

The Landlord and Agricultural Transformation, 1870-1900: A Comment on Richard Perren's Hypothesis¹

By CORMAC Ó GRÁDA

IN a well-known article, published in *THE AGRICULTURAL HISTORY REVIEW* in 1970, Richard Perren suggested that the "Great Depression of British Agriculture" during the 1870's and later decades may have been exacerbated by low investment on the part of landlords.² Dr Perren's main point, which echoes an earlier statement by Clapham,³ is that more investment in the land on the part of proprietors would have accelerated the switch into more profitable agricultural activities, and thus have made for more buoyant rents:

These developments required increased capital both from the tenant farmer and from the landlord. From the tenant more capital was required to buy more livestock and also for purchased feeding if they were used; from the landlord increased livestock usually implied heavier expenditure on new buildings to house them, especially if the farmer concentrated on stall- or yard-feeding. . . . Thus successful adaptation required from the landowner a certain level of expenditure, both on land and on farm buildings. . . . *There was a broad correlation between the amount a landlord spent on the farms on his estate and the extent to which rent levels were maintained after 1879.*⁴

¹ My thanks are due to Michael Edelstein, Paddy Geary, Colm McCarthy, Des Norton, Richard Perren, and the referee, who made very helpful comments on an earlier draft of this note.

² Richard Perren, 'The Landlord and Agricultural Transformation, 1870-1900', *Ag. Hist. Rev.*, xviii, 1970, pp. 36-51; reprinted in P. J. Perry (ed.), *British Agriculture 1875-1914*, 1973, pp. 109-28.

³ J. H. Clapham, *An Economic History of Great Britain: Machines and National Rivalries 1887-1914*, Cambridge, 1936, p. 83.

⁴ Perren, *loc. cit.*, pp. 37, 50; my italics.

Dr Perren's test of this hypothesis is based on the fortunes of eight selected estates, for which statistical information is reported in the Royal Commission on Agriculture of 1894-7.⁵

The general rule for these eight estates was that the larger expenditures on repairs, new buildings and land improvements were associated with the smaller declines in rent and net estate income. This was tested by calculating Spearman's rank correlation coefficient between the expenditure on the permanent structure and land of the estates, expressed as a percentage of the rents received over the twenty-one years, 1872-92, and the decline in rent per acre between 1872-4 and 1890-2. This was found to have a value of -0.67.

This paper makes two points. First, the statistical support lent by a larger sample of estates to Dr Perren's "general rule" is weaker than that implied in the above passage. Second, the historical relevance of the "general rule" is perhaps questionable: that expenditures by landlords yielded increased rents does not imply that the expenditure—in view of the alternative uses to which it might be put—was beneficial from the standpoint of efficient resource allocation.

In the course of its work the Royal Commission approached several landowners for information on the finances of their estates during the previous two decades. In the Commission's opinion statistics from "certain typical estates" would be a useful supplement to the mass of oral evidence presented to it. Neither the Commission's sampling procedure nor the response

⁵ *Ibid.*, p. 43.

rate of landlords is known, but the Commission's report contains accounts for fifty estates in all, thirty in England and twenty in Scotland. As Dr Perren rightly points out, not all accounts cover the whole period for which details were requested, nor did all estates retain a constant acreage at the time. Dr Perren accordingly reduced the set investigated to eight estates, four in "arable," and four in "livestock" areas. The arable-livestock distinction is pertinent, since the severity of the depression differed across regions and sectors.⁶ But I would argue that the sample is unnecessarily narrow—excluding some estates, for example, because they were "very small outlying estates of large landowners."⁷ A more defensible criterion of selection, used here, might be to select estates that maintained a constant, or near-constant, acreage over the period, and for which the relevant details were furnished by proprietors. This yields 13 estates in England for the period 1872-92, and 24 from its final decade: the totals are 24 and 38 respectively, if one includes Scottish estates as well.⁸

For two reasons, least squares regression is preferable to the rank correlation measure used by Dr Perren. In the first place, regression permits us to distinguish between "arable" and "livestock" in our sample, simply by including a dummy variable; whereas with the Spearman rank correlation statistic one is limited to two variables only. Indeed, Dr Perren's use of the latter arguably reduces the relevance of his textual distinction between land types. Secondly, if one regresses the change in rent per acre on improvement outlays per acre, rather than on outlay as a proportion of rent received, the rent

change can then be interpreted, if somewhat loosely, as a return on a particular outlay.

