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Kuznet's inverted U-hypothesis

Simon Kuznets put forward the hypothesis that relationship between per capita national income and the degree of inequality in income distribution may be of the form of inverted-U. Due to limitations of data he used an inequality measure of the ratio of income share of the richest 20 per cent of the population to the bottom 60 per cent of the population known as Kuznets' ratio. According to the Kuznets' Inverted U-hypothesis, as per capita national income of a country increases, in the initial stages of growth, inequality in income distribution rises and after reaching the highest degree in the intermediate level the income inequality falls. This is shown in Fig. -1 where as a country develops and its per capita income rises, the degree of income inequality initially rises and after reaching the maximum level, it falls as GDP per capita increases further.

As time series data of the transition of the poor underdeveloped countries from underdeveloped stage to the developed stage was not available, he used the data of cross section of countries including both developed and developing countries. In his 1955 study he calculated the Kuznets' ratios and found that the developing countries tend to have a higher degree of inequality whereas the rich developed countries tend to have a lower degree of inequality.
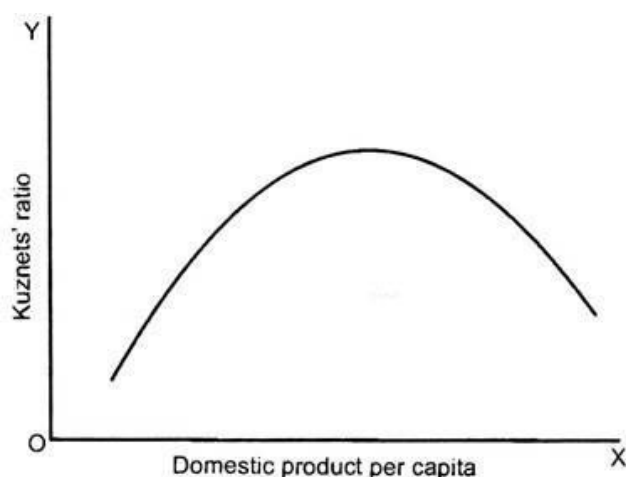

Fig. -1 *Kuznets' Inverted-U curve*

Later in his 1963 study Kuznets provided further evidence of his inverted U-hypothesis regarding the relationship between inequality and economic growth. In this study he included eighteen countries, as in the earlier study, he included in this sample both the developed and developing countries. From this later study he concluded that the share of upper income groups in the rich developed countries was significantly lower than their counterparts in the developing countries. This means income inequalities were higher in developing countries compared to those in the developed countries.

Other economists have also carried out studies to test Kuznets' inverted U-hypothesis. Due to the non-availability of income distribution data of an individual country over time as it grows over time from an underdeveloped stage, like Kuznets, others have also generally used cross-section data of countries with a mixture of developed and developing countries to test Kuznets' inverted U-hypothesis regarding the relationship between changes in income inequality and economic growth, one such cross-section study with data of forty six countries classified into different income categories according to the per capita GDP in 1965 in US dollars was made by Paukert using Gini Coefficient as a measure of inequality. Paukert's analysis of cross-section of countries also confirmed the inverted U-hypothesis of Kuznets and his findings are given in Table -2.

As will be seen from Table -2 in less than $100 per capita GDP category countries, Gini Coefficient is 0.419 and as we go to the next category of countries with per capita GDP between $ 101 and $200, Gini Coefficient rises to 0.468 and in still higher categories of per capita GDP between $201 and 300 inequality as measured by Gini Coefficient rises to 0.499.

However, beyond this in still high income categories of countries, the value of Gini Coefficient goes on falling and in the highest income category of countries with per capital GDP $2001 and above, Gini Coefficient falls to 0.365. This is in accordance with Kuznets' inverted U-hypothesis regarding changes in income inequality as economic growth occurs.

