THE RELATIONSHIP OF NEW ORDERS TO SHIPMENTS OF DEFENSE PRODUCTS

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Introduction

In recent discussions about how an econometric model can be effectively used to evaluate the impacts of government operations, it has been pointed out that the development of a realistic model of the government sector is a prerequisite [6]. There are two aspects to this problem: (i) An econometric model should include appropriate instrumental variables—variables that can be controlled by policy makers [11], and (ii) the model should properly capture the impacts of the government actions [1, 2, 4, 13]. The research presented here is in one sense an exploratory work to fill out knowledge about these two aspects of the problem.

Since defense procurement accounts for approximately 10 percent of GNP, a question which naturally arises is: Can defense procurement be manipulated by the government to help stabilize economic activity or to offset cyclical fluctuations? It is to be expected that the timing of defense procurement is determined primarily by non-economic considerations. In peace time, however, a certain degree of flexibility is presumed to exist in the scheduling of defense procurement. For this reason, defense procurement can be considered a candidate for instrumental variables to be included in econometric models.

In entering defense procurement as a candidate for instrumental variable, the next question being raised is: What stage in the defense procurement process is most important from the viewpoint of measuring its impact on economic activity? In a limited way in which defense procurement was considered in major econometric models, econometricians tend to measure its impacts at the expenditure, stage [3, 5, 7, 8, 9, 10, 12]. Except for progress payments, expenditure however, is made after final product is completed and delivered. Because of the nature of defense products, little or no inventories are accumulated by the defense industries in anticipation of order or contracts. In fact, most defense procurement involves direct negotiations between the Department of Defense and defense industries. It can therefore be assumed that the production process begins after the defense industries accept an order and sign a contract with the Defense Department. As the industries take steps to fill the order, employment, output, and income payments are affected. What this implies is that the impacts of defense procurement on GNP (through employment, income, output, and inventories) are felt prior to the

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