EXPLORATIONS IN ECONOMIC HISTORY 22, 129–167 (1985)

An Economic Model of the English Poor Law circa 1780–1834*

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The role played by the economic environment in the development of the so-called Speenhamland system has been largely ignored by historians of the Old Poor Law.[1] The purpose of this paper is to provide an economic explanation for the adoption and persistence of policies granting outdoor relief to able-bodied laborers. Previous explanations for the development of outdoor relief have been influenced by two key assumptions generally accepted in the literature, that the year 1795 marked a turning point in the administration of poor relief, and that Speenhamland-type income subsidies remained the dominant form of relief throughout the period from 1795 to 1834. However, the focus on 1795 and Speenhamland is not justified, and it has caused historians to miss the economic role played by outdoor relief. The year 1795 was not a watershed; poor relief expenditures began increasing rapidly at least 30 years before the famous meeting at Speen, Berkshire. Moreover, Speenhamland-type policies for "subsidizing wages out of the rates" were not the dominant form of outdoor relief during this period; they were widespread only during years of exceptionally high food prices.

This paper presents evidence that the widespread adoption of outdoor relief policies in the South and East was in response to the decline of cottage industry and laborers' loss of land, which magnified the lack of slack season employment in grain-producing areas. Thus, the major function of outdoor relief was the provision of unemployment benefits to seasonally unemployed laborers. We conclude that outdoor relief policies persisted

* An earlier version of this paper was presented at the annual Cliometrics conference at the University of Iowa, May 1982. I thank Daniel Baugh, Kenneth Burdett, Glen Cain, Carl Dahlman, Christopher Ellis, Peter Lindert, Joel Mokyr, Lars Muus, G. N. Von Tunzelmann, and Jeffrey Williamson for helpful comments.

[1] The major exceptions are Blaug (1963), Digby (1975, 1978), and Baugh (1975). However, while these studies discuss the economic role of outdoor relief, they do not explain why outdoor relief policies were adopted over other methods for dealing with underemployment.

0014-4983/85 $3.00

until 1834 because they represented the lowest cost method available to farmers for securing an adequate peak season labor force.

The paper is organized as follows. Section I summarizes the conclusions reached by traditional and revisionist historians concerning the economic role of Speenhamland policies. Section II discusses two important changes in the rural economic environment that occurred during the second half of the 18th century, and presents evidence that these environmental changes caused a sharp increase in real per capita poor relief expenditures. Section III describes the precise methods of outdoor relief used during the period from 1780 to 1834. In Section IV, a simple model of profit maximization by farmers is used to demonstrate that labor contracts with outdoor relief provisions provided the lowest cost method, to labor-hiring farmers in grain-producing parishes, for securing an adequate peak season labor force. Our conclusions are summarized in Section V.

I. THEORIES OF THE ECONOMIC ROLE OF OUTDOOR RELIEF

The 1834 Report of the Royal Poor Law Commission is by far the most influential study of the economic role played by the Old Poor Law. The Report's analysis of "the administration and practical operation of the Poor Laws" concentrated almost exclusively on the disincentive effects of policies granting outdoor relief to able-bodied laborers. It attributed all the economic evils present in rural areas during the early 19th century to parishes' abuse of the Poor Law; the use of outdoor relief lowered laborers' wages, farmers' profits, and landlords' rents. The supposed catalyst of these results was Speenhamland's massive disincentive effects on labor supply. The Commissioners maintained that outdoor relief created voluntary unemployment, and substantially lowered the productivity of agricultural laborers who remained employed.

While the Poor Law Report did not explicitly address the questions that I pose in this paper, it is possible to discern answers to them from the Report. Speenhamland-type policies were first adopted in the spring of 1795, in response to "a rise in the price of the necessaries of life," and became widespread after being sanctioned by Parliament in 1796 (pp. 120–130).[2] The Report's explanation for Speenhamland's adoption over other methods for dealing with the higher cost of living, and for the system's persistence, focused on the short-run profitability of such policies to farmers. Employers of agricultural labor supported the use

[2] Parliament sanctioned the use of outdoor relief with the passage of 36 George III, c. 10 and c. 23. The first act enabled parishes to "raise and regulate" their poor rate assessments "according to the price of wheat." The second act enabled parish overseers to grant outdoor relief to "any industrious poor person" (Nicholls, 1898, II, pp. 115–116).

of outdoor relief because it

> enable[d] them to dismiss and resume their labourers according to their daily or even hourly want of them, and to reduce wages to the minimum, or even below the minimum of what will support an unmarried man, and to throw upon others the payment of a part . . . of the wages actually received by their labourers. (p. 59)

Of course, since the granting of outdoor relief made laborers indolent and reduced their productivity, in the long-run "the farmer finds that pauper labour is dear, whatever be its price" (p. 71). Apparently, Speenhamland was able to persist for 40 years only because the decline in labor productivity evolved slowly over time. Concerning the regional nature of Speenhamland, the Commissioners remarked only that, while "the abuses of the Poor Laws" had previously been confined to the South, in recent years the system of outdoor relief had been "extending itself over the North of England" (pp. 24–26).

The Poor Law Report's contention that Speenhamland was exogenous to long-run changes in the economic environment was first challenged by John and Barbara Hammond, in *The Village Labourer* (1911). The Hammonds' maintained that Speenhamland was an endogenous response to "the collapse of the economic position of the [rural] labourer," caused by the enclosure movement of the late 18th century, and brought to a head by the "exceptional scarcity of 1795" (p. 120). The Hammonds' study was followed in 1927 by another major work, Sidney and Beatrice Webb's *English Poor Law History: The Old Poor Law*. These two works complemented each other in their analysis of the Poor Law's economic role in agricultural parishes. Like the Hammonds, the Webbs contended that the subsistence crisis of 1795 "did but form the climax of unprecedented economic degradation" for rural workers, caused by "the transformation of economic organisation brought about by the progress of the Industrial Revolution" (pp. 419–420). They extended the Hammonds' critique of the traditional literature by presenting evidence that Speenhamland-type policies had existed in England for more than a century prior to 1795 (p. 170).[3]