Table -2 Gini Coefficient in Cross-section of Countries

Income Category (1965 US $)	Average Gini Coefficient in Various Income Categories of Countries
Less than $100	0.419
$101 to $200	0.468
$201 to $300	0.499
$301 to $500	0.494
$501 to $1000	0.438
$1001 to $2000	0.401
$2001 and higher	0.365

Kuznets inverted U-hypothesis seems to hold well in later years, at least upto the year 1970. Montek Singh Ahluwalia used income distribution data of cross-section of countries and made estimates for the countries in near about the year 1970. Results of his study are given in Table -3.

Table -3 Inequalities of Income in GDP Per Capita

GNP Per Capita (in 1970 in $)	Number of Countries Included	Percentage of Income Recorded		Gini Coefficient	GNP Per Capita Mean ($)
		Lowest 40%	Highest 40%		
Under $ 150	10	15.6	51.3	0.402	101
$150 – $500	19	11.2	57.9	0.479	301
$ 500 – $1500	12	12.2	56.3	0.461	754
Developed Market Economics	13	16.1	43.5	0.358	2849
Socialist Countries	6	24.1	34.6	0.238	913

From the above table inequality can be judged by any three measures, namely, share of bottom 40% of population in GNP, share of top 40% of population in GNP and Gini Coefficients in different income categories countries. It is worth mentioning that in 6th column of Table-3 GNP per capita indicates the level of development of the economy. Using any of the three inequality measures it is found that the inequality first rises, then falls as per capita GNP increases as Kuznets' inverted U-hypothesis suggested. Changes in Gini ratio reveals that as average GNP per capita of countries increased from $101 to $301 Gini Coefficient increases from 0.402 to 0.479 and in countries with per capita GNP of $ 754 Gini Coefficient falls to 0.461 and then at mean GNP per capita of $ 2849, Gini Coefficient falls to 0.358.

Similarly, the share of bottom 40% of population in GNP indicates that it first falls and then rises again showing that inequality first rises and then falls. In accordance with this the share of highest 40 per cent in GNP first rises and then it falls. An interesting fact is revealed by the last row of Table -3 which gives the data of 6 socialist countries around the year 1970. This reveals that degree of income inequality as per all the three inequality measures in them was much less compared to market capitalist countries.

This is because in erstwhile socialist countries private ownership of tangible physical assets was generally abolished and therefore inequalities of income that arise mainly due to highly skewed distribution of assets and property did not exist in these socialist countries at that time. Even wage differentials in these countries were found to be less.

East Asian Countries and Kuznets' Inverted U- Hypothesis:

It is worth mentioning that development experience in East Asian countries does not conform to the inverted-U hypothesis of Kuznets. In East Asian countries such as Japan, South Korea, Taiwan, Thailand, Indonesia and Malaysia, contrary to Kuznets' inverted U -hypothesis, in the initial stages growth was not associated with increase in inequality. Instead, the increase in national income was widely shared among its population and millions were lifted out of poverty. For example, in Malaysia and Thailand the incidence of poverty declined from about 50 per cent in 1960s to less than 20 per cent by the end of the 20th century. Though the policies pursued by the various East Asian countries differed a lot, but the common features of these countries were, high rates of investment in physical and human capital, rapid growth of agricultural productivity and declining fertility. All these were conducive to economic growth with decline inequality in income distribution.

Conclusion:

Kuznets' inverted U – hypothesis suggests that in the growth process inequality first rises and then decline. The various factors and arguments have been advanced in favour of inverted U-hypotheses. However, as pointed out above, in case of East Asian countries such as Japan, South Korea, Taiwan, Thailand, Singapore where, contrary to Kuznets' inverted U-hypothesis, economic growth has resulted in the reduction in income inequality. This is because the effect of economic growth on income distribution has been influenced by economic policies pursued in these countries. For example, in countries of South Korea, Japan, Taiwan and other East Asian countries there had been redistribution of land and also other interventions by government in influencing economic activities that growth process worked to lower inequality in income distribution. In our view, there is no single path of growth which first increases inequality and then decreases it and much depends on the character of growth and policies followed by the governments of countries in the growth process. Many factors and policies influence growth and income distribution and the view that each country must travel through the inverted U- hypothesis is quite unwarranted.