

TITLE : Modeling wealth distribution in growing markets
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Abstract:

We introduce an auto-regressive model which captures the growing nature of realistic markets. In our model agents do not trade with other agents, they interact indirectly only through a market. Change of their wealth depends, linearly on how much they invest, and stochastically on how much they gain from the noisy market. The average wealth of the market could be fixed or growing. We show that in a market where investment capacity of agents differ, average wealth of agents generically follow the Pareto-law. In few cases, the individual distribution of wealth of every agent could also be obtained exactly. We also show that the underlying dynamics of other well studied kinetic models of markets can be mapped to the dynamics of our auto-regressive model.