However, while they recognized that outdoor relief policies were adopted in response to changing economic conditions, neither the Hammonds nor the Webbs viewed Speenhamland as an efficient method for dealing with the new economic environment. The Hammonds considered Speenhamland "a wrong and disastrous answer to certain difficult questions,"

[3] The Webbs maintain that "from the latter part of the seventeenth century onward, . . . there was, in most parishes, a great deal of Outdoor Relief of those able-bodied male adults who found themselves, for longer or shorter periods, unable to live by their labour" (1927, p. 170).

which caused "the destruction of all motives for effort and ambition" (pp. 231, 225). Both the Hammonds and the Webbs agreed with the 1834 Poor Law Report that, in the long run, outdoor relief reduced farmers' profits and laborers' living standards. They maintained that Speenhamland was able to persist into the 1830s only because benefit levels were continuously reduced by parishes from 1815 to 1834.[4]

A revisionist analysis of the economic role played by the Old Poor Law began in 1963 with the publication of Mark Blaug's paper "The Myth of the Old Poor Law and the Making of the New." The work of Blaug (1963, 1964), McCloskey (1973), Baugh (1975), and Digby (1975, 1978) rejected the Poor Law Report's hypothesis that Speenhamland had disastrous long-run consequences for the agricultural labor market. In order to judge the disincentive effects of outdoor relief on labor supply, Blaug estimated benefit/wage ratios for the period from 1795 to 1825, and concluded that the typical relief scale was so modest that it could not have offered "an attractive alternative to gainful employment" (1963, pp. 161–162).[5] Baugh, approaching the issue from the point of view of local relief administrators, argued that the disincentive effects of Speenhamland were minimized by rural parishes being "generally small enough to apply any relief system with discretion" (p. 61). McCloskey's analysis of the labor supply disincentive effects of outdoor relief is critical of both Blaug and the traditional literature. He concluded that the system of poor relief was "predominantly an income subsidy," and therefore must have led to a reduction in labor supply (pp. 434–435). However, he went on to note that, given a constant demand curve for agricultural labor, a reduction in labor supply implied an increase in wage rates, so that the Poor Law Report's conclusion that Speenhamland reduced both labor supply and wage rates could not be correct (p. 427).[6]

[4] The Hammonds and the Webbs agreed that real benefit levels declined by "as much as a third" between 1795 and 1834, and that most of this decline occurred after 1815 (Hammond and Hammond, 1911, pp. 184–185; Webb and Webb, 1927, pp. 182–183).

[5] Blaug estimated that, in 1795, the typical benefit/wage ratio varied from 0.5 to 0.67. Moreover, while money wages remained roughly constant from 1795 to 1825, benefit levels "dropped on the average by about one-third." In other words, the benefit/wage ratio declined significantly during this period (1963, pp. 161–162). By comparison, Metcalf *et al.* (1982) estimated that the typical benefit/wage ratio in Britain during the years 1966 to 1976 varied from 0.47 to 0.66 (p. 392).

[6] McCloskey's conclusion does not necessarily hold if the demand curve for agricultural labor shifted in response to the adoption of outdoor relief. In order to assure a fixed demand curve, McCloskey assumed that the use of outdoor relief had no effect on farmers' profits or laborers' productivity (pp. 422–427). However, if outdoor relief reduced labor productivity, as maintained by the 1834 Poor Law Report (pp. 77–98), then the adoption of outdoor relief policies caused a downward shift in the demand curve for labor. In this situation, it would be possible for both the quantity of labor supplied and wage rates to decline in response to the adoption of outdoor relief.

None of the revisionist historians attempted to determine when outdoor relief policies became widespread. Rather, they accepted the traditional literature's hypothesis that Speenhamland policies originated in response to the subsistence crises of 1795 and 1800. Only Blaug and Digby offered explanations for the persistence of Speenhamland policies. Blaug (1963) maintained that outdoor relief was used to "subsidize" wage rates and to support seasonally and structurally unemployed workers (pp. 171–172). Digby (1978) attributed the persistence of outdoor relief in Norfolk parishes to the seasonal nature of arable farming (pp. 22–23, 105). Finally, Blaug alone gave an explanation for the regional nature of Speenhamland. He attributed the concentration of Speenhamland policies in the South and East to "the natural periodicity" of grain production, the decline of annual "fixed income" labor contracts, and the large number of recent enclosures in the region (1963, pp. 170–171).

Blaug did not explain, however, why a majority of parishes in the South and East chose Speenhamland policies over other possible methods for dealing with seasonality, such as allotment schemes or year-long labor contracts. Moreover, by accepting the proposition that outdoor relief began as a response to the 1795 subsistence crisis, Blaug and the other revisionists seem to be arguing either that the reason for the adoption of Speenhamland policies was different from the reason for their persistence, or that seasonal unemployment was not a serious problem prior to 1795.

To this date, no study has appeared that adequately explains the economic role of outdoor relief and the reason why it developed in the last third of the 18th century. The remainder of this paper attempts to fill that gap in the historical literature.

II. CHANGES IN THE ECONOMIC ENVIRONMENT

In the second half of the 18th century, two fundamental changes occurred in the economic environment of the South and East of England: (1) the prolonged increase in wheat prices which began in the early 1760s and lasted through the Napoleonic Wars, and (2) the decline of cottage industry in the South as a result of the rise of industrial production in the Northwest.[7]

[7] Three other changes in the economic environment of the South and East during the second half of the 18th and the early 19th century have been put forward by historians: the increased specialization of the region in grain production (Snell, 1981, p. 421); the increased use of threshing machines, which eliminated large amounts of winter employment (Hobsbawm and Rudé, 1975, pp. 359–363); and the decline in the system of yearly labor contracts (Clapham, 1939, pp. 121–122; Hasbach, 1908, pp. 176–178; Hobsbawm and Rudé, 1975, pp. 43–45; Hobsbawm, 1968, p. 103). I have not included these environmental changes in this paper because I contend that each of them was an endogenous response to either the long-run increase in grain prices or the adoption of outdoor relief for able-bodied laborers. The increased specialization of the rural South and East in grain production was certainly a response to higher grain prices. The use of threshing machines in the South did not begin until the first decade of the 19th century (Hobsbawm and Rudé, 1975, p.

