

Modeling the location choice: evidences from an evolutionary game based on regional input-output analysis

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This article proposes a new methodology to analyze the strategic decision about firms location choice. In this way, we combine the Evolutionary Game Theory (EGT) approach with input-output analysis. As the location pattern of firms that compete in the automotive sector of Mercosur countries has not been widely debated yet, that specific region was chosen to empirically describe and evaluate our model. By doing so, Mercosur was separated into two strategic regions: Brazil and Rest of Mercosur. To decide where to locate, firms consider the following exogenous factors: (i) potential market; (ii) local productive interdependence; (iii) government tax incentive and (iv) macroeconomic stability. To generate the results, we create hypothetical scenarios, in which firms can assign specific weights to each of these factors in the decision-making process. The outcomes suggest that, when companies give homogeneous weights to these factors, the balance occurs with the two competitors in the market where there was the governmental tax incentive. On the other hand, if factors are assigned with different weights, the long-term equilibrium of the game changes, which provides evidence that competing in the market where there is a tax exemption is not always an ideal location decision. That is, the other factors are relevant in the decision making of the firms. This may contradict common sense, which presupposes a direct relationship between government incentive and attraction of firms to a region.