

itures coupled with their resulting impact on, and the independent variation of, private business investment appear to be the principal responsibility for recent stability difficulties in the U.S. economy" [6, p. 37].

Although he presents some data to support this view, government orders do not explicitly appear in the econometric model of the economy presented in a later section of the paper. They are included, however, in the change in unfilled orders variable, which enters the inventory change equation. There would appear to be some difficulty, though, since the unfilled orders variable is essentially determined by lagged values of itself and current and lagged final sales of goods. Thus, government orders are present only to the extent that they appear as initial conditions in the unfilled orders equation, and to the extent that they appear in the final sales of goods, which enters with a lag of two periods. The following is the inventory equation:

$$\begin{aligned}\Delta I_t = & -29.4345 + .4601 S_t^g - .7314 I_{t-1} \\ & + .1658 [111.3945 - .3878 S_{t-1}^g \\ & + .5229 \Delta S_{t-2}^g - .5545 O_{t-2} + .8099 O_{t-3}]\end{aligned}$$

where I is inventories, S is final sales of goods, and O is unfilled orders. The term in brackets is the equation for O_{t-1} [6, pp. 71 and 73].

Change in inventories is thus determined by current sales and sales lagged one, two, and three periods. In the case of government purchases, we would expect inventories to be related to sales with a lead, as in the Michigan model.

D. LOVELL: FACTORS DETERMINING MANUFACTURING INVENTORY INVESTMENT

A paper which explicitly considers government obligations is that of Michael Lovell. Using quarterly data from 1954 through 1960, he obtains the following inventory change equation:

$$\begin{aligned}\Delta H_t = & -4.01 - .0683 H_t - .184 X_t + .0298 \\ \Delta X_t = & .0158 \Delta U_t + .0112 U_t - .295 E_t - .124 O_{bt}\end{aligned}$$

where H is inventories of durable goods, X is sales of durable goods, U is unfilled orders, E is defense expenditures, and O_b is defense obligations [12, p. 132]. Defense obligations are seen to enter positively; they are also statistically significant. Unfortunately, Lovell did not report on longer lags.

E. ANDO-BROWN: COMMISSION ON MONEY AND CREDIT STUDY

The study most closely related to the present is the paper by Ando and Brown for the Commission on Money and Credit. They report that "the relationship between expenditures on aircrafts and current output is small. The current and two preceding months of expenditure did have coefficients that were statistically significant, and there may be some evidence that advance payments to contractors are of some significance to aircraft output" [2, p. 144]. The relationship between lagged obligations and output, on a quarterly basis, resulted in the following equation:

$$\begin{aligned}P_t = & .0063 O_t + .0002 O_{t-1} + .0107 O_{t-2} \\ & (.0077) \quad (.0076) \quad (.0068) \\ & + .0130 O_{t-3} \\ & (.0067)\end{aligned}$$