I contend that these changes in the economic environment led to important changes in the implicit labor contract between farmers and agricultural laborers. Prior to the late 18th century, grain-producing farmers offered laborers an implicit labor contract that included: plots of arable and pasture land for subsistence farming, wage labor in agriculture during peak seasons, and slack season employment (year long for women and children) in cottage industry. The decline of cottage industry eliminated one part of this implicit contract, while the rise in wheat prices, by causing an increase in land values, increased the cost to farmers of providing their laborers with allotments. In response to these environmental changes, a new implicit contract was developed between farmers and laborers which included wage labor in agriculture during peak seasons and a system of poor relief that guaranteed seasonally unemployed laborers a minimum weekly income near the subsistence level. This new form of the implicit labor contract was adopted over other possible methods for dealing with the altered economic environment in the rural South because it represented the least expensive method available to farmers for securing an adequate supply of peak season labor.

Between the years 1740–1750 and 1785–1795, the price of wheat increased by 76.3%, more than three times the price increase of an unweighted bundle of producer and consumer goods (Deane and Cole, 1967, p. 91). Chambers and Mingay (1966) attributed this long-term rise in wheat prices to "the increase in demand arising from the growth of population, together with a decline in the frequency of good seasons and bountiful harvests" (p. 111). The increased price of wheat led to a sharp increase in the value of arable land, which in turn led to significant changes in the distribution of landholdings in the grain-producing South and East. In

359), and so cannot be considered a cause of the long-run increase in relief expenditures during the last quarter of the 18th century. Moreover, the existence of outdoor relief must have had an effect on the decision to use threshing machines. In the absence of outdoor relief, farmers would have been forced to maintain laborers whether or not they were employed (in order to secure an adequate peak season labor force), so that the adoption of threshing machines would not have lowered labor costs. With outdoor relief, laborers not needed in early winter due to the adoption of threshing machines would have been partly maintained by non-labor-hiring ratepayers (who contributed to the poor rate). The "shortening of the period of hire" from year-long contracts to weekly or even daily contracts was probably in response to both the increased cost of food and the development of Speenhamland policies. Evidence presented by Clapham and Hobsbawm and Rudé suggests that the change took place, to a large extent, between 1795 and 1800, a time of very high food prices. Because laborers hired to year-long contracts usually received a large proportion of their income in the form of in-kind payments, farmers hiring them bore the entire burden of inflation. In parishes that adopted allowance systems, however, farmers were able to pass some of the cost of maintaining their laborers on to the parish. Thus, the adoption of weekly labor contracts might have been in response to the high cost of food and the existence of allowance systems during the years from 1795 to 1800.

areas where the open-field system still existed in 1750, such as East Anglia and the South Midlands, the redistribution of landholdings was accomplished to a large extent by the great waves of enclosures of open fields, common and waste that occurred during the 1760s and 1770s and also during the French Wars (1793–1815). In grain-producing areas where the arable land had been enclosed before 1750, including much of the Southeast, land which had formerly been considered marginal and had been left to the agricultural laborers was now reclaimed by its owners as high bread prices made it profitable to be brought under cultivation.

What effect did enclosures typically have on day laborers, cottagers, and squatters?[8] Because of the individual nature of enclosure acts, the treatment of cottagers and squatters was not uniform across parishes. However, the available data suggest that some generalizations are possible. Cottagers and squatters without legal rights of common, whose use of the commons was purely by custom, seldom received any compensation for their lost land from enclosure commissioners. On the other hand, cottagers who had a legal claim to rights of common invariably received allotments from enclosure acts. Historians of Parliamentary enclosure generally agree, however, that despite such awards, owners of common rights were often hurt by enclosures. The problem, according to Chambers and Mingay (1966) was that

> the allotment of land given in exchange for common rights was often too small to be of much practical use, being generally far smaller than the three acres or so required to keep a cow. It might also be inconveniently distant from the cottage, and the cost of fencing (which was relatively heavier for small areas) might be too high to be worth while. Probably many cottagers sold such plots to the neighbouring farmers rather than go to the expense of fencing them, and thus peasant ownership at the lowest level declined. (p. 97)

Evidence concerning the effects of enclosures on poor laborers in 69 parishes enclosed between 1760 and 1800 is contained in the *General Report on Enclosures* (1808) prepared by the Board of Agriculture.[9] Detailed descriptions of the enclosures reveals that laborers were made worse off in 53 of them and better off in 16. For most parishes, the

[8] The discussion that follows is concerned with the effect of enclosures on laborers in grain-producing areas only. I am not claiming that, in general, enclosures led to the adoption of outdoor relief. Large parts of the North and Midlands which did not specialize in grain production were enclosed after 1750 without resulting in the widespread adoption of Speenhamland policies. I maintain below that seasonality in the demand for labor (an important aspect of grain production), was a necessary, but not sufficient, condition for the spread of outdoor relief, and that the decline of laborers' allotments was a major reason why outdoor relief became widespread in the grain-producing South and East.

[9] Information on the effects of these enclosures was obtained by Arthur Young from interviews with laborers, farmers, and clergy within each parish.

effects of enclosure were similar to that of Letcomb, Berkshire, where the poor could "no longer keep a cow, which before many of them did, and they are therefore now maintained by the parish," or that of Alconbury, Huntingdon, where "many kept cows that have not since: they could not enclose, and sold their allotments, [and were] left without cows or land" (pp. 150, 154). Mantoux (1928) described the Report's evidence on the effects of enclosures as being "heart-rending in its monotony" (p. 185).

