Response to 5.

Many thanks for the very helpful comments, in the following I'll address the major remarks and note that minor remarks will be taken care of in a revision.

1) The main drawback in using stochastic process to explain income distribution is that they lack economic content….

I agree with Mincer entirely, but that has not stopped economists in the fields of growth and income and consumption behavior from using them in describing the progress of the size distribution of income over time. The object of my paper is to demonstrate that, when they are assumed or employed by economists (and the three processes I discuss are the ones most employed by economists), they have strong implications for the various measures of wellbeing that economists use to describe those societies that are being modeled. It is not the object of the paper to justify the use of these processes in terms of their economic rationale. Perhaps I should make this clearer in the paper.
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2) The relationship between stochastic processes and income distribution is not a new subject……

I agree and I'd completely overlooked the Handbook contributions the referee cites and will include them in the revision.

3) The main body of the work consists in the presentation of three kind of stochastic processes (Gibrat's Law, Kalecki's Law and one related to "Pareto Law") and what they imply in terms of income distribution measures. I believe that the exposition of this part would benefit from a more systematic treatment of the three cases. That is, for each case (process) it should clearly be described i) what it implies from an economic point of view, ii) how it can be formalized and iii) the consequences on a given set of income distribution measures. Alternatively, for each measure of income inequality, it could be described how it is affected by the different processes. Currently the paper seems to do a mix of the two so that it first describe each process and its implications on some inequality measures and then introduce some new measures and describe how they are affected by the different processes.

I think in a revision I can modify the paper to treat the three processes more systematically then introduce each of the wellbeing measures and report the implications for them of each of the processes.

In addition, the treatment of this subject should be more focused, for example, in the present version when describing the Gibrat's law the author starts discussing whether a "civil society" should protect the poor on the base of an absolute or relative definition of poverty: this discussion seems a bit out of place there...

I did not intend to discuss the choice between relative and absolute poverty lines in a normative sense but rather report that these are the statistics that poverty analysts have chosen, I can change this in a revision.

Finally, some confusion arises because sometimes it appears that "Pareto Law" is a kind of stochastic process. On the contrary, if I understood it correctly, the author is arguing that Gibrat's Law with a reflective boundary for extreme poverty implies Pareto Law. Therefore it would be clearer if this case would be described as "Gibrat's Law with a reflective boundary for extreme poverty" and then analyzed as in the previous two cases.

Point taken, I can adjust the discussion accordingly.

4) Another relevant part of the contribution is related to the analysis of stochastic processes that are group-specific, that is, to the fact that the income of different groups of the population can be described by different stochastic processes and in particular, it is possible for a group to have a "better" (with higher mean or growth) process than another. This idea is interesting but it poses some problems. To understand the problem better consider a population split in two groups: group A has a stochastic process with higher mean and growth than group B. In general, individuals in group A will be richer than individuals from group B: however, in a given moment (due to the stochastic nature of the problem) it is well possible that an individual belonging to group A actually obtain an income lower than an individual belonging to the group B. This problem is acknowledged in the paper but it is not fully discussed…. In fact in such a case it is not clear at all what a measure of inequality should capture……

I do not have a problem with group distributions overlapping especially when we think of the Sen – Nussbaum "Functionings and Capabilities" approach to wellbeing analysis. I'm sure we've all taught overachieving students who basically have mediocre abilities but end up with much better mark outcomes than some of their smarter but underachieving piers. So it would be with members of group who are limited in their Functionings and Capabilities but overachieve in their economic outcomes when compared to the underachieving members of a group less limited in their underlying Functionings and Capabilities Functionings and Capabilities. Indeed the group specific analysis readily accommodates this. I'd be happy to make this clearer in a rewrite. Again it is not my intention to make normative judgements but rather to reflect on the consequences of such possibilities when assumptions are made by analysts.

5) The final part of the paper is devoted to the empirical analysis but some aspects should be better assessed. First of all, the author should clearly explain why he is performing an empirical analysis and how it relates to the previous sections. The author should also clearly explain what facts he wants to address and what he wants to test. Second, the author should describe clearly what variables are used and why they are used. The GDP per capital is mentioned but the other are not well explained. For example, where do the variables for absolute and relative poverty comes from? Are they from micro data? What sense does it make to relate directly index of absolute (or relative) poverty to a stochastic process? Finally, one of the main contributions of the empirical analysis is the estimation of the stochastic processes within some sub-groups of countries. However, the division between countries is made according to a sort of rule of thumb (more or less, countries with higher income vs. countries with low income): while the results obtained are interesting they are probably weaken by this procedure: I think the author should try to better motivate why this so basic procedure is appropriate within this context.

I should explain about the empirical analysis, the origin of this paper was a lunchtime argument with a few of my colleagues who were theorists, my point being that the growth and consumption models they built to explore potential wellbeing improvements had implicit in them predictions as to the progress of the object of their explorations. To illustrate the ideas empirically I used a relatively simple data set I had to hand (the data in the paper) together with a quick simplistic approach to the estimation of various parameters under various model assumptions. It was not intended as a thorough and exhaustive investigation of the progress of various aspects of wellbeing of representative agents (countries) on that continent which is a matter for a completely different and much longer paper using more appropriate but laborious estimation techniques. Indeed I with some colleagues have done that elsewhere for both Africa and Urban China (Anderson, Pittau and Zelli (2012, 2012a)) wherein we discovered 4 rather than

two subgroups in the case of Africa! In a revision I can certainly be clearer about explain why I'm performing an empirical analysis and how it relates to the previous sections, what I want to address and test and what and why variables are used.

References:

Gordon Anderson, Maria Grazia Pittau and Roberto Zelli (2012) "Poor-Non Poor Country Probability Status: A New approach to Measuring Poor Country-Rich Country Progress and Convergence." Mimeo

Gordon Anderson, Maria Grazia Pittau and Roberto Zelli (2012) "The progress and characteristics of poor, middle and rich classes in urban China: Results from partial definition of class membership."