

The Empirical Scope of the Inequality Process

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The Inequality Process (IP) [Angle, 1983-forthcoming] is a mathematical model of personal wealth and income dynamics at both the micro level (the person) and the macro level (distributions and other statistics of a population). The IP was abstracted from a verbal theory of economic anthropology, the explanation of why the appearance of stored food transformed V in all times and all places -egalitarian hunter/gatherer society into a chiefdom, the most inegalitarian societal type. This anthropological theory is one of very few universal propositions in social science. Universal propositions are a good place to prospect for scientific laws.

A Widening Empirical Explanandum

The nearly three decades of progress on the Inequality Process (IP) have been characterized by the widening of the IP's scope of empirical relevance, its empirical explanandum. The published explanandum of the Inequality Process includes:

- The pattern of the Gini concentration ratio (the most accepted inequality statistic) of personal wealth over the course techno-cultural evolution, i.e., from the hunter/gatherer tribe to the industrial democracy;
- The universality of the transformation of hunter/gatherer society with small differences of wealth into the chiefdom, the society of the god-king, when storable food surpluses appear;
- The right skew and gently tapering right tail of all distributions of income and wealth (a broad statement of the Pareto Law);
- The sequence of shapes of the distribution of labor income by level of worker education, why this sequence of shapes changes little over decades, and why a gamma pdf model works well for fitting the distribution of labor income;
- Why the IP's parameters estimated from certain statistics of the year to year labor incomes conditioned on education of individual workers are ordered as predicted by the IP's meta-theory and approximate estimates of the same parameters from the fit of the IP's stationary distribution to the distribution of wage income conditioned on education;
- Why the sequence of shapes of the distribution of labor income by worker level of education is similar to the sequence of shapes of the unconditional distribution of personal income and wealth over the course of techno-cultural evolution;
- The sequence of means of labor income by level of worker education;
- Labor incomes small and large benefit from a business expansion strong enough to increase mean labor income, i.e., AA rising tide lifts all boats; there is a community of interest between rich and poor in prosperity. The Inequality Process implies A rising tide lifts all boats V in the logarithm.
- The sequence of the Gini concentration rate of labor income by level of worker education, and the relationship of this sequence to that over the course of techno-cultural evolution;
- The difference in shape of the distribution of labor income and the distribution of income from tangible assets;
- The ratio of mean wages in two occupations remains approximately constant, given no change in the skill of labor in either occupation, despite fluctuation in the mean wage in the labor force as a whole.

- The Kuznets Curve in the Gini concentration ratio of income or wealth as a function of economic modernization;
- The dynamics of the distribution of labor income conditioned on education as a function of the unconditional mean of labor income and the distribution of education in the labor force;
- Why a gamma probability density function (pdf) models the left tails and central masses of labor income distributions and why their far right tails are approximately Pareto pdfs
- How the unconditional distribution of personal income appears to be gamma distributed at the national level and in successively smaller regions although the gamma distribution is not closed under mixture, i.e., under aggregation by area; and features of the joint distribution of personal income to African-Americans and other Americans:
- In an elaboration of the basic IP: if a particle in a coalition of particles has a probability different from 50% of winning a competitive encounter with a particle not in the coalition, this modified IP reproduces features of the joint distribution of personal income to African-Americans and other Americans:
 - a) the smaller median personal income of African-Americans than other Americans;
 - b) the difference in shapes between the African-American distribution of personal income and that of other Americans; this difference corresponds to a larger Gini concentration of the African American distribution;
 - c) the % minority effect on discrimination (the larger the minority, the more severe discrimination on a per capita basis, as reflected in a bigger difference between the median personal incomes of African-Americans and other Americans in areas with a larger % African-American);
 - d) the high ratio of median African-American personal income to the median of other Americans in areas where the Gini concentration ratio of the personal income of other Americans is low;
 - e) the high ratio of median African-American to that of other Americans in areas where the median income of other Americans is high;
 - f) the fact that relationships in d) and e) can be reduced in magnitude by controlling for a measure of economic development of an area or % African-American;
 - g) the greater hostility of poorer non-African-Americans to African-Americans than wealthier non-African-Americans (Angle, 1992).