Some historians have maintained that the loss of commons rights was more than compensated for by an increase in wage rates and/or "the volume and regularity of employment" that came as a result of enclosure. According to Chambers (1953), enclosures created a short-run increase in labor demand for hedging and ditching, and a long-run increase in labor demand by the cultivation of commons and waste, and the adoption of new cropping systems that often followed (pp. 112–113). However, a recent study by Snell (1981) found that seasonal fluctuations in the demand for labor became more pronounced in grain-producing areas as a result of Parliamentary enclosures, leading Snell to question "the capacity of enclosure . . . to provide greater and more regular employment throughout the year for the growing male labor force" (p. 430). Moreover, wage data obtained from Young, Eden, and Davies reveal that real wages for agricultural laborers in the South Midlands and East Anglia declined by between 20 and 40% from 1767–1770 to 1794–1795.[10] Available wage and employment data therefore do not support the hypothesis that enclosures significantly increased the long-run demand for agricultural labor.[11]

[10] This result was obtained using wage data from Bowley (1900, table at end of book), and price data from Mitchell and Deane (1962, p. 487). One should not conclude from these figures that the demand for agricultural labor declined as a result of enclosure. The decline in wages was, to a large extent, caused by an increase in the supply of agricultural labor. However, it should be noted that real wages declined just as rapidly from 1767–1770 to 1795 in the grain-producing counties where Parliamentary enclosure was most prominent before 1793 (Northampton, Oxford, Lincoln, Huntingdon, Buckingham), as in the grain-producing counties least affected by enclosures during this period (Kent, Essex, Sussex, Suffolk, Hertford). Moreover, population increased significantly faster from 1751 to 1801 in the low-enclosure counties (52.0%) than in the high-enclosure counties (30.5%). (Calculated from Deane and Cole, 1967, p. 103; Turner, 1980, pp. 186–189.) While one should not place too much weight on these calculations, they certainly suggest that, prior to 1795, the demand for labor grew at least as rapidly in areas where enclosure did not take place as in areas where enclosures occurred. One possible explanation for this result is that very little common or waste land was enclosed in grain-producing areas during this period (Turner, 1980, pp. 188–189). Thus, the increase in the amount of land under cultivation might have been no larger in high-enclosure counties than in low-enclosure counties.

[11] One further piece of evidence in support of our conclusion is Crafts' (1978) finding that, at the county level of aggregation, "the rate of outmigration was . . . positively associated with the proportion of the county enclosed parliamentarily after 1801" (pp. 180–181). On the other hand, Tucker (1975) found a negative relationship "between the level

Agricultural laborers residing in parishes enclosed before 1750 were not immune to the effects of rising wheat prices. According to Hobsbawm (1968), the concentration of landholding in response to increased land values "took place in open and enclosed country, among new or old enclosures, through expropriation, forced or voluntary sales" (p. 82). Prior to the rise in prices, laborers in enclosed parishes were often able to rent allotments to produce a part of their subsistence. As wheat prices increased, however, farmers became "very anxious to get the gardens to throw into their fields." Hasbach (1908) concluded that "the cottagers who rented an acre or two of land had to feel the effects of engrossing. Their land was taken away from them and added to the acreage of some large farm; and the farmer's land-hunger was so great that in many places even the cottage-gardens were thrown into the bargain" (p. 108).[12] Unfortunately, there has been very little research into the process of engrossment in long-enclosed parishes. Available evidence suggests, however, that by the early 19th century laborers in regions enclosed prior to 1750 had very small cottage gardens, and generally were not able to rent allotments.[13]

Data on the extent of laborers' allotments in long-enclosed regions can be obtained for the early 1830s from question 20 of the Poor Law Commission's Rural Queries, which asked parishes "whether any land let to labourers; if so, the quantity to each, and at what rent." Table 1 contains a tabulation of responses to question 20 from parishes located in Essex, Kent, and Sussex, three grain-producing counties almost entirely enclosed prior to the mid-18th century. I have categorized parishes confirming the

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of relief expenditure [1817–1821] and the proportion of county land enclosed 1761–1820" in the grain-producing South and East (p. 244). This suggests that enclosures did indeed cause an increase in either wage rates or employment opportunities. However, I suspect that Tucker's result is to a large degree spurious, caused by the extremely high per capita relief expenditures in the long-enclosed counties of Sussex, Kent, Essex, and Suffolk. If Tucker had used as his independent variable the proportion of county land enclosed *as of* 1820, I suspect his results would have been significantly different.

[12] Of course, engrossment was not a necessary response to increased land prices. If laborers were willing to pay the market price for allotments, and if the price of labor was increasing as rapidly as the price of land, then farmers would have had little desire to reclaim their laborers' allotments. However, available evidence suggests that the price of land was increasing faster than the price of labor (Baack and Thomas, 1974, p. 415). It was therefore in the farmers' interests to reclaim, or reduce the size of, laborers' allotments. The desire to reclaim allotments would also be strong if laborers' rental payments were sticky in the face of rising land prices. Because the food produced on allotments was almost always consumed by the laborer's family rather than sold, a reduction in the size of allotments necessarily caused a decline in laborers' incomes, unless consolidation resulted in scale economies.

[13] For instance, Arthur Young, the author of agricultural surveys for the long-enclosed counties of Suffolk (1797, p. 11) and Essex (1807, p. 49) lamented the general inadequacy of cottage gardens in both counties.

TABLE 1
Percentage of Parishes Renting Allotments to Laborers

County	% with no allotments	% with allotments for few laborers	% with allotments for some or most laborers
Essex	75.0	2.3	22.7
Sussex	60.3	22.2	17.5
Kent	66.7	16.7	16.7
Overall	66.4	14.8	18.8

existence of allotments into those in which few laborers, some laborers, or most laborers rented allotments. Looking at the combined totals, one-third of the responding parishes mentioned the existence of allotments. However, only 18.8% rented allotments to more than a few laborers, and only 6% of the parishes allowed laborers to rent allotments as large as a quarter acre, the minimum size usually recommended by contemporary proponents of allotment schemes (Barnett, 1968, p. 175).[14]

In grain-producing parishes that contained no commons or pasture land, increasing grain prices could not have led to significant increases in the amount of land under crops. Thus, laborers' loss of allotments in previously enclosed parishes was almost certainly not compensated for by an increase in agricultural employment. Nor was it compensated for by an increase in wage rates. Data obtained from Young, Eden, and Davies suggests that real wages in Sussex and Essex declined by 20–25% from 1767–1770 to 1794, and that real wages in Kent fell by about 20% from 1775 to 1794.

