

Is there any relationship between economic growth and inequality in the income distribution?: case studies from Taiwan and Brazil

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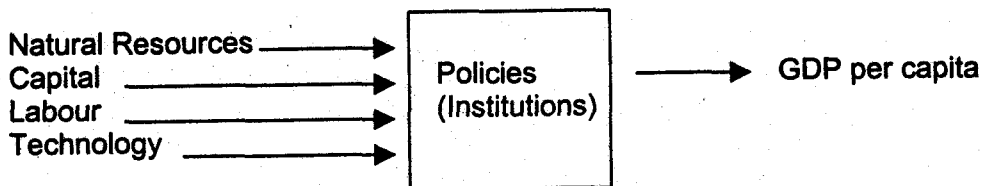
Introduction

The principle objective of economic development of a country is to alleviate poverty and to improve income distribution. One of the main questions in this development is whether there is a link between economic growth (GDP per capita) and inequality in the income distribution. This paper discusses the relationship between those two variables with evidences from cross-country studies reported in the literature. The first part of the paper discusses the theoretical bases of the issue, citing some evidences and illustrations from Taiwan and Brazil. The following part of the paper synthesises the common findings of the issue on the relationship between economic growth and income distribution, and finally, the conclusion.

Theoretical bases

Issue on the relationship between economic growth and equality of the distribution of income could be related to the theory of economic development. Performance of a country's economy is usually calculated by the increase of the national output of the country, measured by GDP per capita. In the process of development, inputs like natural resources, capital, labour and technology are transformed into output. However, the amount of GDP per capita may differ from one country to another, eventhough they have the same amount and the same quality of inputs. This difference might be influenced by the government policies, including the role of the institutions. Figure 1 shows the interrelationship between input and output in the process of economic development.

Figure 1. Process of economic development



The results of the economic development will come to the owner of the inputs. The more inputs they contribute to the process of development, the more results they will get. In a country where the economic development depends mainly on labour intensive process, the returns of the development will go mostly to the labour. On the contrary, if the process of development is a capital intensive one, the owner of the capital will get the returns more than that of the other inputs owners. Therefore, the type of the process of development will determine the amount of the returns received by the people of the country. The same level of GDP per capita will have different possibilities of its distribution since the process of the development is different from one country to another.

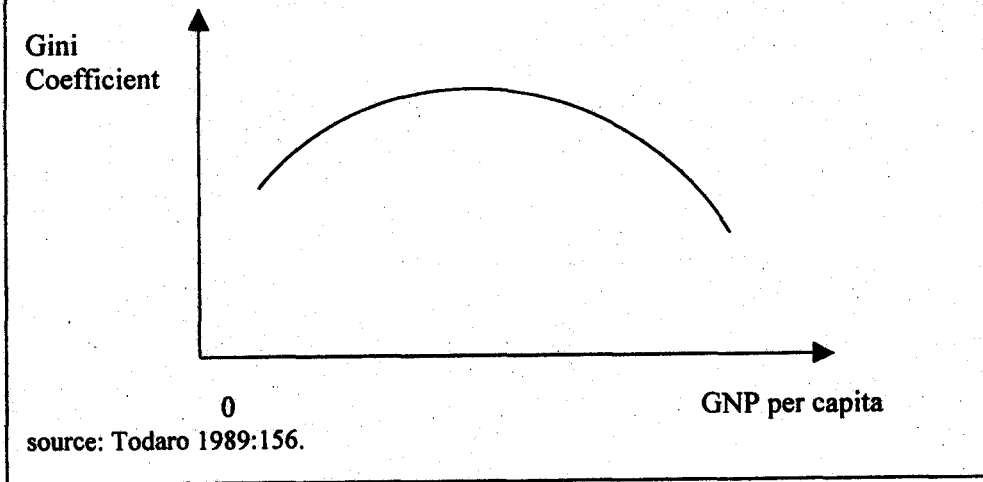
Another explanation of the cause of income inequality is related to the economic system of the country. Although, all countries, whether capitalist socialist or mixed economies show some inequality level, income in the socialist countries such as Czechoslovakia, Hungary, Poland and Bulgaria are more equally distributed (Todaro 1989:157). This might be related to the policies of the government mentioned in the Figure 1. The government of socialist countries usually pay more attention on the income distribution equality.

