

Responding to agricultural depression, 1873–96: managerial success, entrepreneurial failure?*

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Abstract

Following publication of the *Agrarian History of England and Wales*, VII, 1850–1914, this article examines responses to the late nineteenth-century agricultural depression in one of the worst affected counties, Essex, and considers these responses within the broader debate on British economic performance at that time. Responses to depression, especially farmers', were fairly impressive: agriculture did not 'fail'. The landlords' entrepreneurial performance was less impressive, although their shortcomings are unlikely to have affected either output growth or total factor productivity significantly. There were similarities in agricultural and industrial performances although, overall, that of agriculture was arguably the more impressive.

Concluding Volume VII of the *Agrarian History of England and Wales*, E. J. T. Collins highlighted several aspects of the depression requiring further investigation, particularly at regional and local levels.¹ That contemporaries inclined to exaggerate its severity, that it was mainly a cereal crisis of the arable south and east, has long been accepted.² Debate has recently focussed on agriculturalists' responses to new challenges. 'By and large', wrote Cormac O'Grada, 'the farmer and the landlord have been given low marks for adaptability and initiative'.³ O'Grada himself questioned this consensus and so has F. M. L. Thompson, although even now alleged failures in rural enterprise have been far less investigated than the analogous industrial shortcomings enumerated by Derek Aldcroft.⁴ There are too the associated questions of whether opportunities were so under-exploited that agriculture may be said to have 'failed', indeed of how failure should be defined and measured.⁵ Some accounts discern evidence of failure in low, or negative, rates of output increase as farmers retreated into low farming: others might question the value of a measure that reflects only the productivity of land. If failure did occur, to whatever degree,

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¹ E. J. T. Collins (ed.), *Agrarian history of England and Wales*, VII, 1850–1914 (2000) (hereafter *Agrarian History*, VII), p. 2152.

² There are still different views, even within the *Agrarian History*, VII (for instance, pp. 204, 320, 959, 1504–5) on the extent of depression and on whether landlords or farmers were hardest hit.

³ C. O'Grada, 'British agriculture, 1860–1914', in

R. Floud and D. McCloskey (eds.), *The economic history of Britain since 1700* (3 vols, 1994), II, p. 147; Collins, *Agrarian History*, VII, p. 167.

⁴ D. Aldcroft, 'The entrepreneur and the British economy, 1870–1914', *EcHR* 17 (1964–5).

⁵ Collins, *Agrarian History*, VII, pp. 166, 2148, 2152. An earlier article by Collins, in *Refresh* 21 (1995), was entitled 'Did mid-Victorian agriculture fail?'

how is blame to be apportioned: were landlords or farmers the more culpable? Some have claimed that landlords innovated too little. Others have drawn attention to the supposedly restrictive effects of traditional leases. Avner Offer, in a vehement interpretation that more contributors to Volume VII might have addressed directly, maintains that failure occurred because agriculture was handicapped by incompetent, risk adverse, and rapacious landlords, and by the pernicious effects of the English estate system.⁶ The supposed consequences of the system of large estates, large rented farms, and hired labour are particularly in need of further investigation because they are linked with the surrender of the poultry, eggs, bacon, fruit, and vegetable markets to the Danes and Dutch. One of these consequences, the near absence of co-operation in rural England, is highlighted in several accounts, although treated dismissively by one contributor to Volume VII.⁷

This article attempts a reassessment of the response to agricultural depression in the south-east and to place it more explicitly within the broader debate on British economic performance at this time. It draws upon recently-published work, particularly that contained in Volume VII of the *Agrarian History*, utilizes analytical concepts deployed in the debate on industrial performance, and incorporates also some of our earlier findings on price signals and changing land use. The performances of farmers and landlords are assessed separately and in terms of both managerial and entrepreneurial competence. Their responsibilities overlapped of course, but sections I and II below consider mainly the responses of farmers, while sections III, IV and V discuss the landlords' performance. To facilitate a more detailed analysis than would be practicable for the south-east as a whole, this survey, like our earlier work, focuses upon Essex, the 'proudest' and 'worst-hit' of the corn counties, the 'typical example of agricultural depression', a county where, according to F. M. L. Thompson, output performance was significantly below the English average.⁸

I

Proximity to London presented Essex agriculturalists with obvious opportunities that make their activities particularly appropriate when testing claims that market responses were inadequate. Perry writes reproachfully of a continuing commitment to 'unprofitable' wheat, of the 'slow pace' of necessary adjustment, of 'reluctance to change'.⁹ Others have claimed that opportunities to expand milk and meat output were taken-up half-heartedly, that too many hard-pressed cereal growers resorted to low farming rather than turning to eggs, bacon, fruit or vegetables.¹⁰

⁶ C. P. Kindleberger, *Economic growth in France and Britain, 1851-1950* (1964), p. 246; A. Offer, *The First World War: an agrarian interpretation* (1989), chs 7, 8; id., 'Farm tenure and land values in England, c. 1750-1950', *ECHR* 44 (1991).

⁷ R. Perren in *Agrarian History*, VII, p. 979.

⁸ E. H. Hunt and S. J. Pam, 'Prices and structural response in English agriculture, 1873-96', *ECHR* 50 (1997); id., 'Managerial failure in late-Victorian Britain? Land-use and English agriculture', *ECHR* 54 (2001); P. Mathias, *The first industrial nation* (sec. edn, 1983), p. 218;

T. W. Fletcher, 'The Great Depression of English agriculture, 1873-96', *ECHR* 13 (1960-1), p. 429; Collins in *Agrarian History*, VII, p. 162; F. M. L. Thompson, 'An anatomy of English agriculture, 1870-1914', in B. A. Holderness and M. Turner (eds), *Land, labour and agriculture, 1700-1920* (1991), pp. 232-7.

⁹ P. J. Perry, *British farming in the Great Depression, 1870-1914* (1974), pp. 65, 123.

¹⁰ See, for example, Offer, *Agrarian interpretation*, pp. 93-4; Kindleberger, *Economic growth*, p. 209; Collins in *Agrarian History*, VII, p. 148.

As the most formidable challenge to agriculture arose from cereal imports, and the most promising new opportunities open to it were in supplying produce that enjoyed both protection from imports and growing demand, the obvious starting point is to assess what farmers produced and what changes they introduced. Wheat was unquestionably the most important Essex farm product in 1870–2, accounting for about a quarter of farmland, and over half of the cereal acreage.¹¹ Cereal prices soon fell. Continued wheat cultivation features prominently in claims that farmers failed to respond appropriately, ‘an obstinate traditional role requires that under any and every circumstance such and such farms shall grow nothing but corn’.¹² But such robust claims are unfounded: between 1870–2 and 1894–6 the Essex wheat acreage fell by two-fifths. Critics might lament that abandoned wheat acreage was not more extensively devoted to high-value alternatives, but readiness to curb output in response to falling prices is surely one valid measure of market adaptability and in this regard, as Michael Thompson and others have noted, the wheat acreage, on its own, offers no clear evidence of inertia.¹³ It remains, of course, that a great deal of wheat was still cultivated, and the failure hypothesis might be sustainable if it was produced at a loss or for substantially less than the returns available to dairy and livestock farmers. Fletcher, like Perry, took this view, emphasising not the reallocation of farmland but the million-and-a-half acres still devoted to ‘unprofitable’ wheat.¹⁴

More detailed insights into producer-responsiveness are evident in the relationship between short-term price movements and wheat supply. Figure 1 plots Essex wheat acreage linked to its price in the preceding year, and it is clear that a broad correlation between price and acreage change persisted throughout the depression. It is clear too that claims that farmers were slow to react to falling prices underestimate their responsiveness: the wheat acreage was falling fast in 1874–6.¹⁵ At the end of the depression wheat prices and acreage, after falling steeply in the early nineties, recovered together. Given the multiplicity of other variables that rational farmers ought to have taken into account, and given that one of the variables in figure 1 is the average of numerous market reports while the other depends upon the accuracy of respondents in each Essex parish, the considerable correlation between them is not easily reconciled with the more forthright accounts of farmer-inertia: the Pearson correlation coefficient of the variables plotted is 0.93.¹⁶

In 1870–2 Barley, the second cereal crop in Essex, occupied a little more than half of the acreage down to wheat. Subsequently the barley acreage was broadly sustained while wheat acreage fell to a similar level. Barley prices fell during the depression, of course, and so their

¹¹ Statistics of acreage and animal numbers, here and below, are from the annual *Agricultural Returns*.

¹² Lancashire farmer visiting Essex in 1896 cited in P. J. Perry (ed.), *British agriculture, 1875–1914* (1973), p. 53; id., ‘An agricultural journalist on the “Great Depression”, Richard Jefferies’, *J. British Studies* 9 (1969–70), p. 131.

¹³ Thompson, ‘Anatomy of English agriculture’, p. 220; M. Olsen and C. C. Harris, in Perry (ed.), *British agriculture*, pp. 152, 172. Responsiveness of wheat output to price changes in various regions of the United States, and in Hungary, was less than the British response. British farmers, of course, were assisted by market proximity and climate. C. O’Grada, ‘Agricultural decline,

1860–1914’, in R. Floud and D. N. McCloskey (2 vols, 1981), II, p. 182; Offer, *Agrarian interpretation*, p. 96.

¹⁴ Perry, *British farming*, p. 123; Fletcher, ‘Great depression’, p. 431.

¹⁵ ‘Farmers lay stunned ... and simply bided their time until conditions, rather than their system, should change’. R. P. Stearns, ‘Agriculture adaptation in England, 1875–1900’, II, *Agricultural Hist.* 6 (1932), pp. 130, 143, 148.

¹⁶ That of wheat acreage and the average of wheat prices in two preceding harvests was 0.92. On the parish agricultural returns see Hunt and Pam, ‘Managerial failure’, pp. 244–5.

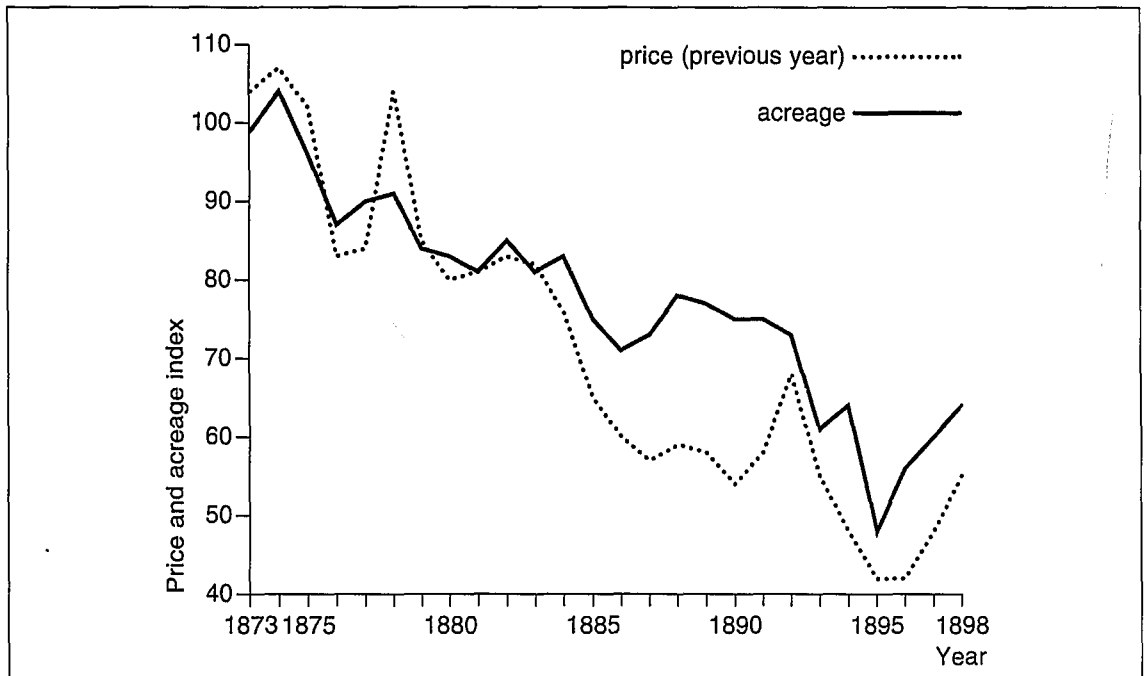


FIGURE 1. Wheat prices and acreage, Essex 1871-98 (1871-75 = 100)

