

Abstract Submitted
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Correlation between the Gini index and the observed prosperity

IGOR MAZIN, Georgetown University — It has been well established by computer simulations that a free, unregulated market economy (in the simplest model of a yard sale economy) is unstable and collapses to a singular wealth distribution. It is now a common procedure in computer simulations to stabilize a model by favoring the poorer partner in each transaction, or by redistributing the wealth in the society in favor of the poorer part of the population. Such measures stabilize the economy and create a stationary state with a Gini index $G < 1$. This suggests that there is some optimal range of the Gini index which is indicative of a healthy and dynamic economy. To verify this assumption, I plotted the PPP (parity purchasing power) for all countries in the world against their Gini indices, and found that they all (with only 2 outliers) fall into one of two groups: “wealthy” countries with $PPP > \$10,000/\text{year}$, and the rest. The former are characterized by $G = 0.29 \pm 0.07$, and the latter by a uniform distribution of all possible G s. This means that an enforced wealth redistribution is not a moral act of social consciousness, but a necessary precondition for a sustainable economy. The existence of an optimal G is illustrated through a simple model of a yard sale economy with taxation.

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