READING REVIEW 2

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In this reading review, I address Roland chapter 2 and touch on the *Poverty and Vulnerability Analysis* reading. Overall, Roland Chapter 2 discusses different methods to measure poverty. Methods include calorie counting — but often nutrition is more complicated than calories. We can also take use of calories to define a poverty line as the price of the cheapest basket of goods that attains 2000 calories and all those under this income are considered poor. Roland discusses some individual formulas such as the headcount ratio, and the poverty gap, but these are captured in the more general Foster-Greer-Thorback expression (and it's variations) as discussed in DeJanvry and Sadoulet:

$$P_\alpha = \frac{1}{n}\sum_i^q \left(\frac{z - y_i}{z}\right)^\alpha$$

where we take n to be the total population, z to be the poverty line, q to be the population under the poverty line, and y_i to iterate over the income of all those under the poverty line. We typically take $\alpha = 0, 1, 2$. There is also the Lorentz Curve, which attempts to measure income inequality. Each point on the Lorentz Curve denotes what percentage of wealth the given percentage of poorest people control. This can be simplified to an individual number, the Gini coefficient, which takes twice the area between the line of equality and the Lorentz Curve. Finally, it is important to keep in mind that to transition between various currencies in this analysis, we make use of Purchasing Power Parity, which is based on a typical basket of goods in two countries (not only traded goods).

One observation I made had to do with how the Gini coefficient places equal value for equal redistributions of wealth anywhere among the population. Let me explain: if we take a wealth distribution of $\{1, 2, 3\}$ and consider moving 1 unit from person 1 to person 2 we arrive at $\{0, 3, 3\}$ with a Gini coefficient of 0.33. But, if we were to instead move 1 unit from person 2 to person 3 we arrive at the distribution $\{1, 1, 4\}$ which has the same Gini coefficient of 0.33. I believe this holds in general and it would be interesting to mathematically prove this conservation and more interesting to extend the proof of this behavior from the discrete case to the continuous case. Additionally, I appreciated DeJanvry and Sadoulet's discussion of how a higher value of α puts more weight on the poorest person. As a policy maker this is important to keep in mind: for $\alpha = 0$, it is beneficial to give aid to the richest of the poor; for $\alpha = 1$, there is no bias to giving aid to any one of the poor; and for $\alpha \geq 2$, it is beneficial to give aid to the poorest of the poor.

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