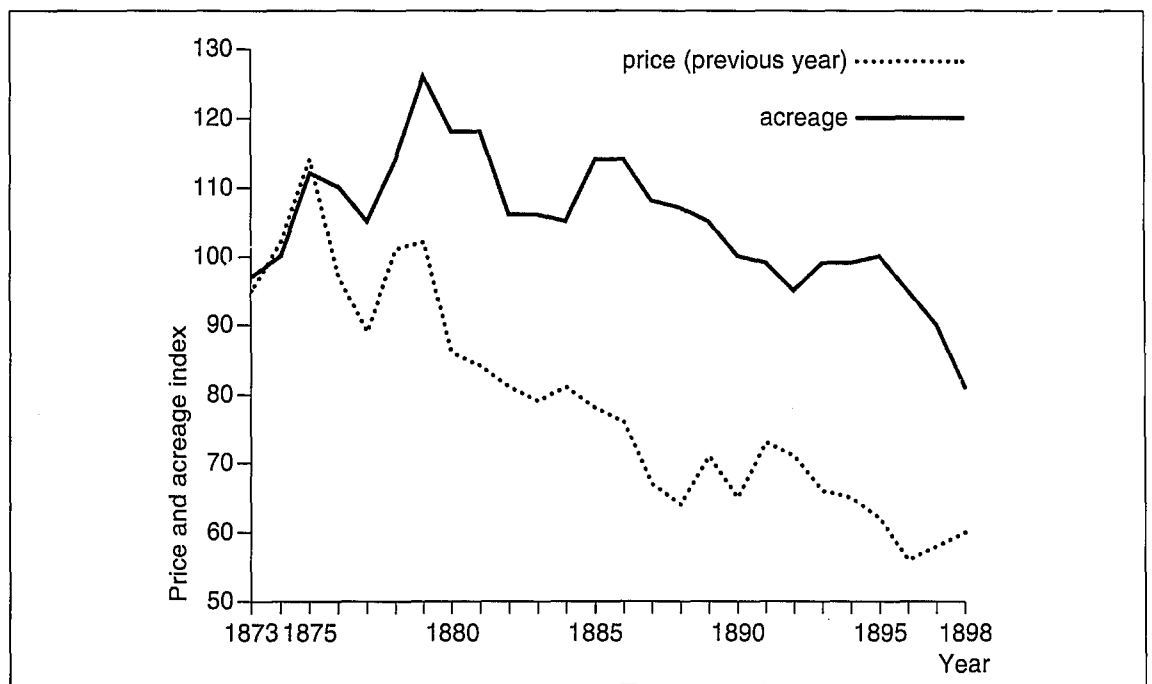


FIGURE 2. Barley prices and acreage, Essex 1871-98 (1871-75 = 100)

Source: (Figures 1-7) acreages taken from *Agricultural Statistics (England and Wales) passim*; prices from Hunt and Pam, 'Prices and structural response', Table 1.

movement was not in long-term harmony with changes in crop-acreage. However, barley prices fell less than wheat prices (Table 1, below) and in real terms changed very little, so an unchanged barley acreage is not necessarily indicative of farmers' inertia.¹⁷ Moreover, the short-term price-acreage relationship, evident in figure 2 where year-by-year barley acreage is plotted against price at the preceding harvest, was fairly close; at most times the two variables moved in the same direction with acreage changes lagging changes in price by more than a year. Because price falls were usually followed by a less-than-proportionate reduction in acreage sown, while rising prices triggered more-than-proportionate increases, the gap between the series gradually widened. The economic activity represented in figure 2, therefore, is entirely compatible with the possibility that barley acreage reflected the decisions of market-sensitive farmers responding to changes in both barley prices (falling in the long-run) and the (rising) price of barley relative to that of wheat. Barley was a cash crop, on most soils easily substituted for wheat. Figure 3, showing the ratio of barley to wheat acreage and that of barley to wheat prices, demonstrates the strength of this relationship (Pearson correlation coefficient 0.83).

Oats were a less important cereal than wheat or barley but repay examination as another cereal crop that farmers are said to have abandoned reluctantly and because, like barley, they were an alternative to wheat. Figure 4 displays a relationship between oat prices and acreage whose implications are similar to those shown in figures 1 and 2. There is a general correlation between short-term movements in the two series but, as with barley and here more emphatically, there is a long-term disparity in price and acreage trends: the area sown to oats rose substantially despite falling prices. Initial appraisal might interpret the latter relationship as indicative of farmer-irrationality, of a 'catch 22' attempt to compensate falling prices by increasing output. But this would be mistaken. All farm prices, even milk prices, fell during the depression: greater output of some products whose prices fell was a necessary part of adjustment and increasing oats output is partly explained by a relative increase in price compared with barley and wheat prices: between 1871-5 and 1891-5 oats fell in price 31 per cent, barley by 36 per cent, and wheat by 49 per cent.¹⁸ Particularly interesting is the steep rise in oats acreage between 1892 and 1895 when its price fell but wheat prices plummeted. In these few years the Essex wheat acreage diminished by a remarkable 34 per cent while that of oats rose 27 per cent. Likewise, the initially surprising juxtaposition of rising acreage and falling prices for barley and oats in 1884-6 (figures 2 and 4) has quite different implications in the context of the simultaneous, and far greater, fall in wheat prices.

Thus far nothing has been found that suggests farmers behaved irrationally in re-allocating their cereal acreage. But the main thrust of arguments alleging managerial failure is that resources were misallocated, not between alternative cereals, but between cereals and livestock. Falling wheat prices may well 'explain' rising barley and oats acreage in the mid-1880s and the remarkable expansion of oats cultivation in the early 1890s, but were they accompanied by a corresponding expansion of the non-cereal sector? Change in the area under grass provides one indication of such adjustment. In figure 5 wheat prices are plotted alongside the acreage devoted to pasture. The distinction between 'permanent' and 'temporary' pasture is tentative, but substantial grassland

¹⁷ Table 1 (below) and B. R. Mitchell and P. Deane, *Statist* price index suggests that real oat prices may have increased slightly. *Abstract of British historical statistics* (1962), pp. 474, 489.

¹⁸ Table 1, below. Comparison with the Sauerbeck -

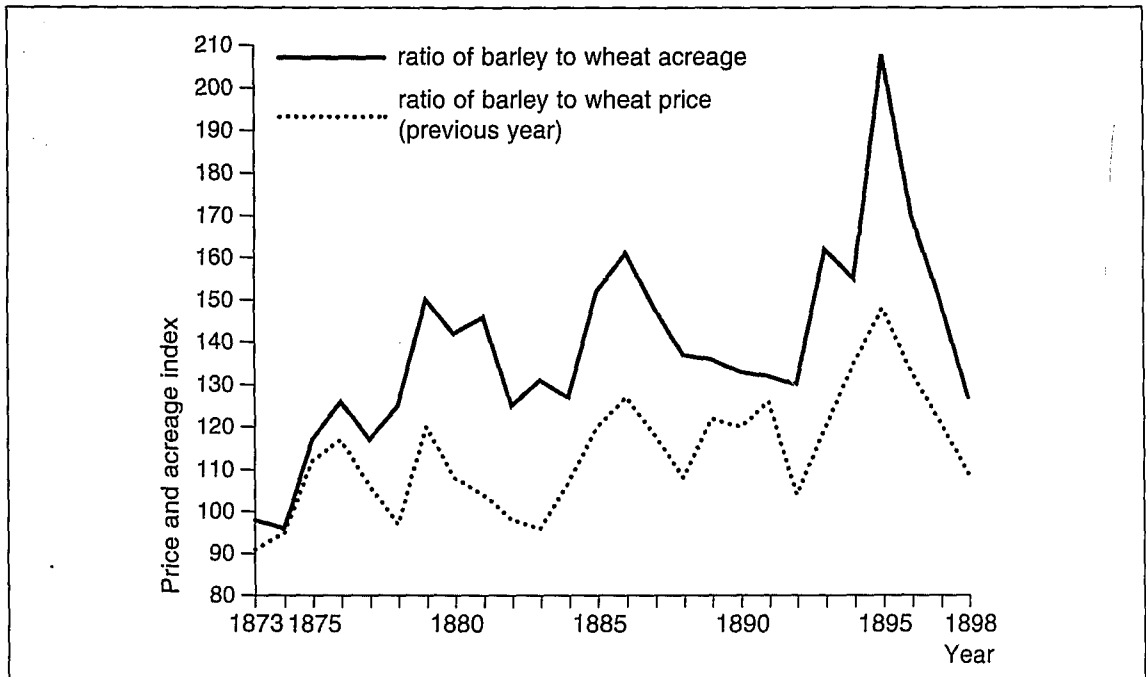


FIGURE 3. Wheat and barley prices and acreage, Essex 1871-98 (1871-75 = 100)

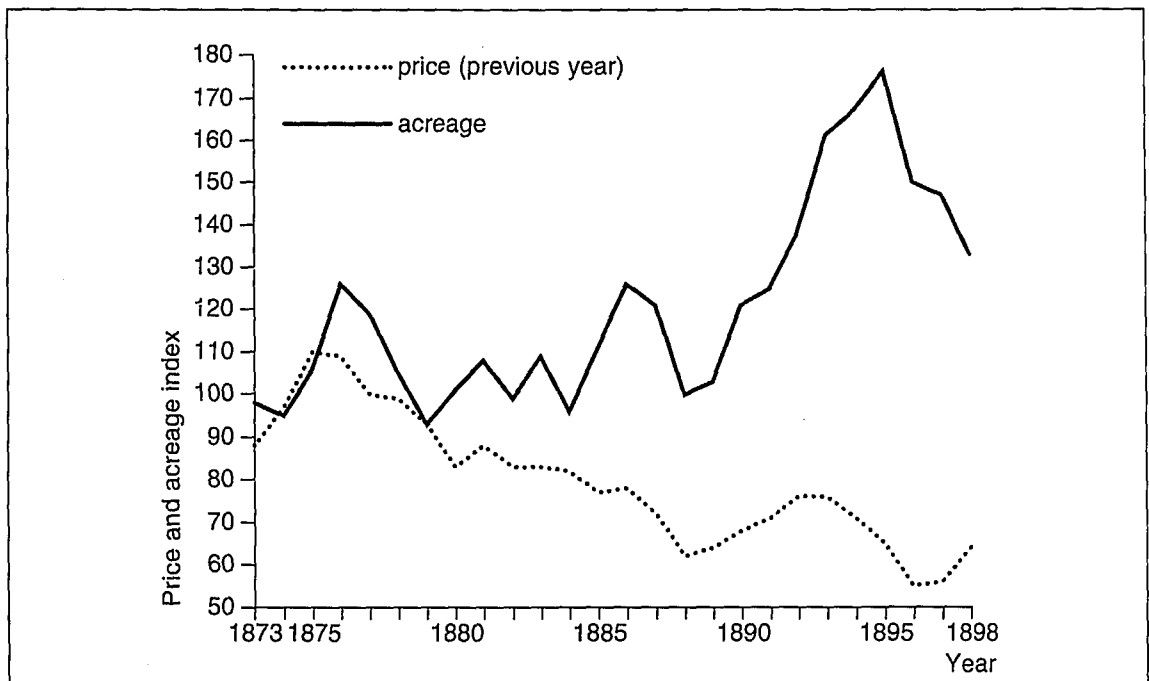


FIGURE 4. Oat prices and acreage, Essex 1871-98 (1871-75 = 100)

expansion – 40 per cent between 1873 and 1896 in Essex – is clearly evident.¹⁹ At first, expansion of temporary grassland outstripped that of permanent pasture, a rational response to the initially modest shift in the cereal-livestock price differential.²⁰ But even in the 1870s there was more expansion of permanent pasture than is compatible with claims that the response to depression was long-delayed. Another positive development was a 50 per cent increase in the acreage devoted to hay, some consumed on the farm, some to feed London's horses.

Much of this new pasture was for cattle grazing. Figure 6 shows changes in cattle numbers and in the number of dairy and non-dairy cattle. Neither milk nor beef production were of much consequence in Essex when the depression began and subsequent expansion was intermittent and insubstantial.²¹ Comparing 1871–5 with 1891–5, cattle numbers increased only 15 per cent, and this modest expansion is sometimes cited in accounts critical of farmers' responses to depression. However, figure 6 also shows that dairy cattle numbers increased considerably. Whereas there were scarcely more non-dairy cattle in 1891–5 than had been recorded twenty years previously, the number of milkers had risen by some 45 per cent; by 1893–5 Essex milk receipts equalled those from wheat.²² Failure to expand beef output much is certainly amongst the criticisms made of farmers in the south-east, but where beef-raising and dairying were alternatives it made sense to opt for dairying because milk prices were better-maintained. Moreover, meat imports placed particular pressure on the price of poorer-quality beef at a time when rising real wages discouraged labour-intensive production of premium beef, and encouraged labour-saving rough-grazing that sustained fewer cattle, of indifferent quality, on a given acreage.

Pig-raising, although widespread in Essex, as elsewhere, had long been 'regarded rather as a casual adjunct than as a primary, or even secondary, consideration'.²³ Few farmers concentrated upon pig-raising, and although pig-meat prices were comparatively buoyant, pigs featured far less prominently than dairying among the alternatives urged upon cereal growers. What do the price and output series suggest of the market performance of Essex farmers in this branch of agriculture? Figure 7 shows that prices and pig numbers were both volatile, that pig numbers appear at times to have followed prices with a two or three year lag, and that the relationship between price and supply appears less close than those in the price and supply of wheat, barley, and oats.²⁴ Although pig-meat prices improved relative to cereal prices (Table 1, below), there

¹⁹ Fields devoted to temporary grass would be recorded as 'permanent pasture' after two or three years. Moreover, both categories encompassed a great variety of grazing. Through-going conversion to pasture, and best-practice temporary pasture, required extensive preparation. But some arable became 'pasture' when unploughed and unweeded fallow-land accumulated sufficient self-sown grass ('tumble-down'). Pasture-making and cattle-raising occurred over several years: thus making inappropriate analysis of the kind depicted in Figs 1–4.

