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# A NOTE ON “CROWDING OUT” IN THE UNITED STATES

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## I. Introduction

In recent years, there has been a growing debate over the effectiveness of contra cyclical fiscal policy. A good part of this debate has centered around the so-call <<crowding out>> effect of fiscal policy. Although conceptual contributions to this literature continue to be encountered [e.g., Buiter (1977), Friedman (1978), and Floyd and Hynes (1978)], there has been a recent trend in the literature to appraise the degree of <<crowding out>> in empirical terms. The beginnings of this empirical literature can be traced back to the studies by Anderson and Jordan (1968) and Keran (1969) and (1970). These studies appear to have provided evidence of *complete* crowding out in the United States. By contrast, a more recent study by Cebula (1978) of the United States and Canada finds strong evidence of crowding out is *incomplete* in both cases. The later finding is obtained as well in a study Ostrosky (1979), which extends the model used in Cebula (1978). Similarly, Zahn (1978) finds evidence strongly suggesting *incomplete* crowding out in the United States. Finally, a recent study by Arestis (1979) of the United Kingdom also finds strong evidence of *incomplete* crowding out.

These empirical studies tend either (a) to measure crowding out indirectly through the examination of various multipliers or (b) to measure crowding out directly by treating private-sector spending (especially investment) as a function of government deficits or spending levels per se.

The purpose of this note is to provide an alternative means by which to determine whether (a) crowding out occurs and, if so, (b) to what degree. In particular, this study examines the existence of crowding out in the United States by determining to what degree the proportion of actual GNP that was devoted to investment was affected by the proportion of GNP devoted to federal government spending. Hopefully, this new approach to the empirical dimension of crowding out will provide further insight into whether or not the crowding out issue is substantive. Moreover, it may also help us to better appraise or partially resolve the rather different findings of earlier studies [Anderson and Jordan (1968) and Keran (1969) and (1970), on the one hand, versus Arestis (1979), Cebula (1978), Ostrosky (1979), and Kahn (1978), on the other hand].

## II. The Basic Model

The basic model to be examined is given by:

$$(1) I_t/Y_t = I_t/Y_t (G_t/Y_t, P_t, R_t)$$

where

$I_t/Y_t$  = ratio of actual real investment expenditures during quarter t to actual real GNP during quarter t

$G_t/Y_t$  = ratio of actual real federal government expenditures during quarter  $t$  to actual real GNP during quarter  $t$

$P_t$  = consumer price index during quarter  $t$

$R_t$  = corporate profit rate, after taxes, during quarter  $t$ , expressed as a percentage rate of return on stockholders' equity

The base year is 1972. The data in this regression cover the period from quarter 1 of year 1969 through quarter 3 of year 1978. Data sources for variables  $I_t$ ,  $Y_t$ ,  $G_t$ , and  $P_t$  were issues 1971 through 1979 of *The Economic Report of the President*. The data source for the variable  $R_t$  was *The Business Conditions Digest*, September, 1979.

The crowding out phenomenon is well known. As government spending rises, this may lead to a budget deficit, which leads to higher interest rates and diminished credit availability. In turn, these results lead to diminished credit availability. In turn, these results lead to diminished private expenditures. Moreover, the existence of any deficit which may accompany the increased government spending may lead to adverse expectations by business and hence to less investment. Finally, via an <<ultra-rationality>> phenomenon [see Carlson and Spencer (1975)], private spending may be diminished by government spending increases.

If crowding out does occur, we would expect that the greater the proportion of GNP devoted to government spending, the lesser the proportion of GNP devoted to private investment outlays, i.e., the greater the degree to which government spending crowds out investment, *ceteris paribus*:

$$(2) \quad \frac{\partial(I_t/Y_t)}{\partial(G_t/Y_t)} < 0$$

To examine the crowding out thesis, the following regression is to be examined:

$$(3) \quad I_t/Y_t = a_0 + a_1(G_t/Y_t) + a_2P_t + a_3R_t + \mu$$

where  $a_0$  = constant

$\mu$  = stochastic error term

The OLS estimate of equation (3) is given by:

$$(4) \quad I_t/Y_t = +9.15066 - 0.04340 (G_t/Y_t) - 0.01031 P_t - 0.00405 R_t,$$

(-2.47)                      (-5.58)                      (-0.81)

DF = 35,  $R^2 = .66$ ,  $F = 22.80264$

where terms in parentheses are t-values.

The results in the above regression indicate that private investment in new capital is in fact crowded out by federal government outlays. Nevertheless, the evidence in this regression indicates also that although crowding out does occur, it is *incomplete*. This result is qualitatively compatible with the studies by Cebula (1978).

### III. Summary

This note has addressed the empirical issue of crowding out by examining the proportion of GNP devoted to private investment as a function of the proportion of GNP devoted to federal government outlays. The evidence provided here of *incomplete* crowding out is at odds with the extreme monetarist position; the existence of a definite crowding out effect, however, is also at odds with the extreme Keynesian (fiscalist) position. Fiscal policy walks on, but alas with a can....

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