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NOTES and COMMENTS

Ricardian Equivalence and the Irish Consumption Function: A Comment

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In a recent article in this *Review* Moore (1987) explores the Ricardian Equivalence Theorem (RET) using Irish data for the period 1961-84. He estimates various specifications of the consumption function and includes a measure of the public sector's surplus to test the RET. His preferred result is:.

$$\begin{array}{lllll} C = -672 + & 0.67\,YD - & 0.0052\,UY - & 0.55\,DUR_{-1} & \\ \quad (3.1) & \quad (10.2) & \quad (5.1) & \quad (4.0) & (1) \\ + 0.16\,W_{-1} + & 0.58\,SUR & & R^2 = 0.906 & \\ \quad (8.8) & \quad (4.1) & & DW = 1.98 & \end{array}$$

(t-ratios in parentheses)

where C = personal consumption expenditure,
YD = personal disposable income,
UY = the unemployment rate *times* YD,
DUR = the stock of consumer durables,
W = personal wealth
SUR = the public sector surplus
and all variables are measured in 1980 prices.

The coefficient of SUR is positive and significant, which suggests that a reduction in the public sector surplus (or an increase in the deficit) leads to a fall in private consumption, as is implied by the RET. In fact, the hypothesis that the two coefficients are equal (YD = SUR) cannot be rejected, which is consistent with complete discounting of future tax liabilities by the household sector.

Two aspects of the data used by Moore may be questioned. These relate to the measures of the public sector surplus (SUR) and of the unemployment rate (U) he used.

The definition of SUR used by Moore is the public authorities' *current* savings, the *National Income and Expenditure* (*NIE*) measure of the current budget deficit. Moore defends the use of this measure on the grounds that (a) "the US literature has utilised this definition" and (b) public sector capital outlays "*may* partially pay for themselves" and thus not lead to any future tax liability. In fact, the international convention is *not* to distinguish between current and capital spending in the public sector. As Barro (1984) states, "usually this category [government purchases of goods and services] combines governmental consumption expenditures with public investment" (p. 19). As to the second point, it is generally accepted that the distinction between consumption and investment spending in the public sector is somewhat arbitrary. Moreover, even productive public projects do not necessarily "pay for themselves" in the absence of mechanisms to ensure that the increase in income is captured by the public sector. Hence, it seems appropriate to use Net Borrowing (SURb)[1] in preference to current savings (SURa) to measure the public sector surplus in tests of the RET.

The unemployment rate, U, used by Moore is the percentage of the *insured* labour force that is out of work. The coverage of the insurance system has changed significantly over the sample period. A broader measure, U*, based on international labour force statistics conventions, is available from *The Trend of Employment and Unemployment*. This rate seems more appropriate to use than the narrower U in a study of aggregate personal consumption.

In order to test the impact of these two considerations on Moore's results, I have re-run his preferred equation using U*Y instead of UY and SURb instead of SURa. I have also incorporated the revisions to the national income series contained in the 1987 edition of *NIE*. (The data for DUR and W are as in Moore.) The regression results are shown in Table 1.

1. This is "Borrowing" less "Redemption of securities and loan repayments" in Table 21 of recent issues of *NIE*.

Table 1: *Alternative Measures of the Public Sector Surplus in the Irish Consumption Function*
Dependent Variable: C

	Equation (1) (OLS)	(2) *(AUTO)*	(3) *(AUTO)*
Intercept	-796 (3.3)	-694 (3.1)	-1058 (5.8)
YD	+0.775 (9.9)	+0.745 (9.6)	+0.855 (14.4)
YU*	-0.0055 (3.5)	-0.0056 (3.8)	-0.010 (9.2)
DUR_{-1}	-0.312 (2.1)	-0.252 (1.7)	-0.338 (3.1)
W_{-1}	+0.113 (5.2)	0.107 (5.0)	0.135 (8.5)
SURa	+1.043 (7.0)	+0.983 (7.6)	
SURb			+0.984 (10.3)
D.W.	1.57	1.75	2.11
RHO		0.260	-0.233
$\bar{R}^2$	0.996	0.996	0.996
t-statistic for SUR = YD	1.85	1.73	1.54

Note: t-ratios in parentheses.
OLS = ordinary least squares.
AUTO = first-order autoregressive model.

Equation (1) of Table 1 shows that re-estimating Moore's preferred specification altered only by the inclusion of YU* instead of UY (and the revisions to the national income data) results in only slight changes to the coefficients reported in Equation (1) (above). However, the presence of positive autocorrelation cannot now be rejected, so the same specification was re-run using a first-order autoregressive model (Equation (2)). Despite these modifications, the results are very similar to those reported by Moore and call for no further comment.

The use of SURb in place of SURa (Equation (3)) has more important implications. The marginal propensity to consume out of current YD rises from 0.745 to 0.855 and the effect of changes in the rate of unemployment on this propensity is doubled.[2] It is very striking that the coefficient of SURb in Equation (3) is virtually identical to that of SURa in Equation (2) and that the t-test for the hypothesis that YD = SUR has a lower level of significance when SURb is used. This indicates that the private sector does not distinguish between current and total public sector spending when assessing the implications for future tax liabilities of public sector deficits and that the broader measure of the surplus should be included in the consumption function.

2. These results are closer to those of earlier Irish studies, cited by Moore, than to Moore's own results.

Although the correlation between the two measures over the entire 1961-84 period is 0.97, in recent years there have been important differences in their behaviour. In 1986 SURa was only 11 per cent below its 1982 peak, but SURb had declined by 31 per cent, so that forecasts of C would be affected by the choice of model used.

The degree of rationality and foresight implied by the RET is extremely high and this may prompt a search for alternative interpretations of the behaviour of personal consumption expenditure in Ireland. But it is striking that Moore's results have proved robust to the two refinements proposed in this Comment.

REFERENCES

BARRO, ROBERT J., 1984. *Macroeconomics*, New York: John Wiley and Sons.

MOORE, MICHAEL J., 1987. "The Irish Consumption Function and Ricardian Equivalence", *The Economic and Social Review*, Vol. 19, No. 1, October, pp. 43-60.