Kuznets "inverted-U" hypothesis that shows a relationship between Gini Coefficient and income per capita is another theory of income distribution (see figure 2) (Todaro 1989:156). When a country starts to develop its economy, the Gini Coefficient of the country increases, means that the distribution of income is getting worse. However, up to a certain level of income per capita, the more the income per capita of the country, the less the Gini Coefficient of the country.

The upward-trend of the Kuznets' curve related to the hypothesis that economic growth begins in a particular sector or region (unbalanced growth), where income will rise more rapidly than elsewhere in the country (Papanek 1986:15). Inequality in the income distribution, according to Papanek, is also caused by the lack of human and physical capital in the early stage of development (1986:15). Therefore, when development takes place and an excess demand for human and physical capital is likely to happen, there will be high rewards for the owners of these capitals.

On the other hand, according to Kuznets, the reverse of the trend is because most economically advanced countries have been able to develop mechanisms to transfer some proportion of the incomes from the rich to the poor. For example, they implement progressive income tax rates combined with public expenditures, social security payments, unemployment compensation and food stamps to the poor as the ways to reduce the income inequality (Todaro 1989:157). Case studies across countries will validate whether the theories are valid or not.

Figure 2. The Kuznets "Inverted-U" hypothesis



Case studies

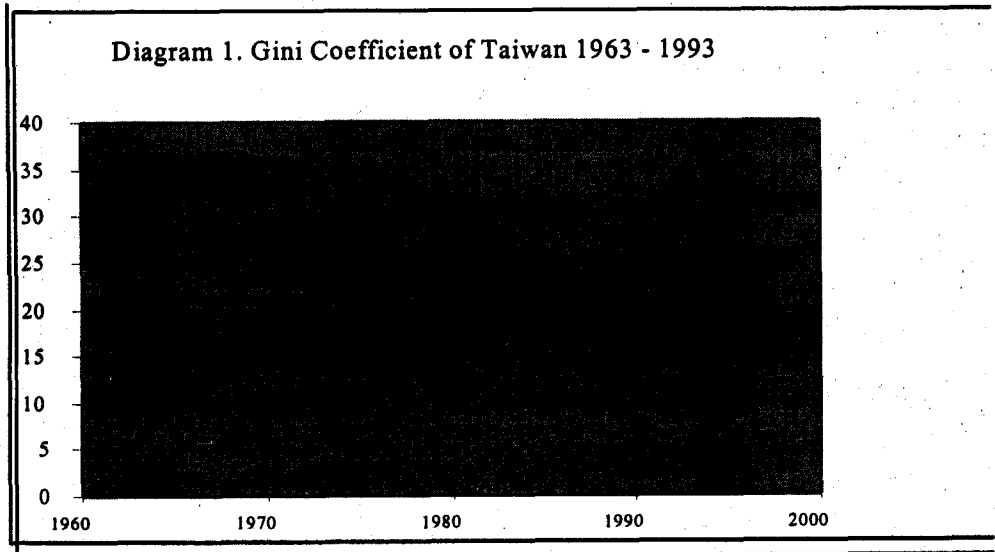
This section will draw examples from two countries with different pattern of economic growth and income distribution: Taiwan as a country with high economic growth as well as improvement of income distribution and Brazil as the country with high economic growth but unequal income distribution.

a. Taiwan

Galenson claims that Taiwan is one of the most successful countries in term of its economy since the World War I, apart from Japan, Hong Kong or Singapore (1982:38). After the War the initial condition of Taiwan was very difficult. Almost three fourth of Taiwan's infrastructures were heavily damaged because of war, illiteracy rate was very high (40% of adult male and 70% of female were illiterate) and the country was also not well endowed with natural resources (Galenson 1982:38). However, after three decades, Taiwan is known to be one of the very dynamic economies in the world. From 1950 – 1960, Taiwan's income per capita increased by 4.8 per annum, and the average income per capita growth between 1960 – 1978 was even bigger, 6.6 per year (Galenson 1982:38).

