An out-of-equilibrium price model for Gamma-Pareto distributions of wealth and income NICOLA SCAFETTA, Duke University, SERGIO PICOZZI, BRUCE J. WEST — The distribution of wealth/income among the members of a society is herein assumed to result from two fundamental mechanisms, trade and investment. An empirical distribution of wealth/income shows an abrupt change between the low-medium range, that may be fitted by a non-monotonic function with an exponential-like tail such as a Gamma distribution, and the high wealth range, that is well fitted by a Pareto or inverse power-law function. We demonstrate that an appropriate trade-investment model, depending on three adjustable parameters associated with the total wealth of a society, a social differentiation among agents, which causes the prices to be out-of-equilibrium, and economic volatility referred to as investment can successfully reproduce the distribution of empirical wealth/income data in the low, medium and high ranges.

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