²⁰ Hunt and Pam, 'Prices and structural response', p. 497.

²¹ *Ibid.*, pp. 486–7, 490. The categories were not exclusive: milkers produced calves destined for veal or

beef, and most milkers were eventually sold as poor quality beef. Beef production, of course, was also linked with cereals in systems of mixed farming. Problems arising from time-lagged responses, and the subtle relationship between prices of bought-in store cattle and those of fat stock, preclude useful year-by-year comparisons between cattle numbers and the prices of meat and milk.

²² S. J. Pam, 'Essex Agriculture, 1850–1914' (forthcoming Ph.D thesis, University of London), ch. 5.

²³ R. Jefferies, *Field and farm* (1957), p. 189; J. Thirsk, *Alternative agriculture: A history* (1997), p. 196.

²⁴ Fig. 7 shows pig numbers against pig-meat prices in the previous year. Such comparisons are weakened by considerable short-term fluctuations in pig numbers.

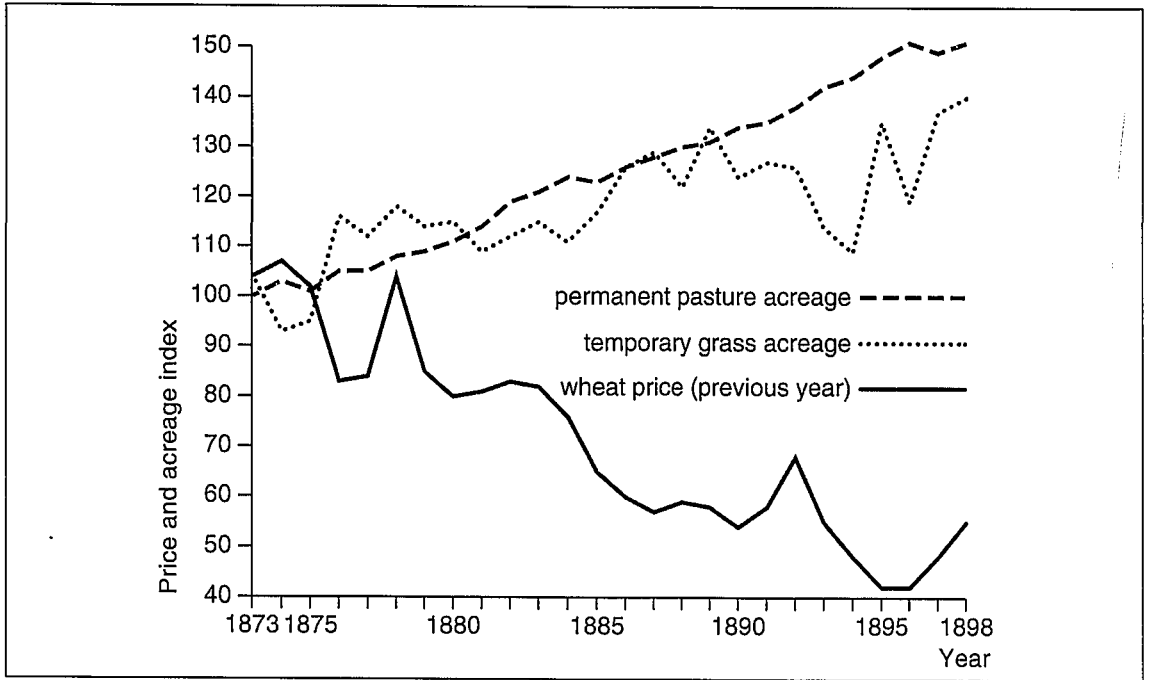


FIGURE 5. Wheat prices and pasture acreage, Essex 1871-98 (1871-75 = 100)

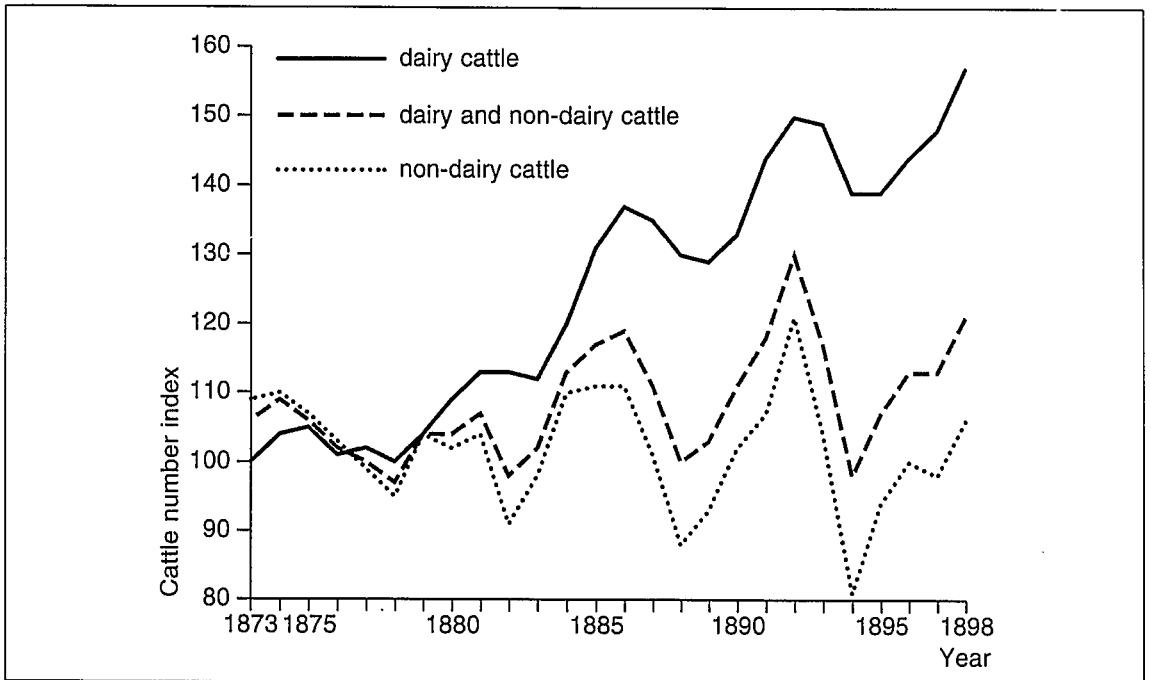


FIGURE 6. Cattle numbers, Essex 1871-98 (1871-75 = 100)

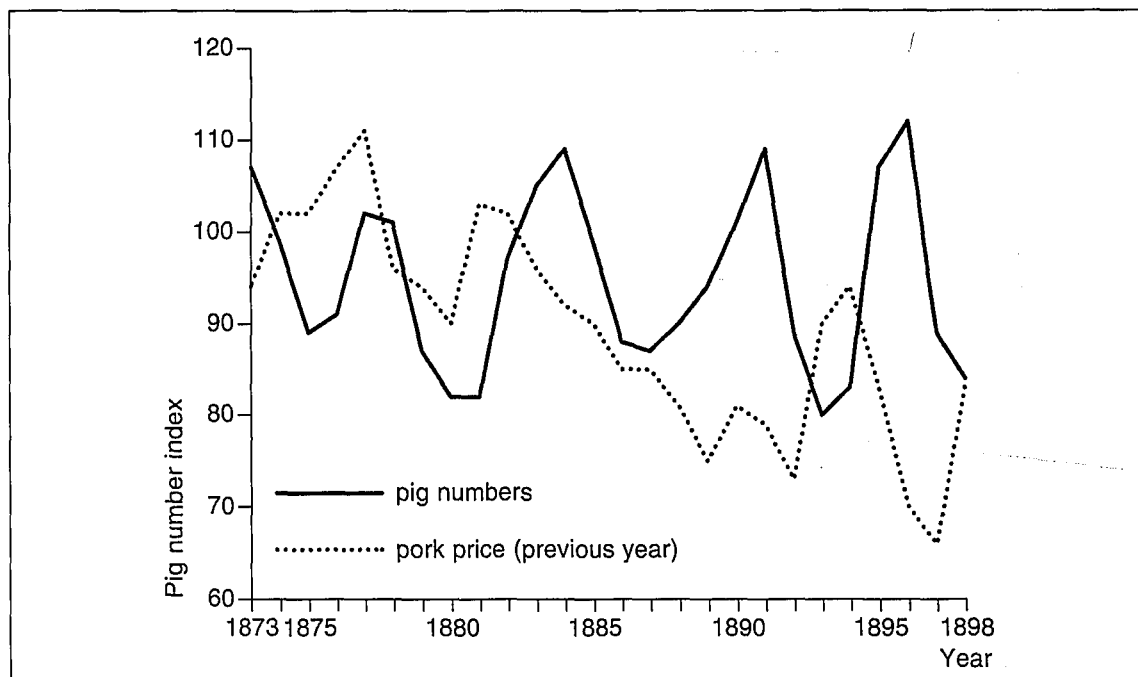


FIGURE 7. Pig numbers and prices, Essex 1871-98 (1871-75 = 100)

was little long-term increase in the Essex (or national) pig population.²⁵ Possibly the particular volatility of pig-meat prices was discouraging and partially obscured their long-term buoyancy: even so, there is a suggestion that farmers might have turned towards pig-raising with more enthusiasm. Whether there were similar anomalies in the relationship between sheep numbers and prices is difficult to ascertain. Sheep-meat prices fell less than cereal prices in the depression which, taken alone, indicates that sheep numbers perhaps should have increased. Wool prices, however, fell disastrously (Table 1, below) and prices for lowland mutton were particularly affected by imports of frozen meat. Moreover, lowland sheep-raising was associated with cereals, and the retreat from corn was a further disincentive to sheep-keeping. So too, of course, was liver-rot in 1879-81 and enhanced supplies of chemical alternatives to sheep dung. The probable net implication of these market signals was that Essex farmers should keep fewer sheep: they acted accordingly, between 1871-5 and 1891-5 sheep numbers fell 16 per cent.

Taken together this evidence of land-use, animal numbers, and prices indicates significant structural adjustment in Essex agriculture. Considerably less corn and more milk and hay were produced, and the acreages devoted to wheat, barley, and oats responded impressively to short-term price fluctuations. Clearly questions remain concerning whether *sufficient* structural change occurred, especially if wheat was ever cultivated at a loss, and there appears more than a possibility that farmers responded tardily to opportunities to supply pork and bacon. There were quite probably also other missed opportunities beyond the conventional range of cereal and livestock alternatives. Very little cheese and butter were produced in Essex. More remarkable

²⁵ The returns do not cover holdings of under a quarter of an acre before 1891, nor those less than an acre subsequently. Thus cottagers' pigs are excluded.

perhaps, given proximity to London, is that fruit, garden vegetables, eggs, and poultry did not occupy a more prominent place among alternatives to cereals. Good long-run price evidence for these products is regrettably elusive, but that available indicates price and demand trends compared favourably to those for cereals and one Essex farmer, probably exceptional in keeping poultry on a large scale, claimed it was the most profitable of his activities.²⁶ Of the ten price series in Table 1 (below) only that for milk records a significantly lesser fall than the fall in egg prices.²⁷ These activities were of minimal importance in the seventies. Considerable Essex acreage was then devoted to potatoes, cabbages, carrots, peas and other vegetables easily incorporated into arable rotations (some for animal feed), but in 1874 'orchards', 'market gardens' and 'nursery gardens' accounted for fewer than 6000 acres. Poultry was considered too inconsequential for enumeration until the mid-eighties when some 290,000 hens, less than one to two-and-a-half acres, were returned on holdings above a quarter-acre. They were uncounted again after 1886, but circumstantial evidence suggests that poultry and egg output, although growing, remained of minor importance.²⁸ By this time there was extensive market gardening in some districts close to London, Colchester, Chelmsford, and Southend, including numerous glass-houses along the Lea Valley; seed cultivation had become important in the vicinity of Hatfield Peverel, Kelvedon, and Marks Tey; and soft-fruit was produced around Stanford-le-Hope and close to Wilkin's jam factory at Tiptree.²⁹ But the total area under orchards and market gardens still occupied barely one per cent of Essex farmland.³⁰ If this suggests possible missed opportunities, farmers were not the chief culprits because such labour- and land-intensive activities were more usually, and more effectively, pursued on holdings far smaller than most Essex farms, and the initiative and investment necessary to create smallholdings was clearly the responsibility of landlords.

II

Were the adjustments just described significantly less than what was desirable and possible? Whether the traditional image of farmer-inertia requires amendment depends in part on the clarity of price incentives to adapt, and also upon farmers' ability to respond. Price differentials and the constraints imposed by soil-type and market accessibility were examined in two recent publications that suggest good reasons why adjustment fell short of complete transformation.³¹

Critical accounts incline to assume that price signals encouraging farmers to abandon cereals

²⁶ BPP 1896, XVI, pt i, *Royal Commission on agricultural depression, minutes of evidence*, pp. 418, 420; *Digest of evidence*, pp. 174-5. Lewis Wright made a similar claim in 1911, 'poultry pay best of any branch upon a farm'. At that time imported poultry and eggs accounted for over half of consumption. On these themes see Thirsk, *Alternative agriculture*, pp. 192-5, 212; I. Mead, *The story of an Essex lad* (1923); E. J. T. Collins, *A history of the Orsett estate, 1743-1914* (1978), pp. 66-9; Stearns, 'Agricultural adaptation', p. 138; *Agrarian History*, VII, p. 225; Kindleberger, *Economic growth*, p. 242.

