

The measurement of economic inequality in India

The outcome may appear to be infallibly precise, but it is still human handiwork and therefore subject to scrutiny

Inequality occurs in many dimensions, only some of which are economic. And when we speak of economic inequality, again the reference is to a very large canvas, which must be restricted very severely in the interests of tractability. Accordingly, by "economic inequality", we shall mainly mean interpersonal inequality in the distribution of incomes.

This is as good a place as any to observe that the enterprise of measurement including that of socio - economic phenomena such as poverty and inequality has tended to trigger two types of reaction among practitioners. On the one hand, we have the "measurement fetishists" those who seldom see poverty or inequality as felt, experienced, human conditions beyond the boundaries of equations and formulas. At the other extreme, we have the "measurement nihilists" those who regard measurement as a cold, calculating, soulless exercise conducted by "experts" who trade in arcane symbols and unreliable data to construct misleading pictures of reality.

The truth, as is often the case, is somewhere in between. Measurement is a means of ensuring that our descriptions of, and prescriptions for, the economy are based on evidence that is rather more tangible and objective than impressionistic judgements and casual

empiricism are wont to be. Having said that, it is never a bad idea to check the findings from measurement against our intuitions, against what we see around us, against our “feel” for the society and economy in which we live. Measurement may be indispensable, but can be worse than useless when it is not informed by logical coherence and normative appeal.

Measurement without respect for facts, values and logic is a poor thing.

The measurement of income inequality generally revolves around the identification of a summary number which captures the deviations of the incomes of a society’s members from the mean income, which is, of course, the norm of equality. Or sometimes, the summary number captures some average of the deviations of each person’s income from each other person’s income. Some widely used measures of inequality in this tradition are the so-called Gini coefficient (named after the Italian statistician Corrado Gini), which can be related to the area beneath an interesting curve, called the Lorenz curve (named after the American economist Max O. Lorenz). The curve presents a pictorial representation of inequality by plotting a society’s cumulative income share against its cumulative population share (arranged in ascending order of income).

In very basic statistics, any student of the subject would, quite early on in their career, encounter two well-known measures of dispersion

known as the variance and the squared coefficient of variation. Borrowing from information theory, the Dutch econometrician Henri Theil proposed a couple of inequality measures which have since come to be known as the two "Theil Indices", and are widely employed in routine empirical work in the measurement of inequality. The British economist Anthony Atkinson discovered a family of "ethical" measures of inequality (which link inequality to the loss in social welfare occasioned by its presence), now known as the Atkinson measures.

Apart from the measure called the variance, all the others mentioned above are "relative" measures which satisfy the following property: if all incomes in a distribution are doubled or halved (or in general increased or decreased by the same proportion), then inequality should be deemed to have remained unchanged. Such a requirement is called the property of "scale variance". This, on the face of it, appears to be perfectly reasonable. Consider the two-person distribution (10, 20). If each person's income is now doubled, the new distribution becomes (20,40). But inasmuch as the poorer person's income is exactly one-half of the richer person's income in both distributions, one might be inclined to say that inequality has remained unchanged in the transition from the distribution (10, 20) to the distribution (20, 40).

Has inequality indeed remained unchanged? As far back as the early 1920s, the British economist Hugh Dalton did not find this account

of unvarying inequality wholly convincing. This discomfort with received wisdom was echoed by the French economist Serge - Christophe Kolm in the mid-1970s. For note that though the ratio of the poorer person's income to that of the richer person is the same in the distributions (10, 20) and (20, 40), the absolute difference in their incomes rises from 10 in the distribution (10, 20) to 20 in the distribution (20, 40). Arising from which, shouldn't we be saying that inequality should remain unchanged when all incomes are changed by the same absolute amount (rather than by the same proportion)? Such a requirement is called the property of "translation variance", and any measure satisfying the property is said to be an "absolute" measure.

On further investigation, Kolm noted that both relative and absolute measures had shortcomings in the matter of both logical coherence and ethical acceptability. He therefore proposed the use of "intermediate" measures, which are neither relative nor absolute, but which satisfy the property that they register a rise in value when all incomes are raised by the same proportion, and a decline in value when all incomes are raised by the same amount. In much of mainstream practice, only relative measures are employed; and when these are replaced by their more reasonable intermediate counterparts, we find that trends and magnitudes are often dramatically altered.

This is a reminder of how crucially important it is to get our measurement protocols as nearly right as possible. The outcome of measurement may appear to bear the imprint of infallible precision, but it is still human handiwork and therefore subject to serious critical scrutiny.

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