actually induces rising inequality depends on the institutional characteristics of the country.

4. SUMMARY AND CONCLUSION

Studies of inequality and economic growth have been well conducted by many other scholars and organizations. But there is still more work needed to be done in this research

areas. Through this paper, we found that Kuznet (1955, 1963), Knowles (2001), Chen (2003), Alesina and Perotti (1996) and Su (2001) all suggested that growth has a negative impact on inequality. On the other hand, Sala-i-Martin (2002), Forbes (2000) and Li and Zhou (1998) found a positive relationship between growth and inequality. However, Deininger and Squire (1996), Chen and Ravallion (1997), Easterly (1999) and more recently, Dollar and Kraay (2002) found no relationship between growth and inequality.

Based on our studies, literature of income inequality and economic growth related with factor movement is rarely explored except Su (2001). Nevertheless, the papers have not taken into account what the reasons of driving the mobility are, which can contain economic and non-economic ones.

REFERENCES

- Alesina, A. & R. Perotti (1996). Income distribution, political instability, and investment. *European Economic Review*, 40: 1203-1228.
- Barro, R. J. (2000). Inequality and growth in a panel of countries. *Journal of Economic Growth*, 5: 87-120.
- Barro, R. J. & J. W. Lee (1994). Sources of economic growth. *Carnegie-Rochester Conference Series on Public Policy*, 40.
- Bertola, G. (2000). Macroeconomics of income distribution and growth. In Atkinson, A. B. & Bourguignon, F. (eds.), *Handbook of income distribution*, 1, Amsterdam: North-Holland.
- Chang, R. (1998). Political party negotiations, income distribution, and endogenous growth. *Journal of Monetary Economics*, 41: 227-255.
- Durlauf, S. N. (1994). Spillovers, stratification, and inequality. *European Economic Review*, 38: 836-845.
- Durlauf, S. N. (1996). A theory of persistent income inequality. *Journal of Economic Growth*, 1: 75-93.
- Knowles, S. (2001). Inequality and economic growth: The empirical relationship reconsidered in the light of comparable data. *CREDIT Research Paper*, 01/03: 1-32.
- Kuznets, S. (1955). Economic growth and income inequality. *American Economic Review*, 45: 1-28.

- Kuznets, S. (1963). Quantitative Aspects of the Economic Growth of Nations. *Economic Development and Cultural Change*, 11 (2): 1-80.
- Milanovic, B. (1994). Determinants of cross-country income inequality: An augmented Kuznets hypothesis. *World Bank Policy Research Working Paper*, 1246.
- Persson, T. & G. Tabellini (1994). Is inequality harmful for growth? Theory and evidence. *American Economic Review*, 84: 600-621.
- Quah, D. (2001). How income inequality and economic growth matter. In Razin, A., Sadka, E. & Swagel, P. (1998). Tax burden and migration: a political economy theory and evidence. *NBER Working Paper*, 6734.
- Sala-i-Martin, X., (2002). The disturbing “rise” of global income inequality. *NBER Working Paper Series*.
- Su, Q. (2001). Factor movement and economic growth. *World Development Report Working Paper*, 2000/2001, World Bank (2001).
- Todaro, M. P. (1997). *Economic Development*, London: Longman.