

Abstract Submitted
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Rural-urban migration including formal and informal workers in the urban sector: an agent-based numerical simulation study NILTON BRANCO, THARNIER OLIVEIRA, Departamento de Física, Universidade Federal de Santa Catarina, Florianopolis SC, Brazil, JAYLSON SILVEIRA, Departamento de Economia, Universidade Federal de Santa Catarina, Florianopolis SC, Brazil — The goal of this work is to study rural-urban migration in the early stages of industrialization. We use an agent-based model and take into account the existence of informal and formal workers on the urban sector and possible migration movements, dependent on the agents' social and private utilities. Our agents are placed on vertices of a square lattice, such that each vertex has only one agent. Rural, urban informal and urban formal workers are represented by different states of a three-state Ising model. At every step, a fraction a of the agents may change sectors or migrate. The total utility of a given agent is then calculated and compared to a random utility, in order to check if this agent turns into an actual migrant or changes sector. The dynamics is carried out until an equilibrium state is reached and equilibrium variables are then calculated and compared to available data. We find that a generalized Harris-Todaro condition is satisfied [1] on these equilibrium regimes, i.e, the ratio between expected wages between any pair of sectors reach a constant value.

[1] J. J. Silveira, A. L. Espíndola and T. J. Penna, *Physica A*, **364**, 445 (2006).

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