²⁷ Prices for 1871-5 and 1891-5 compared. See also *Agrarian History*, VII, pp. 2096-7.

²⁸ Egg and poultry production has been estimated as

worth about 6.5% of all livestock production in 1900 (England and Wales), *ibid.*, p. 192.

²⁹ *Ibid.*, p. 175; Thirsk, *Alternative agriculture*, pp. 179-84, 189; E. H. Rowley, 'Memoirs', *Panorama* 5 (1960), pp. 32-3; A. W. Ashby, 'Some minor farm crops, III: seed growing in Essex', *JRASE* 74 (1913); Collins, *Orsett*, pp. 66-9.

³⁰ Measurement is beset by changes in definition and in the size of the smallest enumerated holding. In 1896 orchards, market gardens and other land under soft fruit amounted to 7608 acres. Holdings of less than an acre were not enumerated at this date.

³¹ Hunt and Pam, 'Prices and structural response'; 'Managerial failure'.

TABLE 1. Agricultural prices, 1871-1895, five-year averages (1871-75 = 100)

Date	Wheat	Barley	Oats	Pork	Mutton	Wool	Beef	Milk	Butter	Cheese
1876-80	87	92	93	99	93	69	91	100	97	94
1881-5	73	79	81	93	94	48	91	97	93	95
1886-90	57	68	67	80	79	47	72	88	82	84
1891-5	51	64	69	82	72	46	72	86	80	74
Change 1871-5 to 1891-5 (%)	-49	-36	-31	-18	-28	-54	-28	-14	-20	-26

Source: Hunt and Pam, 'Prices and structural response', p. 481.

for milk and meat were clear and emphatic: in fact they were neither. With hindsight, certain long-term price trends are quite clear. Even so, the disparity between cereal and milk price trends was less than many commentators suppose, while beef, mutton, wool, and cheese prices were not much better-maintained than those of oats and barley. And in the shorter-term these changes were even less clear, as is evident by comparing the long-term price trends of Table 1 with the confusion of short-term fluctuations depicted in figures 1-7. Thus anxious farmers, lacking hindsight and in receipt of a hotch-potch of conflicting advice, were further confused by conflicting short-term price signals.³² Caird's early optimism regarding London's almost boundless demand for milk, and Kindleberger's more recent assertion that dairy farmers satisfying that demand 'suffered not at all', are equally mistaken: milk markets were frequently glutted.³³ Among other disincentives to abandoning cereals were the ever-present threat of animal disease, and growing overseas competition in the livestock sector. Imports of tinned, powdered, frozen, and even fresh milk had begun and only the very complacent, or prophetic, would have discounted entirely the possibility that milk - like cereals, wool, cheese, and meat - would eventually encounter formidable import competition.³⁴ With prospects so uncertain it is neither surprising nor reprehensible that farmers hesitated before further commitment to dairying. How prospects appeared at the time is apparent in R. Hunter Pringle's report on Essex for the Royal Commission on Agricultural Depression (1894) in which he warned that dairying, already barely profitable, would be thrown into crisis by further expansion.³⁵

Even so, price incentives were sufficient to persuade many Essex farmers to adapt and it might be asked why others did not follow them. Why did cereals and fallow still occupy a third of Essex farm land at the end of the depression? These questions were addressed in an analysis of land-use that demonstrated how incentives and opportunities to abandon cereals were closely linked to soil-type and access to markets. There was a range of constraints and opportunities. On clay or light-soil farms, with access to urban markets, considerable conversion to dairying occurred. Marginal corn-land that was less well-placed to send milk to towns (milk producers needed to

³² The *Essex Standard* deplored the 'worse than useless' recommendation of city pundits, 'with such a multitude of counsellors one hardly knows which to follow'. Hunt and Pam, 'Prices and structural response', pp. 500-1.

³³ In 1884, for example, supply was reported 'altogether overdone ... milk at the stations can hardly

be given away', *ibid.*, pp. 490-3. See also R. Perren in *Agrarian History*, VII, p. 995.

³⁴ Hunt and Pam, 'Prices and structural response', p. 493. Over 90,000 gallons of frozen milk came from Sweden in 1894. *Cowkeeper and Dairyman's J.* (Mar. 1895).

³⁵ BPP 1894, XVII, pt i, p. 83.

be within a few miles of a station) was more often converted to pasture for beef or hay. On the better land by contrast, the medium soils and boulder clays, cereal production, including wheat, remained both viable and rational.³⁶ There, falling prices were sufficiently offset by falling costs, and little conversion to dairying occurred even on land with good access to urban markets. Farmers appear to have responded positively to depression, although not by a gaderene flight to milk and meat. Their tactics were more nuanced, more cognizant of local soils and market opportunities. In some Essex parishes milking-cow numbers doubled over the depression; in others there was no increase at all. Besides milk and meat, hay, potatoes, and other produce were also substituted for cereals. And within the cereal regime, as we have seen, there was constant fine-tuning between wheat, barley and oats in response to shifting prices.

The same analysis suggested that 'low farming' represented a more positive response to depression than is implied in the disparaging interpretations of numerous critics. Low-farming is evident in pasture acreage increasing faster than animal numbers as rough grazing was extended, in cereal yields that failed to rise although marginal land fell out of cultivation, in a much-reduced labour force, and in low, or negative, increases in farm output. But retrenchment along these lines, particularly on the poorer soils where it was concentrated, represented entirely rational responses to depression. Expanding milk production, the urban critics' 'obvious' alternative to cereals, was not practicable where transport was poor and discouraged everywhere by periods of over-supply and low prices, while labour-intensive production of quality meat was unattractive because rising wages more than offset falling feed costs. Thus movements in the cost of farmers' main outlays, wages (rising) and rents (falling), constituted a formidable case for a leaner-meaner regime that maximized output-per-man, rather than output-per-acre, and transformed marginal arable into marginal-pasture, quickly and cheaply. Golden-age fastidiousness – trim landscapes and bumper crops – was replaced by low-cost, low-yield systems with an emphasis on labour-saving. Low-farming possibly reduced labour costs by more than increased use of machines, horses, and fertilizers, and the same quest for labour economies was probably as influential as changing price differentials in encouraging the transition from cereals to rough grazing. In some places of course, particularly close to towns or railways, dairying or other alternatives to cereals were more profitable options, but it is quite wrong to depict rough-grazing, and other low-farming, as everywhere, and self-evidently, the redeployment of last-resort.

Because it violated time-honoured assumptions associating 'good farming' with cereals and high yields, low farming was widely discredited by contemporaries who lamented its aesthetic shortcomings: hedges and ditches neglected, gates and fences unrepaired, twitch and thistle amid growing crops. Rider Haggard, for example, described 'thousands of acres of strong corn lands which have tumbled down to grass'.³⁷ Rough grazing land was frequently accounted 'abandoned' or 'derelict': it represented 'an admission of failure ... ranches for cattle rather than serious cultivation'.³⁸ Some such accounts were partly justified: by the nineties the least-viable land was close to reverting to wilderness. But a great deal of entirely rational adaptation was dismissed in

³⁶ Collins describes the Essex Rodings as 'arguably the best wheat-producing district in Britain', and G. E. Mingay notes the continued viability of arable farming, and constraints on dairying expansion, on the nearby Terling estate. *Agrarian History* VII, pp. 163, 791.

³⁷ Haggard, *Rural England* (2 vols, 1902), I, pp. 465–6.

³⁸ *Agricultural Gazette*, 24 April 1882; F. A. Channing, *The truth about the agricultural depression* (1897), pp. 4–5; W. Gavin, *Ninety years of family farming* (1967), p. 87.

similarly apocalyptic terms. One account claimed that approaching half of the land 'between Chelmsford, Maldon and the Blackwater in the north, and the Tilbury-Southend railway in the south' was 'practically waste'.³⁹ Similar exaggerations were triggered by the infamous black-bespattered map accompanying the second Royal Commission on Agricultural Depression (1894) which depicted not abandoned land, as many supposed, but land converted to rough grazing.⁴⁰ It is doubtful, in fact, that as much as one per cent of Essex farmland was ever 'abandoned'.⁴¹ Such criticism of low-farming is implicitly endorsed in some recent accounts. Kindleberger and Offer emphasize low, or negative, output growth at this time and regret that so much high-yielding cereal land became low-yield rough grazing. Labour productivity gains are acknowledged, but low output growth is clearly associated with poor performance, with 'retreat' and 'failure to transform'.⁴² Such interpretations are flawed. Even in the high-price, high-rent, low-wage, 'golden age', high-farming had been more remarkable for methodological elegance than economic efficiency. But after 1873 prices and rents fell while wages rose and, *pace* Caird, it was low farming that was to prove the better substitute for protection.⁴³

Obviously not all alternatives to high farming entailed lower-output per acre: it was suggested earlier that opportunities to expand output of pigs, fruit, and vegetables were perhaps under-exploited. But the precarious fortunes of those who turned to dairying and quality beef, the most-canvassed alternatives to cereals, indicate that these opportunities were near-fully exploited and that low-pressure farm systems had a crucial role in responding to depression. The consequent relative decline in land productivity is no more indicative of 'failure' than the simultaneous rise in labour productivity. Not surprisingly, therefore, most estimates of total factor productivity (TFP) convey a more favourable impression of performance than those based upon output alone. There is, of course, considerable inconsistency in calculations of TFP and until more robust statistical evidence is available such evidence should be used sparingly.⁴⁴ But there appears no

³⁹ *Victoria County History, Essex*, II (1907), p. 339.

⁴⁰ BPP 1894, XVI, pt i, end-paper. Likewise the 'many square miles of wasteland' in the Dengie Hundred that closer inspection reduced to fewer than a thousand acres. Haggard, *Rural England*, I, pp. 466-7.

⁴¹ Pam, 'Essex Agriculture', ch. 5; Collins in *Agrarian History*, VII, p. 162.

⁴² Kindleberger, *Economic growth*, pp. 209, 239-47; Offer, *Agrarian interpretation*, pp. 93-5.

⁴³ J. Caird, *High Farming under liberal covenants: The best substitute for protection* (1849). R. H. Pringle recorded returns to low farming considerably above those available on land 'farmed well', BPP 1894, XVI, pt i, *Report on Essex*, p. 55.

⁴⁴ Estimates of TFP in *Agrarian History*, VII, range between 0.19 and 0.56% p.a. The lower figure is half the rate of growth J. L. van Zanden calculates for France and one-eighth of that he calculated for Germany, comparisons that might be considered implausible for a time when the French and German rural exodus was comparatively slow. O'Grada, reviewing *Agrarian History*, VII, indicates shortcomings in van Zanden's TFP esti-

mates, 'Farming high and low, 1850-1914', *AgHR* 49 (2001), p. 216. O'Grada's revised (1994) TFP estimates appear to be significantly higher than the rate he calculated in 1981 (with different terminal dates). Such calculations are much affected by choice of base year and inherent weaknesses in measures of output, labour, and capital. Output figures relate variously to the UK, Britain, or to England and Wales and to gross or net output. The more pessimistic calculations claim output falls of up to 20%, whereas Michael Turner's most recent estimate indicates an increase of about 8% (1867-9 to 1895-7). Labour productivity gains have been calculated at levels between 14 and 66 per cent, and are much influenced by how the work of farmers' female relatives is assessed. Capital estimates are similarly tentative with contributors to the *Agrarian History*, VII, and to different editions of Floud and McCloskey, offering alternative views on whether more or less capital was employed during the depression. *Agrarian History*, VII, pp. 135, 139, 161, 205, 301-2, 313, 316, 319-20, 911, 1889, 1904-9; Floud and McCloskey, *Economic History* (1981), II, pp. 178-9; (1994), II, pp. 148-9.

reason to dispute Collins's generalization that sustaining depression output at approximately the same level as that at the end of the Golden Age, with far less labour and little, if any, more capital, was 'no mean feat'.⁴⁵

III

Whereas monitoring prices, and the annual allocation of land between different crops and livestock was largely the responsibility of farmers, the landlords' role embraced more strategic and more entrepreneurial responsibilities. They dominated rural society and others looked to them for direction and initiatives. One of their responsibilities was the provision of long-term capital and the traditional view of investment during the depression, part of the alleged agricultural 'failure', is that insufficient was invested, that the transition from cereals to milk and meat was impeded by landlord parsimony. With rents falling, retrenchment allegedly became the order of the day: 'expenditure usually followed income downwards' ... 'improvements such as land drainage ... and new buildings ... were stopped at once'.⁴⁶ However, there have always been dissenters from this view and it is not readily reconciled with restructuring as extensive as that described above. How was agricultural investment in Essex affected by economic adversity? Which of the conflicting estimates of investment used in total factor productivity analysis (above) is most consistent with the Essex experience?

