reduced by a tax increase, this is supposed to curtail productive activity by a like amount; if they are *increased* by a tax reduction, the opposite effect is expected.[12]

Even granted that these effects are realized eventually, the question is, how soon? The timing of the production response depends on the way the corporate system reacts to the tax change. If it adjusts its inventory position, by varying the flow of commitments for materials and components, the lag should be relatively brief. But if it adjusts its fixed-asset position, by varying in this case the flow of commitments for plant and equipment, the lag is likely to be an extended one. This because of the long lead time involved.

This lead time consists of two components: (1) the production period itself; (2) the period between commitment and the beginning of production. Since there is very little of the second component in the recession phase of the business cycle (there is little "waiting in line" for production to start), total lead time tends to be coincident with production time. In the boom phase, however, it can be considerably longer.

A rough idea of lead time in the present boom may be conveyed by a few figures. The Treasury recently estimated the average order-to-completion period for investment-credit-eligible equipment at 9–12 months.[13] This excludes buildings and structures for which the period is presumably longer. Commerce surveys (for plant and equipment combined) indicate an average interval between commitment and payment of 8 months for manufacturing and 13 months for public utilities.[14] NICB surveys (also for plant and equipment) show an average of 9–10 months between *appropriations* and expenditures in manufacturing.[15] These indications are rather fragmentary, to be sure, but they suggest that the *overall* average lag of completions behind commitments may be around 10 months.

On this assumption, it would take around five months for a corporate tax increase, even if reflected immediately and completely in a reduction of fixed-asset commitments, to build up a production response one-half as large as the increase itself. In all probability it would proceed even more slowly, because of the present backlog of commitments waiting to be put into production. (Where this situation exists, the production response to a curtailment of new orders awaits the prior absorption of this backlog.)

While the absence of a backlog of orders not yet in work might make the production response to *antirecession* tax action (a tax reduction) somewhat more prompt, it would nevertheless take months to develop substantial magnitude. As far as capital goods activity is concerned (the control of which is presumably the principal end sought in the contracyclical manipulation of the corporate tax), the response lag is a long one either way.

There is another point to be made in connection with this lag. Corporate capital investment programs often comprise a mixture of items with long and short lead times. For example, they may include a building and the equipment that goes into it. In such cases the construction contract may be let before the equipment orders are placed. It goes without saying that these orders are likely to be unresponsive to contracyclical tax action; they are in effect mandatory. This contributes, of course, to a further delay in the production response.[16]

PERSONAL INCOME TAX

When we come to the personal income tax, we find a different picture. The overwhelming bulk (around 95 percent) of the disposable income of individuals is spent for consumption. The bulk of this expenditure in turn (around 85 per-

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[12] This is the "first round" effect, without reference to the subsequent "multiplier," a concept with which we are not concerned here.

[13] Quoted by Senator Proxmire from a Treasury communication to him. *Congressional Record*, August 23, 1966, p. 19421. It is estimated further that 40 percent of eligible equipment has an *order-to-delivery* period of less than six months, 40 percent between six months and a year, and 20 percent over a year (the average for the last group being about two years).

[14] Department of Commerce, OBE Releases 66–14 and 66–54, March 10 and September 8, 1966. Our computation, based on the relation of the "carry-over" to expenditures in the first half of 1966.

[15] National Industrial Conference Board, *Capital Appropriations*, Second Quarter 1966, p. 15. Our computation, based on the first half of 1966.

[16] It may be appropriate before leaving the subject to mention an incidental effect of *restrictive* corporate tax action. Because of the large backlog of fixed-asset commitments in the production pipeline when the action is taken, the consequent reduction of corporate funds may put additional pressure on credit facilities until the deliveries from these commitments are paid for, thus complicating the task of the credit managers.