static input-output model

Mathematical base and practical application

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input-output tables have a great importance in clarifying the macroeconomic state and
interrelationships between different economic activities and compiling the necessary
models for measurement, analysis and prediction, which help the decision maker to
see more clearly and comprehensively the economic situation in light of the great
development and variety of economic activities which cause obstacles for decision
makers to take a rational economic decision because of these interrelationships. This
paper present the mathematical base for static input-output model by using technical
coefficient matrix for inputs (classical model) and technical coefficient matrix for
outputs (physical model), and apply that on input-output table 2008 / 2009 for Egypt
which have 44 activities in intermediate demand matrix represent the final form for
the static model which help us to understand the interrelationships between the
activities and know the leader activities in the economy and analyze the position and
structure of the current situation for the Egyptian economy and predict by the
activities production when we expect the final demand or value added which be useful
for analyses of the economic policies and help the decision makers to adopt the best
economic policies. at the end we will compare between the two models from its result
and try to determine the best model classical or physical. The paper will describe
input-output table, the mathematical static input-output model, the Egyptian static
input-output model for 44 activities, and how we make prediction and analysis by
using the Egyptian model.

Key words: Input-output table, Intermediate demand, Final demand, Value added.