Not surprisingly, there was a variety of responses: some Essex men curtailed investment, others invested more to maintain rents and keep tenants. But the most typical experience was at odds with textbook generalizations. Although rents fell, investment levels were generally maintained and on several estates they increased. The ledgers of the Land Loan and Enfranchisement Company and the General Land Drainage Company each show substantially greater sums loaned to Essex borrowers between 1875 and 1884 than in the previous ten years: twice as much was loaned by the first company, half as much again by the other.⁴⁷ Government loans for farm buildings, nationwide, were considerably higher in 1875-99 than between 1850 and 1874, and although borrowing for drainage in Essex moderated in the eighties it remained at levels incompatible with claims of improvement routinely curtailed.⁴⁸ R. Hunter Pringle, in 1894, noted several neglected investment opportunities, but was also impressed by 'liberal expenditure' on cowhouses, milkrooms, sheds, new farmhouses, covered yards, farm roads, gates, and fencing.⁴⁹ Further evidence of sustained, or increasing, investment can be found in surviving estate papers. On the Orsett estate (Thurrock), for example, Richard Wingfield-Baker, having stunted investment in the 'golden age', borrowed £2900 for buildings and cottages in 1875.⁵⁰ His son, Digby Wingfield, borrowed £1500 for drainage in 1882, and between 1887 and 1892 a further

⁴⁵ *Agrarian History*, VII, p. 205.

⁴⁶ Lord Ernle, *English farming: Past and present* (1967 edn), pp. 382-4; C. S. Orwin, *A history of English farming* (1949), p. 77; Perry (ed.) *British agriculture*, p. xxix; id., *British farming*, p. 112; F. Crouzet, *The Victorian economy* (1982), p. 173; J. Brown, *Agriculture in England: a survey, 1870-1947* (1987), pp. 15, 29-31.

⁴⁷ PRO, Land Loan and Enfranchisement Company ledgers, 1 and 2 (1861-84), MAF 66/4-5; General Land Drain-

age Company Ledgers 1 and 2 (1851-96), MAF 66/1-2.

⁴⁸ A. D. M. Phillips, 'Landlord investment in farm buildings in the second half of the nineteenth century', conference paper summarized in *AgHR* 44 (1996), p. 102; id., *The underdraining of farmland in England during the nineteenth century* (1989), p. 125.

⁴⁹ BPP, 1894, XVI, pt i, *RC on agricultural depression, Report on Essex*, pp. 39, 51, 59.

⁵⁰ PRO, MAF 66/4.

£9500 was spent on restoring run-down farms.⁵¹ In the 1890s an expensive re-equipment of their Essex farms by the governors of St Bartholomew's Hospital was accounting for as much as 40 per cent of rents.⁵²

Some accounts suggest that while expenditure did not immediately cease, the *eventual* influence of depression was significantly less investment.⁵³ The evidence from Essex on this point is not consistent because certain landlords, like Lord Ashburton and the governors of the St Bartholomew's estate, invested heavily towards the end of the depression.⁵⁴ However, there does appear to have been some falling-off in investment after the mid-eighties. This is the clear implication of evidence on government loans for agricultural improvement in England and Wales as a whole.⁵⁵ R. J. Thompson's calculations, published in 1907, estimate landlord investment at equivalent to 27 per cent of rental income in the early 1870s and mid-1880s, and to 22 per cent of the (reduced) income of the later-1880s.⁵⁶ It seems that many landlords invested heavily to maintain rents in the seventies and to improve drainage during the wet years around 1880. In time, however, investment came to reflect growing awareness that depression was long-term. Less fortunate landlords had retrenchment thrust upon them as existing mortgages became more onerous, leaving less to spare for maintenance and improvement. Some lenders, moreover, became less willing to make new loans, and some attempted to recall loans arranged when prospects had been more favourable.⁵⁷

Another generalisation that can be tested against Essex evidence is the claim that tenant farmers, and landlords with modest holdings, among the first to discover that lenders could be less accommodating, were the more reluctant investors and particularly inclined to economize after the mid-eighties. The Bonnell family's estate (under 2000 acres), was one where investment was soon restricted to little beyond essential repairs. The post-1880 'liberal expenditure' noted by Hunter Pringle was on 'estates in a position to make improvements'.⁵⁸ It is probable too that tenants now shouldered less of the investment burden. When tenants had competed for farms and could raise loans easily, landlords had been able to delegate a greater part of investment expenditure.⁵⁹ But with vacant farms becoming plentiful in the depression, and a greater concern to keep tenants, landlords more willingly met the cost of fencing, drainage, and repairs. Farmers, of course, could no longer so easily meet such expenditure: the accounts of Essex land owned by St John's College, Cambridge, record substantial expenditure on repairs, 'as the tenants could

⁵¹ *Ibid.*, Rural History Centre, University of Reading (hereafter RHC), ESS 17/6/27. For a similar account see Collins, *Orsett*, p. 42.

⁵² St Bartholomew's Hospital, London, Almoner's Reports, EO 8/7; accounts, 1890-1914. See also Essex RO (hereafter ERO), Petre MSS, Thorndon accounts, D/DP, A series; Berkshire RO, Benyon MSS, Turner's account for Essex, D/E By, A135, A139.

⁵³ See, for example, F. M. L. Thompson, *English landed society in the nineteenth century* (1963), pp. 315-6.

⁵⁴ ERO, Ashburton MSS, D/D An, T17.

⁵⁵ BPP, 1899, XVIII, p. 20, *Annual reports of the Board of Agriculture, passim*.

⁵⁶ R. J. Thompson, 'An inquiry into the rent of agricultural land', *J. Royal Statistical Society* 70 (1907),

p. 603 (table VII).

⁵⁷ BPP, 1894, XVI, pt i, *RC on agricultural depression, evidence*, p. 49; D. Cannadine, 'Aristocratic indebtedness in the nineteenth century: the case re-opened', *ECHR* 30 (1977), p. 646; J. V. Beckett in *Agrarian History*, VII, pp. 755-6; Holderness, *ibid.*, pp. 927-9.

⁵⁸ ERO, Bonnell MSS, accounts, D/D Hn, A4-7; particulars of money spent, E4; BPP, 1894, XVI, pt i, *RC on agricultural depression, Report on Essex*, p. 59. A. D. M. Phillips (in the conference paper cited before) discovered that smaller estates (under 1000 acres) were under-represented nationally among those taking up government improvement loans.

⁵⁹ E. H. Hunt and S. J. Pam, 'Essex agriculture in the "golden age", 1850-73', *AgHR* 43 (1995), p. 170.

not afford it'.⁶⁰ So much had conditions altered that in-coming tenants were frequently able to demand wholesale expenditure, and it was at such junctures that some Essex landlords spent heavily on conversion to dairying. A cow house and improved water-supply were required to entice a suitable tenant into Fanton Hall Farm at North Benfleet, and a new dairy with standing for fifty cows was the entry-price demanded by an in-coming Orsett tenant.⁶¹

The overall picture is that investment was more restrained after the mid-eighties, particularly on smaller estates. But there was never in Essex anything approaching an investment moratorium of the kind described by Orwin, Perry and others. Whether sufficient was invested, and what proportion of expenditure was as well-tuned to requirements as that at Orsett and Fanton Hall, are questions more difficult to answer. Against the numerous claims that investment was insufficient, Cormac O'Grada, interestingly, has suggested that meagre returns may indicate landlords invested *too* liberally.⁶² But it is perhaps unfair to assume that over-investment occurred whenever rent increases fell below the return on consuls. Landlords were aware of wider and more enduring priorities: they invested partly to uphold the value of their estates, to keep the land in order while awaiting better times, partly to enable tenants to make a living, and also, of course, to maintain their social status. Was investment mainly of the kind likely to have assisted agricultural adaptation? Considerable investment served either arable or live-stock farming and much is recorded under such vague headings as 'improvements', 'making good', or 'drainage'.⁶³ But it is reasonably certain that investment in Essex farm building undermines claims that structural adjustment was held-back by landlords' reluctance to invest. Some such expenditure was on renovation, but most was for new construction: between 1875 and 1885 as much as 84 per cent of Essex lending by the Land Loans and Enfranchisement Company, and 73 per cent of that by the General Land Drainage Company, was for new buildings.⁶⁴ And where their purpose is recorded it most frequently indicates a greater commitment to livestock. Covered yards, cow stalls, and dairies featured prominently in a substantial building programme at Orsett in the later stages of depression, and considerable investment in dairying is evident also on the Thorndon estate, on the St Bartholomew's Hospital estates, and the Essex holdings of the Ecclesiastical Commissioners.⁶⁵ It was liberal spending of this kind, of course, that helped to attract migrant Scottish and west country farmers to Essex, among them the demanding tenants of Fanton Hall and Orsett mentioned earlier. Initially, before there were significant divergences in livestock and cereal prices, investment had been less clearly focussed upon livestock, but the strong impression is that by the mid-1880s a substantial part of investment, almost certainly the greater part, was to facilitate change in land-use, particularly to expand milk production.⁶⁶ Conversion to rough grazing, of course, did not require substantial

⁶⁰ H. F. Howard, *The finances of the college of St John the Evangelist, Cambridge, 1511-1926* (1935), pp. 230-1. For another example see BPP, 1894, XVI, pt 1, RC on agricultural depression, *Report on Essex*, pp. 51-2.

⁶¹ Church House Millbank, London, Ecclesiastical Commissioners MSS, files 46754, 46758; RHC, ESS 3/1/1, 3/2/1.

⁶² O'Grada, 'British agriculture', p. 158; id., 'The landlord and agricultural transformation, 1870-1900: a comment', *AgHR* 27 (1979).

⁶³ Expenditure on drainage was beneficial to arable or pasture and well-drained arable land was more easily converted to pasture.

⁶⁴ PRO, MAF, 66/1-4.

⁶⁵ RHC, ESS 17/1, 17/3; Collins, *Orsett*, p. 42. ERO, D/DP A383-4; St Bartholomew's Hospital MSS, almoner's reports, Eo8/7; Church House, Ecclesiastical Commissioners MSS, files 46754, 50768.

⁶⁶ On livestock and cereal price divergence, see Hunt and Pam, 'Prices and structural response', p. 497.

investment, nor did continued cultivation of cereals on good corn land.⁶⁷ But substantial investment in cattle-housing, dairies, and water supply was necessary to facilitate the dairying expansion described earlier.

Rent adjustment, the most obvious assistance for hard-pressed tenants, was another traditional landlord responsibility. This aspect of their performance has also been criticized, particularly by Avner Offer: while the farmer's income vanished, he writes, 'rents held firm'.⁶⁸ In fact, neither Essex nor national rent evidence supports this interpretation: by and large landlords appear to have recognized their customary obligations.⁶⁹ How much tenants were assisted depended on local and individual circumstances, and because Essex tenants had particular need to look to their landlords for protection, their rents fell by more than the average. Between 1876-7 and 1907-8 they approximately halved, an estimate broadly compatible with F. M. L. Thompson's calculation of a 46.6 per cent fall between 1872-3 and 1910-11.⁷⁰ These figures indicate both substantial real falls in rent in the corn counties and that landlords bore some of the costs of depression. The more hard-pressed among Essex farmers were helped most: thus the greatest rent falls were on heavy clay-land too distant from transport for dairying. Low rent, of course, was one of the components of low-farming, and there are several reports of Essex farms let at nominal rents or rent-free.⁷¹ Rent of good pasture and prime cereal-land fell by considerably less. On the Petre estate, for example, where heavy-clay rents were reduced by half or more between 1878 and 1906, that on the favoured Mountnessing Hall Farm fell by only 18 per cent.⁷²

In the early years of depression contract rents in Essex did hold firm, just as Offer claims, but this is not evidence of landlords neglecting customary responsibilities. For a time both landlords and farmers expected the crisis to be transitory, thus needy tenants were granted short-term assistance in the form of temporary rent abatements and permission to accumulate arrears.⁷³ Permanent reductions followed, in many cases accompanied by a writing-off of arrears. There was to be a similar lag in rent adjustment when conditions improved: rents were still falling in 1899 and rose little before 1907. Claims that landlords were insensitive or exploitative in setting rents must be considered also within the context of supplementary assistance. Landlords might pay a tenant's tithe or poor rates, or provide help-in-kind such as the cattle-feed and artificial manures dispensed to 'weak but worth keeping' tenants on the Orsett estate.⁷⁴ Increased spending on repairs and maintenance, or on capital investment to reduce dependence on cereals, were other alternatives to rent cuts. Many of the Essex farms whose rents came closest to holding firm had been substantially improved. Such alternatives to rent reductions

⁶⁷ There is, of course, evidence of expenditure on arable machinery, but it accounted for only a modest part of total investment. Enthusiasm for steam-ploughing, never extensive, failed to outlast the 'golden age' and steam-threshers were commonly hired. Hunt and Pam, 'Essex agriculture', p. 169; BPP, 1894, XVI, pt i, *RC on agricultural depression, Report on Essex*, p. 57; J. H. Clapham, *An economic history of modern Britain* (3 vols, 1938), III, p. 88.

⁶⁸ Offer, *Agrarian interpretation*, p. 117; idem, 'Farm tenure', p. 5.

⁶⁹ On rent movements generally see *Agrarian History*,

VII, pp. 212, 306-7, 745-8, 771.

⁷⁰ Pam, 'Essex agriculture', ch. 4; Thompson, 'Anatomy of English agriculture', p. 226.

⁷¹ Ernle, *English farming*, p. 385; Gavin, *Ninety years*, p. 88; Haggard, *Rural England*, I, p. 441.

