

The Least Eigenvalue of the Input Coefficients Matrix

Topic: Important issues in IO theory and practice

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It is well known that the input coefficients matrix, called direct consumption coefficients matrix in China, plays an important role in Input-Output Analysis. The matrix with nonnegative entries has n eigenvalues, and the first two eigenvalues have been studied and been given their economic meanings in some articles published in the journal *Economic Systems Research*. In details, the dominant Frobenius eigenvalue determines the turnpike growth rate, and the subdominant eigenvalue determines the speed of a convergence. But few articles are given to research the economic meaning of the least eigenvalue in terms of absolute magnitude. In this paper, we discuss it based on linear system theory and finally give its economic meaning in some dynamic models. In an empirical analysis for China between 1987 and 2007, results are calculated for the least eigenvalues in modulus of the direct consumption coefficients matrices.