

# globalinequality

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## Bob Allen's new "poverty machine" and its implications

Several days ago [Bob Allen gave at the Center for Liberal and Democratic Studies in Belgrade an excellent lecture](#) on the evolution of his own thinking about the basic needs poverty line (BNPL) and on how he moved from the subsistence and respectability baskets to the more ambitious baskets that reflect consumption patterns and relative prices across time and space (his beautifully titled "When necessity displaces desire" recent paper in the *American Economic Review*).

It was a riveting lecture perhaps mostly because of its autobiographic or chronological character: we could follow Bob's own thinking as it evolved over the last two decades. The most recent (and yet unfinished) project is to calculate the minimum cost basket, under the constraints on calories, proteins, fat, for each country in the world (and potentially across time) and thus to produce the BNPLs that are time and space specific—while at the same time being the same in terms of the “objective” needs they satisfy.

Allen is thus solving the perennial problem that consisted in the trade-off the researchers had to face between equivalency (sameness) of the baskets and their local representativeness. The more you insisted in that the baskets be the same the less were they representative for some areas of the world. For example, if you insist that every basket have rice because it is a staple in East Asia, the basket will be unrepresentative for, say Africa. Idem for wine etc.

But if the “background” sameness is accomplished through calorific/protein constraints and linear programming (cost minimization under the constraints) picks the cheapest combination, then you do not face the trade-off any more. (Note that the trade-off may thus be solved for subsistence needs because they can be defined using the calorific and other minimal requirements. The trade-off is still very much alive when it comes to PPPs because they deal with average consumption patterns which depend on tastes and preferences, and cannot be “codified” as the basic needs can.)

What Allen did was to create a unified approach for solving the food component of the BNPL and partly the non-food. The food part is solved in the way I just described. The non-food component of housing and clothing is solved by using differences in climate: the needs are obviously greater in cold than in temperate or warm climates.

Now, note that none of these approaches was unknown. Allen mentions George Stigler's 1945 paper as precursor. But the view that the needs in tropics and cold climates are different has (I would say) a millennial history probably going back to Herodotus. To go to the more recent times note that Colin Clark in his “Conditions of Economic Progress” argued that we should have two “international dollars”, one for the temperate areas and one (“oriental”) for warmer climates. Even the use of linear programming to solve for the minimum cost combination is not new. I remember seeing it used in the World Bank Poverty Assessments in the 1990s (in particular I remember a Poverty Assessment for Russia where it was used), and I doubt that the World Bank discovered it then. The idea was around for a while.

But Bob created a powerful “machine”, using these insights, a machine that, as I mentioned, delivers poverty lines “subscripted” for time and place. What did this “machine” produce?

First, it falsified the World Bank standard approach where \$PPP 1.90 poverty line was supposed to really reflect the same consumption opportunities (bundles) across the world. Mostly because of the differences in housing and clothing costs, but also in relative food prices, Allen shows that this line is broadly correct for African countries but that in Asia and in middle-income countries to achieve the *same* level of calorific intake, clothing, shelter you need between \$PPP 2.50 and \$PPP 3.50, and that in rich countries, you need about \$PPP 4.50. This means that the monetary amount of the global poverty line ought to vary between the countries.

Second, Allen's results represent (in some ways) a revindication of the Pogge-Reddy critique of the World Bank approach. More than a decade ago, Thomas Pogge and SanjayReddy criticized the unique poverty line for the whole world by arguing that it underestimates the cost of food in poorer countries. Relative price of food in poor countries is higher than what is obtained from general PPPs. Although the Pogge-Reddy critique comes from a different direction, Allen's results vindicate it in the sense that they show that a single global poverty line cannot do the job that the World Bank, since the first poverty report in 1990, claimed it could.

But, intriguingly, Allen's work in this area has also implications for his work in another area: the origins of the Industrial Revolution. As is well-known, Bob is the originator of the hypothesis of High Wage Economy (HWE), an argument that the Industrial Revolution was driven by high cost of labor in England (and low cost of energy) which made the substitution of labor by capital profitable. This was most famously seen in the evolution of the welfare ratios (nominal wages divided by the cost of the subsistence basket) for North-West Europe vs. Italy vs. China/India. While all three welfare ratios were about equal in the 15<sup>th</sup> century, they diverged afterwards with North European being much higher and China/India's welfare rations plummeting. Allen saw in that divergence the origin (and not the effect) of the Industrial Revolution.

Now, with the poverty lines that are subscripted for place and time, what we see to be a welfare ratio from the worker's perspective is no longer the same thing as the cost of that worker to a capitalist. The new methodology introduces a wedge between what is the worker's welfare and what is the cost of labor for the capitalist. This is most obviously seen in Allen's former and new results for Russia. With the same basket across all countries (the earlier approach) Russian welfare ratio during most of the 19<sup>th</sup> century was 2; with a climate/country specific baskets, the welfare ratio is around 1 (that is, is much lower because of high requirements imposed by a cold climate).

But note that the cost of that worker to a Russian capitalist is still twice as high as the cost of an equivalent worker (at the same subsistence) in India. When we now draw the welfare ratios using Allen's new methodology, we have to explicitly state that they reflect welfare ratios from the *worker's perspective*, not the cost of labor. The implication of this wedge is that, following Allen's own HWE hypothesis, introduction of machines is --everything else being the same--more profitable in the North than in the South.

If that's the case, then a geographically-determined explanation for the Industrial Revolution suddenly looks more plausible than before. So, I thought, perhaps one (unintended) effect of Bob's new and much improved methodology is to help the geographical explanations for the rise of the West.

Posted by [Branko Milanovic](#) at 4:55 AM



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