

In Liu's model, the relevant variable, government purchases of goods and services, appears (after eliminating an identity) in the equation determining the change in nonfarm business inventories. Its coefficient is positive, but not significant. The description of the government spending process suggests that the coefficients should be negative, since purchases would tend to decrease inventories. However, since service items, which may have fairly short lags between order and delivery, are included, and since there are problems in estimating inventories, the relationship may have been obscured.

I next consider four large-scale models and two other studies which are directly concerned with the impacts of the procurement process.

A. UNIVERSITY OF MICHIGAN RESEARCH SEMINAR IN QUANTITATIVE ECONOMICS ECONOMETRIC MODEL

One of the few econometric models to take into account institutional factors of the government procurement process is the model, based on annual data, developed at the University of Michigan [17]. The equation explaining the change in durable goods inventory is a function of the difference between Federal military purchases in the following and the current year, ($\Delta M+1$) as well as other variables. $\Delta M+1$ enters positively and significantly into the equation. The rationale for including this variable is that production of this component of inventory " * * * appears in the national accounts as goods in process, and exerts a strong impact on the economy long before delivery of the finished product materializes as government expenditure" [17, p. 115].

This model is thus seen to have recognized the importance of accurately specifying lead and lag structure. It is, however, inadequate from other viewpoints: (1) The level of aggregation is quite high, making it impossible to obtain impacts on specific industries; (2) the use of annual data makes it impossible to study intra-yearly movements which may be of some interest; and (3) the use of Federal military purchases from private industry includes purchases of items which are not classified in the durable goods industry. Nevertheless, the importance of this variable in the inventory equation is an indication of the gains to be realized from an appropriate specification of the lead and lag structure of the process.

B. DUESENBERY-ECKSTEIN-FROMM: MODEL OF THE U.S. ECONOMY DURING RECESSION

In their very interesting paper [4], Professors Duesenberry, Eckstein, and Fromm recognize the importance of the order effect, particularly in the explanation of inventory changes. In constructing the order series, however, they assume that the lag between orders and purchases is one quarter. They nevertheless are able to state that the " * * * stimulus of government actions worked through orders as much as through actual expenditures." It would be interesting to explore the consequences of a more realistic specification of the lag between obligations and purchases.

C. FROMM: "INVENTORIES, BUSINESS CYCLES, AND STABILIZATION"

In a paper prepared for the Joint Economic Committee, Gary Fromm states, " * * * fluctuations in government orders and expend-