⁷² ERO, Petre MSS, Thorndon estate accounts, 1878-9, 1906-7; tenant ledgers III, IV; D/DP, A359, 366, 367, 422.

⁷³ On the Thorndon estate arrears amounted to the equivalent of 14 per cent of gross rentals in 1883, despite earlier abatements. ERO, D/DP, A351-63, 380-425.

⁷⁴ ERO, Whitmore MSS, Drivers' report, p. 9. In 1891 landlords became legally liable for tithe payments.

represented not landlord avarice for, as O'Grada noted, safe government stock might have yielded better returns. Rather, they were alternative means of observing the social contract whereby landlords provided a cushion between tenants and hard times. Thus here too criticism of landlords appears to have been overdone. There were, certainly, a minority in Essex – the Ecclesiastical Commissioners, for example, and some small, impecunious landholders – who were tardy in granting rent reductions. But the more typical experience was that abatements and credit were quickly granted, significant reductions followed, assistance was directed towards the most needy, and very few tenants were evicted for rent arrears.⁷⁵ When hard times returned in the 1920s a new generation of owner-occupiers regretted they no longer had landlords to assist them and found banks far less accommodating.⁷⁶

Another landlord responsibility was to ensure that the terms of leases did not obstruct agricultural adjustment, and here too their performance has been debated. There were contemporary complaints about the allegedly stultifying effects of restrictive covenants, of leases too short to encourage investment, and of uncertain compensation for improvements when tenants moved on: Kindleberger and Tracy have reiterated such charges more recently.⁷⁷ But most commentators suggest that obstructive lease requirements had long been widely ignored, that competent tenants enjoyed a high degree of customary security, and could make improvements with reasonable expectancy of compensation.⁷⁸ Increased concern to keep farms tenanted, and greater use of artificial fertilizers that facilitated off-farm sale of oats, hay, and straw, widened the disparity between formal lease-requirements and farming practice.⁷⁹ These generalizations certainly hold good for Essex. Covenants in leases were occasionally invoked to discipline or evict bad farmers, but restraints had been sufficiently relaxed for Druce in 1882 and Pringle, more emphatically, in 1893–4 to report that Essex tenants enjoyed 'freedom of cropping and cultivation'.⁸⁰ Guy's and St Bartholomew's Hospitals each made clear that cropping covenants were not binding upon tenants, and one Essex land-agent declared 'everybody in Essex is practically allowed to farm as he likes'.⁸¹ Falling prices and falling rents, moreover, encouraged tenants to prefer short leases.⁸² The considerable extension of low farming is, of course, further evidence of lease flexibility.

⁷⁵ Avner Offer's most robust claim, that rents 'held firm', is contradicted in his own accounts of reductions that were 'sluggish and slow', no greater than the fall in grain prices. Offer, *Agrarian interpretation*, pp. 114–17.

⁷⁶ R. Perren, *Agriculture in depression, 1870–1940* (1995), p. 45. Hall noted that owner-occupiers' mortgage payments equalled or exceeded what they would otherwise have paid in rent. D. Hall, *Pilgrimage of British farming, 1910–12* (1914), pp. 148, 434.

⁷⁷ W. E. Bear, *The British farmer and his competitors* (1888), p. 14; Kindleberger, *Economic growth*, pp. 246–7; M. Tracy, *Agriculture in western Europe: challenge and response, 1880–1980* (1980), p. 53.

⁷⁸ See, for example, O'Grada, 'British agriculture', pp. 157–8; F. M. L. Thompson, 'The second agricultural revolution, 1815–80', *EcHR* 21 (1968), p. 72; *Agrarian History*, VII, pp. 742, 794.

⁷⁹ Traditionally fodder crops were 're-cycled' to main-

tain soil fertility. The Agricultural Holding Act of 1883, providing compensation for unexhausted improvements, made compulsory what was already common practice.

⁸⁰ BPP, 1881, XV, *RC on the depressed condition of the agricultural interests*, p. 73; BPP, 1882, XV, *idem.*, *Report by S. Druce on Essex*, p. 29; BPP, 1894, XVI, pt i, *RC on agricultural depression, Report on Essex*, p. 62; BPP, 1896, XVII, *idem.*, p. 417.

⁸¹ BPP, 1894, XVI, pt i, *RC on agricultural depression, minutes of evidence*, p. 392. For similar conclusions on tenurial arrangements elsewhere, see J. T. Coppock and T. W. Fletcher in Perry (ed.), *British agriculture*, pp. 60, 72, 95–6; S. Wade Martins and T. Williamson, 'The development of the lease and its role in agricultural improvement in East Anglia, 1660–1870', *AgHR* 46 (1998), pp. 140–1.

⁸² On the Thorndon estate, for example, the tenant ledgers show that yearly agreements were preferred. ERO, Petre MSS, D/DP A366–8.

IV

In their management of investment, rents and leases, therefore, the landlords' performance, on the Essex evidence, was less abysmal than has often been suggested. In fact, in these respects their record was moderately impressive, quite possibly more impressive than that of landlords in the 'golden age'.⁸³ Like the farmers, and in association with them, they introduced significant, and appropriate, responses to changing market requirements and shouldered part of the costs of depression. Most could have echoed the Duke of Bedford's claim that 'none of the responsibility generally regarded as inseparable from the position of a great landowner had been evaded'.⁸⁴ But the challenges confronting English agriculture called for responses more innovative than those the Duke of Bedford had in mind or those that had sufficed in the 'golden age'. *Noblesse oblige* and fine tuning of investment, rents, and leases indicates successful management within the pre-existing institutional, economic, and cultural environment. Successful entrepreneurship required more than this. Here we return to the distinction between the responsibilities of tenant farmers and the more onerous responsibilities of landlords. It fell to landlords to grasp the nature of the crisis and formulate strategies for survival. This called for innovative thinking, for identification and exploitation of untried opportunities, the ability to recognize market and institutional constraints, and a willingness to remove them. In short the crisis demanded entrepreneurship in the full-Schumpeterian sense: it required a performance comparable with the heroic achievements of eighteenth-century 'agricultural revolution' landlords.⁸⁵ How close were late Victorian landlords to meeting these exacting requirements?

Essex provides considerable evidence of landlord resourcefulness in boosting non-agricultural incomes. The Whitmores (Orsett) built a small housing estate, sold or let land to various builders, manufacturers, and a railway company, and exploited chalk and brick-earth deposits.⁸⁶ Other estates quarried gravel, Lord Petre divided and rented his Ingatestone mansion, and John Wilkes let his to a preparatory school.⁸⁷ But initiatives of this kind, mainly by landlords able to exploit the ripple effects of London's expansion, are hardly relevant in the present context because they did little or nothing to advance agricultural efficiency. More pertinent, therefore, are the pioneering activities of Edward Strutt who from 1876 managed the Rayleigh estate (Terling) on behalf of his elder brother. When tenants quit he farmed the land himself, considerably expanded milk production, and applied detailed cost accounting to each farming activity. His advice was widely canvassed and in 1884 this consultancy role was extended when he joined a neighbour to establish the land and estate agency, Strutt and Parker.⁸⁸ Strutt is an exceptional case, but there is evidence of scattered entrepreneurial activity by other Essex landlords: Thomas Whitmore on the Orsett estate, for example, in 1887 commissioned a London company of proto-management consultants to compile a detailed report on the estate's condition and prospects, and in 1896 Francis Whitmore

⁸³ Hunt and Pam, 'Essex agriculture'.

⁸⁴ Duke of Bedford, *The story of a great agricultural estate* (1897), p. 2.

⁸⁵ S. Pollard, 'Entrepreneurship, 1870-1914', in Floud and McCloskey (eds.), *Economic history of Britain* (1994), II, pp. 63-4.

⁸⁶ ERO, Whitmore MSS, Drivers' report, pp. 63-7; RHC, ESS 17/9 series 215, 222, 228-9, 256.

⁸⁷ ERO, Petre MSS, Thorndon account, D/DP A439 (letter from solicitors, 1890); J. Robin, *Elmdon: Continuity and change in a north-west Essex village, 1861-1964* (1980), p. 61; ERO, D/DBe, E55, 57.

⁸⁸ Gavin, *Ninety years*, chs 5, 6; Perry, *British farming*, p. 116. During the First World War Edward Strutt became chief agriculture advisor to the Ministry of Agriculture.

established a home farm with model dairy and pioneer milking machines. At Tiptree there was Wilkin with his fruit farming and jam factory, and it was advertising vacant farms and low rents in far-flung journals by East Anglian landlords that initially attracted Scots and other migrant farmers.⁸⁹

Of course, landlords can also claim at least part of the credit for encouraging, or permitting, 'low farming'. However, the positive contribution of low farming does not preclude the possibility that higher-yielding alternatives to cereals were under-exploited. Here we return to questions raised earlier. Milk output expanded impressively, but why did English agriculture not satisfy more of the demand for fruit and vegetables, eggs and poultry, butter, cheese, and bacon? And do these omissions indicate entrepreneurial failure? Pig numbers failed to rise and expansion in fruit, vegetables, eggs and poultry was from a low base to only secondary importance. This despite favourable price trends, growing urban populations with rising real income, falling animal-feed prices and, in the case of Essex, proximity to London.⁹⁰ Keeping pigs or hens was considered peripheral to cereals, milk, and beef: little serious attention was given to breeding, feeding, quality control, or marketing.⁹¹ Pigs had no clear role in the mixed farming regime and hen-keeping, like horticulture, was 'lowly womanly work'. Few Essex farms kept more hens than were needed for family consumption and wives' pin-money.⁹² Not surprisingly, in their claims that British agriculture 'failed to adapt', Kindleberger and Offer highlight what they claim was the unnecessary neglect of these growing, high-value, markets.⁹³ How much of this demand could, and should, have been met from British farms is an open question. Michael Thompson asks whether it was not sensible to leave eggs, bacon, butter, and cheese to overseas suppliers, given local advantages in supplying fresh milk and meat.⁹⁴ He has a point, but milk production was not practicable everywhere, and the fortunes and prospects of milk and meat producers were hardly sufficient to excuse neglect of high-potential alternatives. With hindsight it is clear that these alternatives were held back by institutional and cultural constraints, as Kindleberger and Offer suggest. If landlords had been more alert to such opportunities, and more entrepreneurial in removing obstacles to their exploitation, overseas suppliers would have taken less of the market and low farming, with its associated low land-yields, would have featured less prominently among the alternatives to cereals. Moreover, some of the obstacles to the expansion of market gardening, fruit, pigs, and poultry also impeded dairying.

⁸⁹ BPP, 1894, XVI, pt i, *RC on agricultural depression, Report on Essex*, p. 43; Collins, *Orsett*, pp. 43-4.

⁹⁰ Egg consumption, for example, is estimated to have doubled in the fifteen years after 1880, with importers accounting for half of sales by the 1890s. The poorer classes were beginning to consume fresh fruit and vegetables, while the more affluent were becoming increasingly aware of their nutritional value: by 1889 London had 29 vegetarian restaurants. In Joan Thirsk's work, and elsewhere, there are strong suggestions that expansion in these 'alternative' agricultural activities accelerated after the 1890s. Thirsk, *Alternative agriculture*, pp. 174-90, 192, 195, 201-2; *Agrarian History*, VII, pp. 192, 490; Perry, *British farming*, p. 48.

⁹¹ Thirsk, *Alternative agriculture*, p. 196; *Agrarian*

History, VII, pp. 487, 490, 560-1; E. Brown, 'The British egg supply', *JRASE* 11 (1900), pp. 619-20, 637. Fancy breeding of both pigs and hens had a considerable following, but the focus was upon appearance, weight, and show-point novelty rather than commercial considerations.

⁹² BPP, 1894, XVI, pt i, *RC on agricultural depression, Report on Essex*, p. 63 and app. C; Thirsk, *Alternative agriculture*, pp. 194-5; *Agrarian History*, VII, p. 1376.

⁹³ Kindleberger, *Economic growth*, pp. 209, 239-243; Offer, *Agrarian interpretation*, p. 94.

⁹⁴ F. M. L. Thompson, 'Agriculture and economic growth in Britain', in P. Mathias and J. A. Davis (eds.), *Agriculture and industrialization* (1996), pp. 43, 53, and introduction, p. 5.

