IDENTIFICATION OF AN ECONOMIC SYSTEM USING THE MAXIMUM LIKELIHOOD METHOD

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In order to develop a cybernetic economic model for the national economy of the Federal Republic of Germany, a broad aggregated macroeconomic subsystem must be identified, which describes the relation between the inco-

ming orders and the volume of industrial production of the capital goods industry. In contrast to the well-known analysis methods, which have been used until now for model building of economic systems, one of the most modern methods (ML-method) of the system theory will be applied and its efficiency proved in this paper.

In order to determine the most accurate model order, different structure testing methods are applied, the efficiency of which has already been investigated. The quality of the estimated models is described and judged by comparing the measured and estimated output signals. Then more details are given about the computing time, the storage capacity and the necessary number of signal values. Also the structure and handling of the ML-identification programming system is shortly discussed. Furthermore, there are discussed the possibilities of building a time-variant model which is adapted to the different economic trends. At least, a reasonable extension of the ML-method to the multivariable case is evaluated.