Besides the high increase in its GDP per capita, Taiwan has also been recognised as one of the countries with equal income distribution. The data of Gini Coefficient of the country during the period 1963 – 1993 is

shown by diagram 2. The graph shows that Gini Coefficient of Brazil from 1963 to 1980 decreased slightly, and although after 1980 the trend was going up, the Gini Coefficient of Taiwan were always below 0.40, a limit for low inequality according to Todaro (1989:156).



source: UNDP

Several literatures tried to study the possible causes of the high performance in economic growth and income distribution in Taiwan. On the one hand, there are several causes of the high economic growth in Taiwan. Firstly, the high rate of investment has increased the productivity and enhanced the economic growth of the country. Gross domestic investment was 13.3 % of GDP in 1955, and increased to 26% in 1978 (Galenson 1982:40). Secondly, the adoption of privatisation policy of the industrial sector ensured the efficiency of the process of economic growth through the competition of private companies. In 1953, the share of the government in the total manufacturing output was 56 %, decreased to 23% in 1980 (Galenson 1982:44). Third cause of the economic growth is the implementation of an open-economy policy. Taiwan applied export-oriented rather than import substitution policies since 1958 (Galenson 1982:49). This guaranteed the expansion of the market for their products, not only for domestic demand but also in the international market both for industrial goods and agricultural commodities, because in agricultural sector, Taiwan implemented the diversification of agricultural commodities into more profitable export-oriented crops (Fei et al. 1979:47).

On the other hand, there are at least two causes of the equal income distribution in Taiwan. The land reform policy in 1953, called 'Land-to-the-Tiller' program that limited the land ownership to 2.9 hectare per family was

identified as the first cause for Taiwan's equal income distribution (Galenson 1982:40; Fei *et al.* 1979:11). The landlords were given compensations for the lands they given up. This program avoided the disparities of land ownership to become larger. Taiwan's policy for industrial sector is another reason for equal income distribution (Galenson 1982:44). In the early stage of the growth, Taiwan industrialisation was based on the labour-intensive process, since labour was abundant. However, when capital stock began to increase and labour was limited, industrialisation process in Taiwan began to shift to the capital intensive. Taiwan has chosen the proper economic development strategy based on the resource availability.

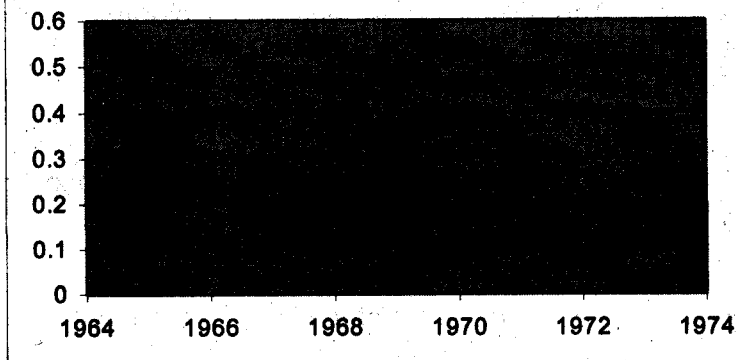
Policy in improving human resources in Taiwan had also contributed its rapid economic growth and equal income distribution. If the illiteracy rate in Taiwan in the late 1940s was as high as 40% for male and 60% for female, in 1967, Taiwan pushed through the policy of providing all children at least six years of primary school (Galenson 1982:51). In 1976, 71.5% of all males and 60% of all females were enrolled in seventh to ninth grade classes. Many college graduates in Taiwan go to United States and other developed nations for advanced training and knowledge. The evidence that Taiwan does not have problem in unemployment of educated people tells that this country was also successful in training people for skills that were needed. Sam argues that the continuous labor upgrading in Taiwan become one of its success key in economic development to cope with the rapid technological change (2001:284). Another advantage of human development in Taiwan, I think, is that the more the number of people get skills and knowledge in a country, the more the number of people being involved in the process of development. As a result, the more equal the distribution of income of the country.

b. Brazil

Brazil was a country with a miracle economic growth during the period of 1967 – 1973. Based on the import substitution as well as export oriented policies, the income per capita of the country increased from \$ 1784 in 1960 to \$ 4303 in 1980. The annual growth of GDP per capita during that period was 4.5% (IMF)

Aside from the rapid economic growth, the income disparities between the poor and the rich have widened in Brazil (Morley 1982:11). In 1960 and 1970, top ten percent of the population who are rich earned the 40% and 20% of the total GDP, respectively. Diagram 2 shows the data on Gini Coefficient in Brazil. The graph shows that the trends of the Brazil's Gini Coefficient increased from 3.4 (low inequality) in 1965 to 0.5 (high inequality) in 1973.