Farm size, and the distinction between hired labour and family labour, are important in understanding the limits to agricultural adjustment. While some vegetables and orchard fruits were suited to large farms, there were fewer economies of scale in market gardening and soft fruit production. These, and poultry keeping, were labour-intensive, high-yield, pursuits requiring hard work and close attention. Most farms in the south-east were over-large for farming of this type and were worked by hired labourers who shared their employers' dismissive attitude towards hens and horticulture. Moreover, rising wages discouraged labour-intensive activities of any kind on larger farms. Family-run smallholdings, far more common on the continent, were largely free of such impediments, and thus better-placed to exploit several of the more promising alternatives to cereals.⁹⁵ The typical Essex tenant farmer, with a sizeable holding and rising labour costs, turned instead to milk production if he could and to low farming where dairying was not viable.⁹⁶ In short, the celebrated tripartite system of landlords, large rented farms, and hired labour – long regarded as the backbone of English agriculture – had become, in certain respects, a barrier to change. Before the mid-eighteenth century, when cereals were less important and holdings smaller, farmers had moved more easily between alternative produce.⁹⁷ By the late-nineteenth century, however, in the arable south, cereals were considered the farming mainstay, and although there was impressive expansion of fresh milk output, institutional constraints discouraged the production of vegetables, fruit, poultry and eggs, and offered no particular incentives to pigs, butter, or cheese. Farmers' leases were no impediment to farming as they saw fit, and structural adjustment may have been close to optimal within the existing tenurial system, but options were restricted by the size of holdings. The tripartite system had become an agrarian manifestation of Olson's institutional sclerosis.⁹⁸

Here then the landlords' performance fell short of the entrepreneurial ideal. There were opportunities contingent upon an expansion of smallholdings, and it was for landlords to identify and facilitate such opportunities in a manner analogous to landlords' successful expansion of capitalist farming to exploit rising cereal prices in the eighteenth century. Yet on this occasion little was done, and most landlords appear to have been hardly aware of the possibilities. Some vacant Essex farms were divided into smaller units for sale or rent, but the broad structure of land-owning was little-changed throughout the depression, with holdings below 50 acres accounting for around 8 per cent of acreage.⁹⁹ There was, of course, a national smallholdings movement, but it focussed mainly on social and political issues such as attempts to stem the rural exodus and how to diminish the landlords' political influence and 'land-monopoly', a campaign likely to reinforce their disinclination to question the *status quo*. Moreover, although existing smallholdings were easily let, and sold, the break-up of larger farms with their inherited boundaries and lay-outs entailed considerable expenditure on cottages, roads, hedging, and piped-water and possibly diminished the 'positional income' derived from traditional landed

⁹⁵ On the economics of smallholdings, see Thirsk, *Alternative agriculture*, chs 7, 8; *Agrarian History*, VII, pp. 181–3, 1836–7; H. Levy, *Large and small holdings* (1911), ch. 9.

⁹⁶ Almost four-fifths of eastern counties farms were of 100 acres or above, *Agrarian History*, VII, p. 180.

⁹⁷ Thirsk, *Alternative agriculture*, p. 147.

⁹⁸ M. Olson, *The rise and decline of nations* (1982).

⁹⁹ Cereal farms near Basildon were converted into

plots for poultry rearing. BPP, 1894, XVI, pt iii, *RC on agricultural depression, minutes of evidence*, pp. 32–4. For other Essex examples see ERO, D/DP, A365–6; Church House, Ecclesiastical Commissioners MSS, file 50768. On holding size see BPP, *Agricultural Returns*. In Essex, and in England as a whole, the number of holdings below 50 acres fell between 1875 and 1895. *Agrarian History*, VII, pp. 1808, 1813.

estates.¹⁰⁰ But it is unlikely that many landlords gave serious consideration to these costs and benefits. Even fewer gave thought to how smallholdings were financed in Europe.

An associated institutional characteristic that impeded structural change in the south-east was the near-absence of agricultural co-operation. Co-operation had the potential to assist all branches of agriculture, but pigs, poultry, market gardening, and dairying might have benefited particularly. Co-operation was a means to complement the production advantage of smallholdings with cost-reducing external economies and enhanced influence over market forces.¹⁰¹ Particularly important were scale economies in marketing: in grading, packing, advertising, distribution, and transport. If, as frequently alleged, the substantial differential between farm-gate and retail prices reflected the ability of London wholesalers and other oligopolistic intermediaries to fix prices, the countervailing influence of co-operation had the potential to increase farm receipts, reduce retail prices, and take sales from foreign-suppliers.¹⁰² There were also considerable potential economies in food processing, in the shared purchase of capital equipment that individual farmers could neither afford nor fully utilize – anything from mechanical cream separators to prize bulls¹⁰³ – and in quality control of dairy products.¹⁰⁴ Imports of Danish and Dutch butter and cheese, for example, flourished not least because both wholesalers and consumers preferred food of consistent quality.¹⁰⁵

Dairying, which was probably expanding as fast as existing marketing arrangements permitted, might have benefited particularly from co-operation. Intermittent over-supply and low prices – the inevitable consequences of unregulated expansion, the spring milk-glut, a highly-perishable product, and numerous small producers – set limits to expansion. If farmers had co-operated to share the costs of processing milk into butter, cheese, condensed milk, and milk puddings the periodic gluts might have been siphoned from the fresh-milk market. Likewise, with the help of co-operation, many farms that were ill-placed to supply fresh milk might have produced cheese and butter as an alternative to rough grazing. Competition from imports was formidable, of course, but butter and cheese prices held-up better than cereal prices

¹⁰⁰ BPP, 1896, XVII, *RC on agricultural depression*, p. 354; Thirsk, *Alternative agriculture*, p. 208; Levy, *Large and small holdings*, pp. 101–2. Estate settlements might restrict land sales, although not the creation of rented smallholdings.

¹⁰¹ The absence of co-operation, no doubt, helps to explain why poultry, eggs, fruit, vegetable and bacon production were of secondary importance even in Wales, the west country, and other places where family farms were not unusual. It also helps to explain why better-organized overseas suppliers were able to capture half of the market for eggs, despite the obvious advantages home producers enjoyed in supplying perishable and fragile produce.

¹⁰² On those themes see *Essex Weekly News*, 29 Apr. 1892; *Agricultural Gazette*, 30 May, 28 June 1887; P. A. Graham, *The revival of English agriculture* (1899), pp. 24–5; Haggard, *Rural England*, I, pp. 471, 477; Bear, *British farmer*, p. 120; I. Henriksen, 'Avoiding lock-in: co-operative creameries in Denmark, 1882–1903', *European*

Rev. of Economic History 3 (1999), p. 66; E. A. Pratt, *The transition in agriculture* (1906), pp. 17–18, 29–30, 166–7, 176–7; id., *Agricultural organization* (1912), p. 253; BPP, 1923, IX, *Interim report on milk and milk products*, p. 85.

¹⁰³ The steam-driven centrifugal cream separator required milk from 'at least 300 to 400 cows' to operate at minimum cost; *ibid.* p. 61. See also H. M. Jenkins, 'Report on the American cheese factory system', *JRASE* 31 (1870), p. 174.

¹⁰⁴ E. J. T. Collins (personal communication) emphasizes this point. Quality control was a long-standing weakness; importers, rather than home producers, set the industry standard. See also BPP, 1923, IX, *Agricultural tribunal of investigation, interim report*, p. 8.

¹⁰⁵ E. Bartrum, *The present distress: especially in Essex* (1894), p. 7. See also Bear, *British farmer*, p. 104; *Agrarian History*, VII, pp. 199, 990; and BPP, 1888, XXXII, *Report on agricultural dairy schools*, p. 163, on the unreliability of Essex butter.

(Table 1 above) and co-operation would have reduced costs, improved product-quality, and quite likely raised farmers' share of receipts.¹⁰⁶ Although butter imports doubled in ten years after 1886, very little was done to explore the economics and practicabilities of large-scale co-operative manufacture of the kind being established in Denmark and Holland.¹⁰⁷ Moreover, the milk by-products from co-operative creameries and cheese factories might have been fed to pigs and hens and thus encouraged Essex farmers to regard these branches of farming as more than sidelines, particularly as co-operation was likely also to bring considerable economies in bacon-making, marketing, and bulk-feed purchase.

Why was there still so little co-operation in England after its success in Denmark and elsewhere had been demonstrated? In large part because traditional tripartite farming, on large farms and focussing upon cereals and beef, had less to gain from co-operation than certain other branches of farming. Substantial, individualistic, tenant farmers, backed by powerful landlords, regarded co-operation as a collective-action response appropriate for vulnerable owner-occupiers: they did not consider themselves to be peasants and were not disposed to embrace peasant remedies.¹⁰⁸ Put simply, the absence of co-operation owed much to path-dependency: the inherited institutional and cultural environment – so different from that in Denmark – was hardly more conducive to co-operation than it was to smallholdings. Traditional landlord responsibilities were part of this unpropitious environment: rent reductions and increased landlord investment, not commonly available to the small farmers of Denmark or Holland, were alternatives to co-operation and agricultural credit banks. And cereal farmers, because they were particularly distressed, received most landlord assistance, extending cereal viability to ever-lower prices: landlords might have found ways to assist tenants without also discouraging diversification and co-operation. There were, of course, other obstacles to co-operation in England – some of which we will consider subsequently – besides the tripartite system and lack of enterprise. Even so, co-operation almost certainly offered more opportunities than Perren has suggested, perhaps most of all for milk producers, and these opportunities were neglected.

Landlords must bear the greater part of the blame for this oversight. The successful retail co-operative movement might have provided a lead but it was an urban consumers' association, concerned first to safeguard members' interests by buying food of acceptable and consistent quality in the cheapest market. While farmers, especially smallholders, stood to gain most from co-operation, its establishment was a formidable and risky undertaking requiring more initial capital, influence, and enterprise, than they could be expected to assemble. But substantial landlords had the means, as well as the responsibility, to take the initiative: some of them could have begun co-operation among their own deferential tenants, particularly if they had created smallholdings at the same time. Two Essex landlords, Francis Whitmore (Orsett) and Edward Strutt (Terling), were among the handful that attempted such initiatives, but not until the worst of the depression was over, and without marked success or much support from other landlords.¹⁰⁹ Another way in which entrepreneurial landlords might have promoted co-operation

¹⁰⁶ R. Hunter Pringle commented favourably on the prospects for Essex butter and cheese-making. BPP, 1894, XVI, pt i, *RC on agricultural depression, Report on Essex*, p. 131.

¹⁰⁷ Perry, *British farming*, p. 115.

¹⁰⁸ On this theme see, for example, *Agrarian History*, VII, pp. 196, 494, 672, 689.

¹⁰⁹ Recently-settled Scots dairy farmers did more than local landlords to encourage co-operation. For details see Pam, 'Essex agriculture', ch. 5.

was by mobilizing government support. The Danish government encouraged co-operation and it was government that eventually, in the 1930s, introduced widespread co-operative marketing to British agriculture.¹¹⁰ Late-Victorian governments, of course, were not eager to take economic initiatives of any kind; *laissez faire* has an important place among the institutional weaknesses that Elbaum and Lazonick emphasize in explaining the lack-lustre response to Britain's wider economic difficulties at this time.¹¹¹ But determined lobbying by powerful landlords might have produced rather more government support.¹¹²

Much the same might be said with regard to government assistance for training, advisory services, and research of the kind that encouraged the transformation of Danish agriculture.¹¹³ Education and training had an obvious role in persuading south-eastern agriculturalists to abandon cereals; very few farmers had any notion of how butter, cheese, eggs, and bacon were produced in Denmark and competent dairy labour of any kind was scarce in Essex.¹¹⁴ Several reports suggest also that Essex farmers would have benefited from technical instruction in grassland management, particularly the use of temporary grass in rotations.¹¹⁵ But government did very little and what was done – rudimentary provision of lectures and technical instruction by the County Councils after 1889 – owed little to pressure from landlords.¹¹⁶ Nor did Essex landlords do much on their own account. There is an obvious contrast here with the more-enlightened of their eighteenth-century predecessors who considered identifying, testing, and publicizing innovations among their responsibilities. Very few landlords maintained model farms where new methods and unfamiliar branches of agriculture might have been demonstrated, and most were reluctant to farm themselves. The Whitmores and Edward Strutt (above) were exceptions of course, but they were not typical. It is indicative that although Edward Strutt's elder brother, the distinguished scientist Lord Rayleigh (1842–1919), conducted some of his early experiments at Terling, he appears to have manifested absolutely no interest in the application of science to his estate.¹¹⁷

In several respects therefore landlords failed to formulate satisfactory responses to depression. For the most part – as their record on rents, leases, and investment demonstrates – they were competent and socially-responsible managers. But the depression had brought new challenges

¹¹⁰ On the Danish government see, BPP, 1893–4, LXXXIX, *Reports on dairy farming in Denmark, Sweden, and Germany*; E. E. Williams, *The foreigner in the farm-yard* (1897), pp. 44, 52, 55; Tracy, *Challenge and response*, ch. 5.

¹¹¹ B. Elbaum and W. Lazonick, 'The decline of the British economy: an institutional perspective', *JEcH* 44 (1984).

¹¹² On landowners' poor performance as politicians, see *Agrarian History*, VII, pp. 328, 331.

¹¹³ J. D. Sykes, 'Agriculture and science' in G. E. Mingay (ed.), *The Victorian countryside* (2 vols, 1981), I, pp. 260–72; Tracy, *Challenge and response*, pp. 26, 108, 116; BPP, 1893–4, LXXXIX, *Reports on dairy farming in Denmark, Sweden and Germany*; Williams, *Foreigner in the farm-yard*, pp. 52, 55; H. Rider Haggard, *Rural Denmark and its lessons* (1913), p. 11.

¹¹⁴ Hunt and Pam, 'Managerial failure?', p. 261; When A. C. Wilkin began fruit farming at Tiptree, labourers objected to 'that funny work'; Essex Agricultural Society, *Diamond jubilee show programme, 1852–1922* (Colchester, 1922), p. 79.

