effects—budget and unobligated appropriations—have substantial impacts on employment.

TABLE 4.—*Employment resulting from a $1,000,000,000 increase in budget, included in August appropriation bill, obligation incurred in September, and delivery made in following September*

Month	Model I			Model II			Model III, cumulative percentage of total employment
	Employment [1]	Cumulative employment [1]	Cumulative percentage of total employment	Employment [1]	Cumulative employment [1]	Cumulative percentage of total employment	
January	8,100	8,100	2.16	0	0	0.00	0
February	8,100	16,200	4.32	0	0	0.00	0
March	8,100	24,300	6.48	0	0	0.00	0
April	8,100	32,400	8.64	0	0	0.00	0
May	8,100	40,500	10.81	0	0	0.00	0
June	8,100	48,600	12.97	0	0	0.00	0
July	8,100	56,700	15.13	0	0	0.00	0
August	7,100	63,800	17.02	0	0	0.00	0
September	3,400	67,200	17.93	4,900	4,900	1.67	0
October	32,300	99,500	26.55	30,900	35,800	12.17	0
November	27,500	127,000	33.88	21,600	57,400	19.51	0
December	21,000	148,000	39.49	14,900	72,300	24.58	0
January	27,100	175,100	46.72	20,400	92,700	31.51	0
February	30,300	205,400	54.80	27,600	120,300	40.89	0
March	30,500	235,900	62.94	31,200	151,500	51.50	0
April	15,900	251,800	67.18	21,000	172,500	58.63	0
May	18,500	270,300	72.12	22,100	194,600	66.15	0
June	22,300	292,600	78.07	22,400	217,000	73.76	0
July	30,600	323,200	86.23	29,100	246,100	83.65	0
August	34,800	358,000	95.52	33,100	279,200	94.90	0
September	16,800	374,800	100.00	15,000	294,200	100.00	100.0
Total	374,800			294,200			

[1] Number of employees.

Time trend variables, acting as proxies for factors such as changes in the amount of employment in the SIC employment category associated with the corresponding budget category, proved to be highly significant. Seasonal dummies, however, were not significant. Expenditures were not a significant explanatory variable, in contrast to the findings of Ando and Brown. Whether this was due to differences in industry correspondence, time period covered, or estimation of expenditures was not investigated.

Unfortunately, similar regressions for the ship industry resulted in unsatisfactory coefficients and low R^2s. This result was attributed to the significant and varying nonmilitary demand in the industry. However, the fact that different results were obtained with the two industries also suggests that some degree of industry disaggregation should be employed to obtain more accurate estimates of employment impacts.

B. IMPLICATIONS FOR ECONOMETRIC MODELS

The implications for existing and planned econometric models are clear. There are apparently important employment (and income) effects associated with announcements and obligations. Variables representing these effects should be included among the exogenous variables. Further, models which incorporate series on new or unfilled orders should recognize that part of these series—especially orders for military procurement—are exogenous to the system. They are under the control of the government, and should enter the model in such a way as to facilitate study of their impact on variables of interest.