It seems reasonable to conclude that the loss of commons rights and/or allotments had two important effects on agricultural laborers: (1) it caused a reduction in their annual incomes, and (2) it removed their partial insulation from fluctuations in the price of food. I contend that the Speenhamland system was adopted by rural parishes in response to these effects of land redistribution. Indeed, there is ample qualitative evidence of a negative correlation between the existence (and size) of allotments and the level of poor relief expenditures in a parish. For instance, data reported by the Board of Agriculture (1808) on poor relief expenditures in 51 parishes located in Lincolnshire and Rutland reveals a strong negative relationship between the percentage of laborers in a parish having allotments and the parish's poor rates. In 9 parishes where more than half of the agricultural laborers had allotments and cows, poor

[14] Unfortunately, there is no comparable data on the extent of allotments for any year prior to 1832. It is therefore not possible to determine the magnitude of the decline in allotments over the period from 1780 to 1832.

rates averaged 3.5 pence per assessed pound, while in 13 parishes where few or none of the laborers had allotments and cows, poor rates averaged 71 pence per pound (pp. 164–165). There was no doubt in Arthur Young's mind that the correlation between allotments and low poor rates was not simply a coincidence. "It is evident," he wrote, "that the possession of a cottage and about an acre of land, . . . if they do not keep the proprietor in every case from the parish, yet [they] very materially lessen the burthen [of poor relief] in all" (1801, p. 509). Young's advocacy of allotments as a method for reducing poor rates was echoed by Frederic Eden and David Davies, the authors of two important studies of rural poverty in the 1790s.[15] Allotment schemes became increasingly popular in the wake of the prolonged agricultural depression that began in 1815, and yet the responses to question 20 of the Rural Queries suggest that the great majority of southern agricultural laborers did not rent allotments in 1832.[16]

If there was, in fact, a correlation between allotments and low poor rates, why didn't more parishes adopt allotment schemes in order to reduce their relief expenditures? Opposition to allotments seems to have come mainly from labor-hiring farmers, who feared that access to land would reduce the poor's willingness to serve as day laborers and who did not want their holdings reduced. Evidence of farmer opposition can be found in the 1834 Poor Law Report. Assistant Commissioners Power and Majendie reported from grain-producing counties that "farmers object very generally to the introduction of allotments." Majendie commented that farmers "are afraid of making labourers independent, and some look with an evil eye to a supposed diminution of their profits by introducing a new class of producers," while Power reported that farmers "are jealous of such deductions from their holdings, . . . and they object to the increased independence of the labourers" (pp. 183, 185). Boys' comments concerning allotments in his 1796 survey of agriculture in Kent reveal that such fears existed long before 1834. He maintained that if laborers were given allotments of two or three acres, they would "entirely support their families without any other labour [, and] hence would the most material part of the husbandry labour be lost to the public" (pp. 34–35).

[15] In the preface to *The State of the Poor*, Eden (1797) proposed that agricultural laborers should be given enough land to "maintain a cow or two, together with pigs, poultry, etc.; and enough also to raise potatoes for the annual consumption of the family" (I, p. xx). Such a policy would "render all the present Paupers of the kingdom easy and comfortable" (I, p. xxiii). Davies (1795), in *The Case of Labourers in Husbandry*, proposed that each cottager should be allowed "a little land about his dwelling for keeping a cow, for planting potatoes, for raising flax or hemp" (pp. 102–103).

[16] Between 1795 and 1835, 184 pamphlets proposing allotment schemes were published; 140 of these (76.1%) were published after 1815 (Barnett, 1968, p. 175). See Table 1, above for a tabulation of the responses to question 20 of the Rural Queries.

The evidence presented above supports the following conclusions: (1) the long-term increase in wheat prices that lasted roughly from 1760 to 1815 caused a decline in the amount of land available for use by agricultural laborers; (2) the loss of access to land was not adequately compensated for by an increase in wage rates or regularity of employment; and (3) poor relief expenditures were negatively correlated with access to land. In turn, these conclusions allow us to hypothesize a positive relationship between movements in wheat prices and movements in poor relief expenditures. As the price of wheat, and hence the value of land, increased, grain-producing farmers found it cheaper to include poor relief payments rather than allotments in their implicit contracts with laborers. In support of this hypothesis, we will present evidence later in this section that per capita poor relief expenditures were indeed increasing rapidly in the 20 years prior to 1795.

The other major change in the economic environment that occurred during this period was the decline of cottage industry in the South.[17] The counties most affected by the decline were Norfolk, Suffolk, and Essex, important centers of woolen cloth production in the first half of the 18th century. Defoe's *Tour Through the Whole Island of Great Britain* (1724–1726) contained information concerning the prosperity of the East Anglian woolen industry in the 1720s. At the time, the woolens trade was flourishing in Norwich, Colchester, and many of the smaller towns of East Anglia, and Defoe noted that rural villages throughout the region were "employed, and in part maintained, by the spinning of wool" (I, pp. 17, 37, 48, 61–62).

[17] I do not offer an explanation for the decline of cottage industry in the South, because I do not believe a satisfactory explanation exists. Probably the most widely accepted explanation for this phenomenon is Jones' hypothesis that "the improvement of agricultural techniques" after 1650 led East Anglia and the South to concentrate on agricultural production, at the expense of cottage industry (1974, pp. 131, 138). Similarly, Mokyr (1976) has demonstrated that "technological progress in agriculture would increase the labor time allocated to agriculture in areas where the change could be applied," and hence would reduce the labor time allocated to cottage industry (p. 139). These arguments suggest that the decline of cottage industry was an endogenous response to specialization in agriculture. I do not think the available empirical evidence supports this conclusion. Davies (1795) found that the earnings of women and children in agriculture were "insignificant" except during hay making and harvest (p. 83). Responses to questions 12 and 13 of the 1832 Rural Queries demonstrate that, throughout the grain-producing South and East, women and children could not find agricultural employment for 8 to 10 months of the year. Several of the respondents to the Rural Queries maintain that the major cause of this unemployment among women and children was the decline of cottage industry. (See below, p. 143.) In my opinion, the decline of cottage industry in the South must have been caused by a decline in demand for the goods produced there, as a result of either the drying up of foreign markets (precipitated, perhaps, by the French Wars), or competition from cottage industry in the North. However, for the purposes of this paper, it is not necessary to determine why cottage industry declined, only the extent of its decline.