The Royal Commission data may thus be used as a rough check on the hypothesis that there was underinvestment during the depression, if the sum of improvement outlays (I) over a particular period is interpreted as investment, and the associated rent change (RC) as a return on that investment. In that case the coefficient on I is our estimate of the realized rate of return (b), and the intercept term our measure of rent change on land not improved over the period. Using a long time-period like that of Dr Perren to estimate b may be defended on the grounds that year-to-year rent changes during the depression were erratic. However, it involves an aggregation element since

$$RC_j = b_j I_j, j = 1, \dots, t$$

and b_j may have varied over the period. In that case b is a weighted average of the b_j 's. The test is crude, since the timing of the returns is unknown. Clearly, if the returns occurred with a time lag of several decades, or if most investment took place at the end of the period, the test is an inappropriate one. However, the Royal Commission data eliminate the latter possibility; the former, though surely implausible, awaits investigation.

The estimates include a dummy term (D) for land type; D was set at unity for "livestock" land, and zero for "arable". The inclusion of D improved the fit, and also reduced the size of the coefficient on I . This is because investment per acre was substantially less on "arable" estates than others: omission of D would thus bias b upwards.⁹ Rent and improvement expenditures were calculated in the same manner as in Dr Perren's study.

The estimated coefficients on I are all negative. Not only was the correlation between what landlords spent on tenants' farms and rent

⁶ See, e.g., T. W. Fletcher, 'The Great Depression of English Agriculture, 1873-1896', *Econ. Hist. Rev.*, 2nd ser., XIII, 1960-1; also reprinted in Perry (ed.), *op. cit.*

⁷ Perren, *loc. cit.*, p. 38.

⁸ See R.C. *Agriculture: Particulars on Expenditures and Outgoings on Certain Estates in Great Britain, and Farm Accounts*, B.P.P. XVI (1896). The estates are numbered from 1 to L in the report. I have used data on the following estates for 1872-92: II, III, VII-XI, XIV, XVI, XVIII, XXVII, XXVIII, XXX, XXXIII, XXXIV, XXXVI, XXXVIII-XLI, XLIV-XLVII. In addition, information provided for I, VI, XII, XIX, XX, XXII-XXVI, XXIX, XXXVII, XLVIII, XLIX was included in the regressions for 1882-92.

⁹ The following estates were put in the "arable" category: VIII-XII, XXVII, XXX. During 1882-92, for example, the average outlay for all estates included in the sample was £3.1 per acre, but it barely exceeded £2.2 on the "arable." The point about bias is well explained in R. J. Wonnacott and T. H. Wonnacott, *Econometrics*, New York, 1970, pp. 68-73.

buoyancy rather weak, but also during the depression the return on landlord investment by this test was less than, say, the yield on Consols.¹⁰ It is true that the overall price level dropped considerably during the period—so that the realized rate of return exceeded the nominal by 1–1½ per cent. However, this also applies to the return on investments outside agriculture.¹¹

¹⁰ "Corrected" Consol and railway stock debenture yields are given in C. K. Harley, 'Goschen's Conversion of the National Debt and the Yield on Consols', *Econ. Hist. Rev.*, 2nd ser. XXIX, 1976, pp. 105–6. Between 1879 and 1892 the yield on Consols dropped from 3·17 to 2·61, and the railway-stock yield from 3·73 to 2·93. One might have expected, as Professor Thompson has put it, "that the normal returns on agricultural investment, if economically sound, . . . [compare] with those in private commercial and manufacturing enterprises, rather than with those obtained from public utilities." See F. M. L. Thompson, *English Landed Society in the Nineteenth Century*, 1963, p. 252.

¹¹ For contemporary price changes, see B. R. Mitchell

The underinvestment hypothesis thus remains unproven. But how are the results in Table 1 best interpreted? One interpretation might be that landlords, caught in a futile effort at bailing out hard-hit tenants, were simply throwing good money after bad. This would be in the spirit of recent allegations about landlord investment behaviour during the decades of "high farming" and earlier: it has been argued that much of their investment before the depression "never paid" and resulted in an "over-capitalized agriculture."¹²

and P. Deane, *Abstract of British Historical Statistics*, Cambridge, 1962, pp. 474–7.

¹² See, for example, Thompson, *op. cit.*, p. 247; J. D. Chambers and G. E. Mingay, *The Agricultural Revolution 1750–1880*, 1966, pp. 167–8, 176–7; F. M. L. Thompson, 'English Great Estates in the Nineteenth Century', *First International Conference of Economic History: Contributions*, Paris, 1960, p. 394.

TABLE I

Period	Sample size	$RC = a + bI + cD + u$			R^2	$r_{RC,I}$
		a	b	c		
1872–92	13	–0·369 (4·39)	–0·027 (1·79)	0·427 (4·29)	0·59	0·19
1872–92	24	–0·365 (4·46)	–0·028 (2·49)	0·330 (4·00)	0·41	–0·21
1882–92	24	–0·306 (6·27)	–0·013 (0·88)	0·221 (4·56)	0·47	0·17
1882–92	38	–0·290 (4·86)	–0·020 (1·35)	0·176 (3·05)	0·17	–0·08

Note: The bracketed figures are t -statistics. $r_{RC,I}$ is the simple correlation coefficient between RC and I .