Neumann vs Leontief. Two models, two approaches to the economy
Ernő Zalai

The paper compares the basic assumptions and methodology of the Von Neumann model, developed for purely abstract theoretical purposes, and those of the Leontief model, designed originally for practical applications. Study of the similar mathematical structures of the Von Neumann model and the closed, stationary Leontief model, with a unit length of production period, often leads to the false conclusion that the latter is just a simplified version of the former. It is argued that the economic assumptions of the two models are quite different, which makes such an assertion unfounded. Technical choice and joint production are indispensable features of the Von Neumann model, and the assumption of unitary length of production period excludes the possibility of taking service flows explicitly into account. All these features are completely alien to the Leontief model, however. It is shown that the two models are in fact special cases of a more general stock-flow stationary model, reduced to forms containing only flow variables.

Demographic transition, economic growth, and sustainability of the pension system
Gergely Varga

Financing the social-security pension system will weigh heavily on Hungary’s government budget during the demographic transition. The paper takes a neoclassical growth model of a small open economy with overlapping cohorts, calibrated for the Hungarian economy, where the labour supply and household savings respond to the incentives of the pension system, and explores how the demographic transition affects the GDP-proportional balance of the pension system and the path of the macroeconomic variables. It determines how parametric pension reforms alter the effects. The results show that in assessing the demographic transition it is important to consider the labour and capital supply responses of households, as they influence considerably the path of the macroeconomic variables and the sustainability of the pension system.
THE REVOLUTION IN ECONOMIC DATA AND PANEL ECONOMETRICS
László Balázs, János Károly Divényi, Gábor Készdi and László Mátyás

The main aim of the survey is to present the data revolution currently underway in economics, through the history and development of panel data econometrics. The authors demonstrate that progress is occurring from the bottom up: the emergence of various panel data sets brings to light various questions and problems, which then inspire and yield new theoretical and methodological results; these in turn may produce new, more informative, more complex data sets. This feedback mechanism provides the main impetus behind the current data revolution, resulting in a deeper, more complex and nuanced picture of the economy.

THE ECONOMIC ROLE OF THE NETWORKS OF CONNECTIONS POSSESSED BY FIRMS
Péter Kondor, Miklós Koren, Jenő Pál and Ádám Szeidl

Economic theory mainly models firms as interacting through anonymous market mechanisms. In practice, however, the connections of these firms to other specific actors play an important role. The paper surveys the theoretical and empirical literature on such economic networks, which finds that the networked nature of firm connections has both positive and negative effects on the economy as a whole. Novel analyses of micro-level datasets paint a rich picture of firm behaviour in a number of domains, including technological progress, borrowing and lending, supply chains, and corruption.