By midcentury, however, the Essex wool trade was in a state of decline. Morant wrote in 1748 that the production of woolens had "removed in a great measure [from Colchester] into the west and northern parts" of England. (Quoted in Darby, 1976, p. 57.) This decline continued throughout the rest of the century; Essex parishes responding to a 1795 inquiry remarked that the wool trade had been declining for years (Vancouver, 1795, pp. 197, 210).

Norwich wool producers fared somewhat better, achieving their greatest prosperity from 1743 through 1763 (James, 1857, p. 259). However, data on Norwich poor relief expenditures provide evidence of the sharp decline in woolens production after 1763. (See Lloyd-Pritchard, 1949, pp. 428, 434; 1951, p. 371.) From 1764 to 1785, real relief expenditures increased by 342%. Real expenditures peaked in 1793 (363% above the 1764 level) and then actually declined somewhat during the Speenhamland era.

The decline of East Anglia's woolens trade caused a sharp decline in wage rates and employment opportunities in cottage industry. Rural parishes in Norfolk, Suffolk, Essex, and parts of Cambridge, Bedford, and Hertford had supplied yarn for Norwich and Colchester manufacturers in the 18th century (James, 1857, p. 272; Lloyd-Pritchard, 1949, pp. 434–435). The effect of Norwich's decline on local cottage industry may be seen in the returns to Arthur Young's 1787 enquiry into the wage rates of spinners; he found that Suffolk spinners were paid significantly less than spinners in any other county (Young, 1788, p. 353).[18]

Contemporary observers also found evidence of declining wages and employment opportunities for wool spinners in Berkshire, Hampshire, Northampton, Oxford, and Wiltshire (Eden, 1797, II, p. 536; III, p. 796; Prince, 1976, p. 140). After a careful study of data collected by Young and Eden, Pinchbeck (1930) concluded that wool spinners' wages throughout the South "were getting steadily lower" in the last quarter of the 18th century (pp. 142–143, 147).[19]

In some areas, the decline of employment in wool spinning was partially offset by increased employment in lacemaking, glovemaking, or straw plaiting. Lacemaking was centered in Bedford, Buckingham, Northampton, and parts of Oxford and Huntingdon; glovemaking in Oxford, Somerset,

[18] No returns were given for Norfolk wool spinners. Presumably their wage rates were similar to those of Suffolk spinners.

[19] Eden and his contemporaries tended to blame the outbreak of war in 1793 for the sharp decline of wool production in the South, but peace in 1815 did not bring a return to prosperity. The Report of the Select Committee on Poor Rate Returns and the Rural Queries of the Royal Poor Law Commission provide evidence of continued stagnation of the wool trade in 1824 and 1832. Of the 184 parishes from East Anglia (Norfolk, Suffolk, Essex, Cambridge) that responded to the Rural Queries, only 20, or 10.9%, acknowledged having cottage industry of any type, and only 4 parishes (all in Norfolk) were still associated with the wool industry.

and Worcester; and straw plaiting in Bedford, Buckingham, and Hertford (Pinchbeck, 1930, pp. 202–208, 215–226).[20] However, the prosperity of these domestic industries was short lived. According to Pinchbeck, wage rates and employment opportunities began to decline for lacemakers in 1815, for straw plaiters in 1820, and for glovemakers in 1826 (pp. 208, 221, 224–225).[21] Responses to questions 11 through 13 of the Rural Queries, which concerned employment for women and children, reveal that wages in all three domestic industries were quite low by the early 1830s.[22]

The above evidence supports our hypothesis that employment opportunities in cottage industry declined significantly throughout most of southern England between 1760 and 1834.[23] This decline must have had an important impact on family income in agricultural parishes. Cottage industry and agriculture were complementary with respect to labor inputs; laborers not needed in agriculture during slack seasons could be employed in cottage industry. Moreover, cottage industry provided employment for women and children, whose employment possibilities in agriculture deteriorated in the period after 1750 (Snell, 1981, p. 431). The decline of cottage industry meant that laborers who formerly were employed year round were now unable to find jobs during slack seasons in agriculture, and their wives and children were left jobless for up to 11 months of the year.

Household budgets obtained from Eden and Davies demonstrate that in much of the South the typical laborer's family lived close enough to subsistence that it could not have absorbed the loss of income associated with the decline of cottage industry. Farmers could have compensated rural families for their loss of nonagricultural income by increasing the wage rates of adult male laborers. However, we saw above that real wages in agriculture declined during the last third of the 18th century.

[20] For evidence on lacemaking in the 1790s, see Eden (1797, II, pp. 4, 8, 24, 27, ,28, 29, 536, 544, 548). Similarly, for evidence on straw plaiting, see Eden (II, pp. 2, 6, 275). Responses to question 20 of the Rural Queries suggest that, as of 1832, lacemaking was widespread in Bedford, Buckingham, Huntingdon, Leicester, Northampton, and Oxford; straw plaiting was widespread in Bedford, Buckingham, Essex, and Hertford; and glovemaking was widespread in Oxford, Somerset, and Worcester.

[21] Eden (1797) found that, in the town of Northampton, lacemakers' wages "have, of late years, much decreased" (II, p. 536). However, evidence cited by Pinchbeck suggests that this must have been a temporary phenomenon.

[22] For evidence of declining wages in lacemaking, see, for instance, Parl. Papers, 1834, XXX, pp. 7a, 31a, 41a, 45a, 332a, 334a, 340a. Evidence of declining wages in straw plaiting can be found in Parl. Papers, XXX, pp. 178a, 217a, 226a. For evidence of declining wages in glovemaking, see Parl. Papers, XXX, pp. 369a, 372a, 382a, 409a, 582a.

[23] Employment opportunities in cottage industry might actually have increased in Bedford, Buckingham, Hertford, and Northampton during the late 18th century. However, responses to the Rural Queries show that wage rates and employment opportunities in the lace and straw trades (the most widespread cottage industries in these counties) had declined significantly by the early 1830s. (See footnote 22.)

Thus, the decline of employment opportunities in cottage industry must have led to an increase in poor relief expenditures.