¹¹⁵ 'Something new to Essex men and many of them are rather in the dark'. BPP, 1894, XVI, pt i, *RC on agricultural depression, Report on Essex*, pp. 61, 70, 131; BPP, 1896, XVII, *minutes of evidence*, pp. 611, 614.

¹¹⁶ On the unsatisfactory state of agricultural science and education at this time, see *Agrarian History*, VII, pp. 138–9, 606, 629, 689–90, 2149.

¹¹⁷ This, at least, is the impression conveyed in Gavin's eulogistic account. Lord Rayleigh was later Professor of Experimental Physics at Cambridge and a Nobel prize-winner. Gavin, *Ninety years*, ch. 2; *Agrarian History*, VII, p. 774.

requiring more than merely managerial responses: there was insufficient recognition that training and science were being neglected, that there were worthwhile alternatives to cereals besides milk and rough grazing, and that the traditional estate system was an obstacle to their adoption. Re-shaping estates to dissipate incumbent inertia and exploit new opportunities would have entailed a measure of full-Schumpeterian 'creative destruction'. On the continent, and in Ireland, where small holdings were commonplace when the depression began, and co-operation a logical consequence, the entrepreneurial challenge, and start-up costs, were considerably less formidable. But change of this kind was required in England. It was not initiated, and in this respect the landlords failed.

V

How important were these landlord failures? How much greater would output and growth rates have been had their responses to the crisis qualified as fully-Schumpeterian? These questions are among those highlighted in the conclusion to Volume VII of the *Agrarian History*.¹¹⁸ They cannot be answered precisely: it is impossible, for example, to calculate the costs of neglecting science or landowners' poor parliamentary performance. But some generalizations are possible. One is that while it is undeniable that the tripartite system hindered change, its shortcomings are easily exaggerated and are almost certainly exaggerated in Avner Offer's account. His claims that rents held firm while investment fell are contentious, and the conclusions of his comparisons between family farming and the tripartite system would have been far less flattering to the former if the English system had been compared with family farming in France or Ireland rather than that on the American prairies. Others might also attribute higher costs to the family farmer's compulsion 'to exploit his own labour and that of his family'.¹¹⁹ If the English system denied agriculturalists and consumers 'the full benefits of economic masochism', if continental farmers indulged in 'increased self-exploitation' while English labourers' real wages advanced, there was surely compensation in such deprivation.¹²⁰ Moreover, American family farmers exploited land as well as labour: a prairie equivalent of the gentleman-rentier class that Offer vilifies, with their tiresome leases and regard for the long-term integrity of the rural environment, might well have prevented so much good prairie-land becoming dustbowls.

Secondly, there were distinct limits to how much English cereal land and rough grazing might have been allocated instead to high-yield alternatives. Much of the surviving cereal acreage was prime, viable, arable land and neither co-operation nor small holdings would have justified its wholesale conversion to dairying or market gardening. In any event, much land was unsuitable for such alternatives. Market gardening required light, well-drained, highly-fertile soil and ready access to bulky town manure and urban consumers.¹²¹ Much Essex land incapable of producing cereals or liquid milk profitably was, by its nature or location, not well-suited for intensive

¹¹⁸ *Ibid.*, p. 2152.

¹¹⁹ Offer, *Agrarian interpretation*, p. 112. On the living standards and working hours of fenland smallholders, see *Agrarian History*, VII, p. 785.

¹²⁰ J. L. van Zanden, 'The first green revolution: the growth of production and productivity in European

agriculture, 1870-1914', *EcHR* 44 (1991), p. 236; Offer, *Agrarian interpretation*, p. 112.

¹²¹ Thirsk, *Alternative agriculture*, ch 7; Collins, *Orsett*, p. 67; 'market gardeners give the Essex Clays a wide berth', *Essex Standard*, 23 Jan. 1886.

family farming, and transport restraints were a greater handicap in counties more distant from major markets.¹²² The threat of market saturation was another constraint. Obviously there was considerable scope for import-substitution, but any substantial increase in the domestic output of vegetables, eggs, etc. would have reduced their prices and increased the relative attractiveness of cereals and beef. The 1890s nascent enthusiasm for market gardening was soon accompanied by complaints of falling returns: smallholders in the Isle of Axholme found it hard 'to make ends meet', flower-growers described their market as 'pretty nearly overdone', and glasshouse-gardeners bemoaned falling tomato and cucumber prices.¹²³ Tomatoes and cucumbers, watercress, and bee-keeping, are some examples of suggested remedies for depression that would have triggered market-saturation if expanded much beyond the acreage of a few cereal farms.¹²⁴ If the Essex total acreage under market gardens, orchards, and soft fruit in 1896 had been expanded five-fold, it still would have accounted for no more than 5 per cent of Essex farmland and for under half of the post-1870 fall in wheat acreage. In England and Wales fruit, vegetables, and poultry occupied under 2 per cent of farmland in the 1890s when about half of eggs and poultry-meat, and well over half of fruit and vegetables, were home-produced.¹²⁵ Imports of bacon, ham, butter, and cheese were then worth the equivalent of about 17 per cent of UK farm output.¹²⁶ Clearly, extended family-farming and co-operation might have achieved major import-substitution, but even maximum import-substitution would have left low farming as a rational choice on a considerable acreage where neither cereals nor fresh-milk were viable. There were particular constraints too on the role of co-operation in England. Near-by markets and well-established distribution networks made it unlikely that even outstanding entrepreneurship could have promoted co-operation to a level approaching its importance in Denmark: even in Denmark the supply of liquid milk to the larger towns remained in private hands.¹²⁷ Whether more smallholdings and co-operation would have significantly improved total factor productivity, as well as total output, is not at all certain because greater output per acre required intensive investment and might be accompanied by lower output per worker: family farming, that is, shared some of the characteristics of mid-Victorian high farming.¹²⁸

VI

'The usual argument', wrote F. M. L. Thompson, 'is that the response of British agriculture to the flood of imports was at best inadequate, and in most cases supine'.¹²⁹ He went on to dispute

¹²² P. Atkins, 'Production and marketing of fruit and vegetables, 1850-1950', in D. J. Oddy and D. S. Miller (eds), *Diet and health in modern Britain* (1985), pp. 107-8. Many small farmers, moreover, supplemented agricultural income by carting, horse-dealing, and other casual employment of a kind most available near to towns.

¹²³ Thirsk, *Alternative agriculture*, p. 183; W. E. Bear, 'Advantages of agricultural production', *JRASE* 5 (1894), p. 262; Rider Haggard, *Rural England*, I, p. 470.

¹²⁴ 'If some individual is fortunate enough ... to make a large profit on a very few acres of some little-grown crop, it is quoted in almost every newspaper ... as the

new panacea for agricultural depression'. W. J. Malden, 'Recent changes in farm practices', *JRASE* 7 (1896), p. 37. For other examples, see *Essex Standard*, 1 Oct. 1887, 20 Apr. 1895.

¹²⁵ *Agrarian History*, VII, pp. 206, 225.

¹²⁶ *Ibid.*, pp. 263, 2113.

¹²⁷ Henrikson, 'Co-operative creameries', p. 57.

¹²⁸ *Agrarian History*, VII, pp. 183, 787, 977; A. S. Milward and S. B. Saul, *The development of the economies of continental Europe, 1850-1914* (1977), p. 148; O'Grada, 'British agriculture', p. 159, gives a different view.

¹²⁹ Thompson, 'Agriculture and economic growth in Britain', p. 43.

this interpretation. The main conclusion of the present article also is that agriculture, considered as a whole, did not fail; responses to depression were more impressive than the 'usual argument' alleges. Without question, opportunities were missed: but there was also substantial, and successful, adaptation. There was some entrepreneurial failure, but also considerable managerial success. The farmers' performance, on the Essex evidence, was decidedly impressive. They managed a substantial reduction in the cereal acreage, a commensurate expansion in milk production, and other forms of redeployment that subtly reflected changing opportunities. That they did not entirely abandon wheat, nor dedicate themselves exclusively to milk and meat, is not indicative of inertia. There were limits to the profitable expansion of milk and meat and the remaining Essex cereal acreage produced acceptable returns.

Landlords too were competent managers, certainly no less competent than their 'golden age' counterparts. Investment was maintained and redirected, rents and leases adjusted appropriately. But in their more-demanding entrepreneurial role, landlords, unquestionably, were less successful. Their performance was probably not worse than that of British industrialists at this time, but they too had 'lost much of the drive and dynamism' of their eighteenth-century predecessors.¹³⁰ They failed to provide adequate leadership, to raise their performance in response to new challenges. Probably their greatest shortcoming was failure to sponsor smallholdings and co-operation. Denmark and other countries demonstrated the possibilities, but the existing tripartite system impeded radical innovation. Thus responses to depression were limited to the most that could be expected from competent, but individualistic, tenants on farms too large to exploit certain market opportunities. Landlords might be criticized also for doing so little to demonstrate and encourage best-practice techniques, for their indifference to research and technical training.

However, it was argued above that the cost of these missed opportunities was perhaps less than initial appraisal might suggest. The onset of global competition made pressure on agricultural incomes inevitable no matter how innovative the response: there were no easy solutions, 'no one panacea'.¹³¹ Opportunities in dairying, poultry and market gardening were restricted by the need for suitable soil and market accessibility, and by the threat of market saturation. Transforming all of arable England into a patchwork of market gardens and peasant dairy farms would have been neither profitable nor practicable; in many places low farming was the obvious, and rational, alternative. Thus in different ways, and different places, low-farming on existing holdings and intensive farming on smallholdings were equally sensible resorts when 'high farming' no longer paid. Clearly, some land-intensive opportunities were missed, but accounts that portray low farming as a regrettable bolt-hole for arable farmers too lethargic to explore higher-yielding alternatives, and those that judge agriculture by its modest output growth, are both misconstrued and unfair. Falling farm prices, rising labour costs, and falling rents constituted a compelling case for strategies that favoured increasing labour-productivity over higher land yields. For the same reasons it would be mistaken to interpret the lowly output-performance of erstwhile corn counties as evidence of less-successful adaptation than that achieved in counties that felt less pressure to adopt low farming.

While future assessment of total factor productivity is likely to present a less despondent view

¹³⁰ Aldcroft, 'The entrepreneur', p. 114.

¹³¹ *Agrarian History*, VII, p. 207.

of the agricultural performance, the perception that sections of farming were 'depressed' is likely to persist. At times, especially early in the depression, farmers suffered particularly; later the landlords probably suffered more.¹³² But prices, rents, and land values each fell and there can be no denying the contrast with the preceding 'golden age' or the widening gap between farm and non-farm incomes. Even so, the evidence from 'worst hit' Essex indicates that conditions in the south and east were less dire than many accounts suggest. Agriculture was not 'devastated', nor were 'most farmers on the verge of ruin'; very little land was ever 'abandoned', the remaining cereal acreage was not cultivated at a loss, and rough grazing was by no means an 'admission of failure'. Disaster was averted by cost cutting and considerable re-deployment. Moreover, the production of milk and quality meat were decidedly more risky undertakings than Fletcher and Kindleberger supposed. Thus the depression, overall, was both less severe than has been understood and less confined to the arable south and east.

Finally, and returning to the broader debate on Britain's relative economic decline, this survey suggests several similarities in the performance of industry and agriculture. Much of what Elbaum and Lazonick have said of the absence of corporate economies in British industry applies also to agriculture, particularly with regard to education and training, research and development, market control, and scale economies in product processing and marketing.¹³³ The stultifying influence of the tripartite system is clearly analogous to that of those numerous inherited institutional rigidities that impeded change in British industry, commerce, and government. Moreover, agriculture, like industry, was characterized by a mix of managerial success and entrepreneurial failure: McCloskey, Sandberg and others have succeeded in establishing that many industrialists behaved rationally, but they cannot claim to have demonstrated entrepreneurial flair. Rather, they have demonstrated that much of industry was competently managed at a time when market forces conspired to make Schumpeterian entrepreneurship both more necessary and more elusive. Whether agriculturalists or industrialists were the more reprehensible remains an open question. Avner Offer inclines to regard agriculture as the weaker sector: in his account it 'led the vanguard of economic retardation and decline', and adapted less-successfully than agriculture elsewhere, 'only Britain retrenched so completely'.¹³⁴ However, he underestimates both the landlords' performance as managers and the positive aspects of low-farming. While the contrast with Denmark unquestionably supports his case, English agriculture emerges far more favourably from other comparisons. The French wheat acreage, for example, was more than four times that in Britain in 1873 and barely changed over the depression. In Germany too the retreat from wheat and the re-deployment of farm labour to higher-productivity occupations occurred less rapidly than in Britain, while German consumers were denied much of the benefit of cheap imported foodstuffs.¹³⁵ There were few British industries whose performance at this time compared so impressively against that of their German counterparts.

¹³² Ibid., p. 277.

¹³³ Elbaum and Lazonick, 'Decline of the British economy'.

¹³⁴ Offer, *Agrarian interpretation*, p. 95.

¹³⁵ Tracy, *Challenge and response*, pp. 77-8, 102-3, 105;

id., *Agriculture in western Europe: crisis and adaptation since 1880* (1964), pp. 51, 76, 103; B. R. Mitchell, *European historical statistics, 1750-1970* (1975), pp. 203, 209; Milward and Saul, *Economies of Continental Europe*, pp. 53-5, 104-7.