
Capital distribution in the mean-field Atlas model

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Abstract

Atlas models are a class of equity market models in which the dynamics of the price of an asset only depends on its rank within the portfolio. When this dynamics exhibits a mean-field scaling, propagation of chaos techniques arising from kinetic theory lead to a functional nonlinear description of the evolution of the market. In particular, one can obtain a fluid limit for the distribution of the capital, which reproduces some features of actual data, such as a Pareto law for capital concentration.

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