There exists plenty of evidence to support the hypothesis that earnings from cottage industry and poor relief expenditures were negatively correlated. The major sources of this evidence are studies of family budgets done by Eden and Davies in the 1790s; parish responses to inquiries from the 1824 Select Committee on Poor Rate Returns; and parish answers to question 11 of the 1832 Rural Queries. Eden blamed the high poor rates of Heckingham, Norfolk, and Melton, Suffolk on "the high price of provisions, [and] the lowness of wages in spinning" (II, pp. 471, 687).[24] To illustrate the relationship between income from cottage industry and poor relief, Eden cited a typical household budget from Seend, Wiltshire. The weekly income of the family cited totaled 12.5 s., including 4.5 s. earned by the wife and eldest child by spinning, while weekly expenses amounted to 14 s. In order to subsist, the family required 1.5 s. per week (£3.9 per year) from the parish. The need for poor relief was a recent phenomenon, however, caused by a decline of approximately 60% in the nominal wages paid to spinners. Prior to this decline in wages, the earnings of the wife and eldest child had been large enough to keep the family off the parish rolls (III, p. 796).[25] Eden's analysis of the relationship between cottage industry and poor relief led him to conclude that "a mixture of agriculture and manufactures, more especially, when the latter are scattered through a country, seems to be the most effectual method of keeping the poor in constant employment" (II, p. 18).

Several parishes that responded to the 1824 Parliamentary inquiry blamed the decline of cottage industry for their high level of relief expenditures. For instance, Brinkley, Cambridge wrote that "the employment of the poor man's family being taken away by machinery in spinning wool, is the sole cause of the alarming increase of the poor rates," and Badwell Ash, Suffolk responded that "our [poor] rates are increasing, principally owing to our not having any spinning for the women and children" (Parl. Papers, 1824, VI, pp. 395, 391).[26] Similar statements can be found in the 1832 Rural Queries. Once again, the most complaints

[24] On the other hand, the relatively low relief expenditure of Dunstable, Bedford was a result of the "exceedingly great" earnings in straw plaiting during the previous 4 years (Eden, 1797, II, p. 2).

[25] Davies presented an account of the weekly earnings and expenses of a typical family of seven in 1787. Although the weekly earnings of the wife and eldest daughter from spinning amounted to only 2⅓ s., this income allowed the family to meet its annual expenses without applying to the parish for relief. Without the extra earnings from spinning, the family would have required £4.2 per annum from the parish (Davies, 1795, pp. 84–86).

[26] See also the responses of Maulden, Bedford; Syston, Leicester; Hollowell, Northampton; and Acton, Stoke Ash, Worlington, Brundish, and Framlingham, Suffolk (Parl. Papers, 1824, VI, pp. 385–399).

were from East Anglia.[27] However, the responses to the Rural Queries make it clear that employment in cottage industry was declining throughout the South of England. For instance, the overseer of Claines, Worcester remarked that the decline of employment for women and children in making gloves was "the principal cause of the increase in the poor rates throughout the greatest part of this country" (Parl. Papers, 1834, XXX, p. 582a). Employment levels and wage rates were also declining for women and children engaged in the lace, straw, silk, button, hosiery, and ribbon trades.[28]

The decline of employment opportunities and/or wage rates for women and children in cottage industry reduced the earnings of many laborers' families to the point where they were forced to apply to their parish for relief in order to subsist. By eliminating one part of the implicit contract between farmers and laborers, the decline in cottage industry forced farmers to choose between raising agricultural wage rates, increasing the size of laborers' allotments, or granting poor relief to able-bodied laborers, in order to maintain family income at its previous (near subsistence) level. It has already been shown that both real agricultural wage rates and the size of allotments declined during the last third of the 18th century. We contend, therefore, that the decline of cottage industry, combined with the loss of allotments, must have caused an increase in real per capita poor relief expenditures during the second half of the 18th century.

The traditional literature assumed that the long-term increase in relief expenditures began with the adoption of bread scales in 1795. However, our hypothesis that a sustained increase in real per capita relief expenditures began approximately 30 years before 1795, and hence that 1795 should not be considered a watershed, is strongly supported by the limited available information on national poor relief expenditures during the second half of the 18th century. Prior to the annual collection of data on relief expenditures, which began in 1813, expenditure data was collected only for the years ending at Easter 1748–1750, 1776, 1783–1785, and 1803. Table 2 presents evidence on the growth rates of real per capita relief expenditures before and after 1795, obtained from expenditure data for the above years and for the fiscal years (ending March 25) 1818–1820 and 1832–1834. It turns out that the annual rate of increase in real per capita expenditures was higher during the 35-year period from 1748–1750 to 1783–1785 than during the same length period from 1783–1785 to 1818–

[27] See, for instance, Parl. Papers, 1834, XXX, pp. 310a, 321a, 460a, 462a; 1834, XXXI, p. 468b.

[28] For evidence of declining wages in the lace, straw, and glove trades, see footnote 22. Evidence of declining wage rates and employment levels for the other cottage industries can be found on the following pages of Parl. Papers, 1834, XXX: silk, pp. 145a, 169a, 399a, 482a; button making, pp. 140a, 143a; ribbon making, 542a, 546a; hosiery, p. 283a.

TABLE 2
Growth of Poor Relief Expenditures: England and Wales

Period	Real relief expenditures: annual growth rate (%)	Real per capita relief expenditures: annual growth rate (%)
1748–1750 → 1776	1.79	1.19
1776 → 1783–1785	3.04	2.22
1783–1785 → 1803	2.21	1.12
1803 → 1818–1820	2.84	1.38
1818–1820 → 1832–1834	1.10	−0.34
1748–1750 → 1783–1785	2.08	1.42
1783–1785 → 1818–1820	2.50	1.24
1783–1785 → 1832–1834	2.10	0.78

1820. This result is particularly striking when one recalls that the payment of outdoor relief to able-bodied laborers was not sanctioned by Parliament until 1782, and that nominal relief expenditures were higher in each of fiscal years 1818–1820 than in any other year of the Old Poor Law. The rate of growth of expenditures from 1748–1750 to 1783–1785 looks even more impressive when compared to the entire period of Parliament-sanctioned outdoor relief, from 1783–1785 to 1832–1834.