Diagram 2. Data on Gini Coefficient of Brazil, 1965 - 1973



Source: UNDP

Several authors argue that the reasons for the inequality of income distribution in Brazil were the dualism of the socio-economic condition of the country and the economic growth strategy. Morley said that Brazil is a unique nation where the difference condition of its economic sector and of its regional are very wide in term of the productivity, the income, the education and the sectoral composition of the labour force (1982:8). The state of Sao Paulo is the place in Brazil where its economy based on the modern industry and produces about 57% of all manufacturing output, and which has income per capita about \$ 2000. In contrast, in the Northeast part of the country, where the economy based on agriculture, the labour productivity is about one-third of it is in Sao Paulo, and which per capita income is \$ 375. Since the industrial sector is concentrated in a certain area of the country, and there is a big gap in productivity between agricultural and industrial sectors, we could expect that the income distribution in Brazil is likely to be unequal.

The second cause of the inequality of income distribution was the growth strategy implemented by the government. The subsidies available for exporters of manufacture goods rather than natural-resources based commodities has impact on the slower growth of the last exporters (Clements 1988:138). As Clements points out, the policy has increased the share of manufactured goods in export from 43% in 1979 to 55% in 1985. In addition, Morley suggests that the policy of holding down the minimum wage, particularly for unskilled labors, caused the rise of inequality of the income distribution in Brazil (1982:12). According to Morley, modern-industrial sectors in Brazil are skilled-intensive (1982:62). When the skilled labor is scarce and workers are difficult to train, there will be an excess demand for skilled labor. On the other hand, there will be an excess supply of unskilled labor. As a result, subsidy and wage policies increased the wage disparities between skilled-educated labour in modern industrial sector and unskilled-labour of agriculture in Brazil.

Common Findings

Based on the comparative case studies presented, the following conclusion are drawn. It is important to choose a proper development strategy appropriate for the particular country. In the case of Taiwan appropriate policies led this country not only to better economic growth but also to better income distribution. Brazil is different. This country has experienced the rapid economic growth with unequal income distribution. Increase in investment together with the export-orientation policy has boost the economic of Brazil and Taiwan. However, in the case of Taiwan, developing the human resources as well as equal distribution of the assets at the early stage of development has helped the distribution of the income more equal. On the other hand, since the Brazilian government failed to remove the problem of dualism, rapid economic growth is not accompanied by equal income distribution. Instead, the government implemented policies that were in favour with the modern- rich economic sectors.

Fields who did a research on the data across countries argues that there is no evidence that support the hypothesis of 'inequality is more likely to increase when the economic growth rate is rapid' (1989:173). He also finds that there is no evidence in which the economic growth tends to raise inequality in low-income countries and to reduce inequality in high-income countries (Fields 1989:176). This means that the inverted U-curve of Kuznets is not likely the case.

In the other part of his research, Fields concludes that there is no relationship between the change in inequality of the distribution of income and the rate of economic growth (1989:177). The different performance in income inequality from one country to another depends upon the strategy of development of the country, but not the rate of growth itself. Apparently, the case of economic development in Taiwan and Brazil supports this argument.

Conclusion

In conclusion, the relationship between economic growth and inequality of income distribution is uncertain. Cross-country evidence on the relationship between economic growth and inequality is inconclusive. The change in the level of income distribution is not based on the level of the economic growth of the country, rather it is based on the type of the growth itself. If a country want to achieve both rapid economic growth and equal income distribution, several aspects should be considered. Capital accumulation or investment and open economy strategies are still believed as the engine for economic growth. In addition, implementing even

distribution of assets at the early stage of development will assure more equal distribution of income. In Taiwan, this was done by land reform policy in 1953 and improving the productivity of the labour by human resource development. When the asset ownership distributed equally among the people, the equal income distribution is likely to happen. Other development strategy chosen by the government also related to the equality of income distribution. When a country has abundant labor, labor-intensive process of development is better than capital-intensive strategy, in order to assure the equality of income distribution. Economic growth is accompanied by equal income distribution, as Raos says, "if the poor derive a proportionately larger share of incremental income than the rich, then and then only, the degree of income inequality would get reduced" (2001:29).

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