How can the rapid increase in relief expenditures prior to the passage of Gilbert's Act in 1782 be reconciled with the traditional hypothesis that outdoor relief did not become widespread before 1795? Almost all of the county and local studies that have analyzed the pre-1795 administration of the Poor Law have found that policies granting outdoor relief to able-bodied laborers existed prior to 1795, and several studies found evidence of such policies before 1782. For instance, Neuman (1972) concluded from his study of Berkshire parish accounts that "since at least the 1770s it was common for parish officers to relieve unemployed able-bodied persons" (p. 100). Coats (1960) maintained that the passage of Gilbert's Act simply legitimized the relief policies of a large number of parishes already using outdoor relief (p. 46). Available evidence suggests that the granting of outdoor relief to able-bodied laborers became much more widespread after 1782. Neuman (1969) found that outdoor relief "became extended and regularized" in Berkshire between 1782 and 1795 (p. 318). Hampson (1934) found numerous examples of Cambridge parishes granting outdoor relief to unemployed or underemployed laborers during the same period (pp. 189–191).

Evidence of the widespread use of outdoor relief prior to 1795, combined with evidence of rapid increases in relief expenditures from 1750 to 1782, casts strong doubts on the traditional hypothesis that outdoor relief became widespread only during the subsistence crisis of 1795. Rather, the evidence

supports our hypothesis that parishes responded to the decline in cottage industry and allotments that began in the 1760s by adopting outdoor relief policies and increasing poor relief expenditures.

III. THE ADMINISTRATION OF OUTDOOR RELIEF

Thus far we have given an explanation for the increased importance of outdoor relief in rural parishes during the second half of the 18th century; outdoor relief filled a void created by the loss of allotments and the decline of cottage industry. We have yet to determine whether the adoption of implicit labor contracts containing outdoor relief for underemployed workers represented an efficient method for dealing with the reduction in rural family income. Before we can answer this question, however, it is necessary to determine the precise way that outdoor relief was administered in agricultural parishes.

It is possible to identify four methods of outdoor relief used by rural parishes during our period of interest: allowances in aid of wages, payments to seasonally unemployed agricultural laborers, the roundsman system, and the labor rate. Under the allowance system, a laborer (whether employed or unemployed) was guaranteed a minimum weekly income, the level of which was determined by the price of bread and the size of his family. McCloskey (1973) has pointed out that allowance scales were in effect negative income taxes "with a 100 percent marginal rate of tax on earned income below the minimum," and thus produced serious work disincentives (p. 434). The traditional literature maintained that the allowance system was by far the most widespread form of outdoor relief (J. and B. Hammond, 1911, pp. 161, 164; Polanyi, 1944, p. 78). It was assumed that most rural parishes in the South and East, in response to the subsistence crisis of 1795, followed the lead of the Berkshire magistrates who adopted an allowance scale at Speenhamland on May 6, 1795.[29]

However, there is no evidence to support the contention that the allowance system was the most prominent form of outdoor relief used by rural parishes. Evidence obtained from parish account books suggests instead that allowance systems were extensively used only during years of exceptionally high food prices, as a substitute for increases in nominal

[29] The Berkshire scale stipulated that: "when the gallon loaf of second flour, weighing 8 lbs, 11 oz. shall cost one shilling, then every poor and industrious man shall have for his own support 3s. weekly, either produced by his own or his family's labour or an allowance from the poor rates, and for the support of his wife and every other of his family 1s. 6d. When the gallon loaf shall cost 1s. 4d. then every poor and industrious man shall have 4s. weekly for his own, and 1s. 10d. for the support of every other of his family. And so in proportion as the price of bread rises or falls (that is to say), 3d. to the man and 1d. to every other of the family, on every penny which the loaf rises above a shilling" (quoted in Hammond and Hammond, 1911, p. 163). For examples of other allowance scales, see the 1834 Poor Law Report, pp. 21–24.

wages. After a study of the records of 16 Berkshire parishes, Neuman (1972) concluded that while it was "probably true that at one time or another most Berkshire parishes adopted some sort of bread scale as a general guide for relieving their able-bodied poor, . . . evidence suggests these allowances were often of a temporary sort, in response to unusually severe seasons and high prices" (pp. 102, 107).[30] My study of surviving record books for Essex, Norfolk, and Bedford parishes found that most of the parishes which adopted allowance systems in 1795, when bread prices were exceptionally high, removed them in 1796 or 1797 when prices declined. The high prices of 1800 caused parishes to set up allowance systems again, only to remove them during the summer of 1801. This pattern of instituting bread scales "in consequence of the high price of provisions" continued throughout the period up to 1834, although evidence suggests that the number of parishes using the allowance system was never again as high as during 1795 and 1800.[31]

The assumption that the allowance system constituted the major form of relief to able-bodied laborers is further refuted by parish responses to questions 24 and 25 of the 1832 Rural Queries and question 1 of an 1824 questionnaire distributed by the Select Committee on Labourers' Wages. The 1824 data reveal that at least half of the responding parishes in eight southern and eastern counties denied using allowance systems.[32] The responses to the Rural Queries suggest that the use of allowance systems was even less prevalent in 1832 than it had been in 1824. Only 80 out of 1070 responding parishes, or 7.5%, admitted paying allowances in aid of wages (Williams, 1981, p. 48).[33]

The allowance system differed from other methods of outdoor relief in that it provided relief for fully employed laborers whose wage income was below the guaranteed minimum level as well as for seasonally unemployed laborers. Our conclusion that the allowance system was used extensively only during years of exceptionally high food prices suggests,

[30] Brown (1969) concluded from a study of Essex parish records that "from 1795 to 1814, many Essex parishes did thus assist large families for limited periods of very high prices. . . Generally, when prices fell, allowances were discontinued" (p. 152).

[31] My study of surviving parish record books (in Essex, Norfolk, and Bedford) found that almost all mention of allowance systems occurred during the years 1795, 1796, 1800, and 1801.

[32] All told, 51% of the agricultural districts responding to the 1824 Query admitted "paying wages out of the rates" (Williams, 1981, p. 151).

[33] In only four counties, Wiltshire, Kent, Worcester, and the East Riding, was the percentage of reporting parishes paying allowances in aid of wages as high as 20%. Less than 10% of the reporting parishes in eight southern and eastern counties used the allowance system: Sussex, Essex, Bedford, Berkshire, Huntington, Cambridge, Hertford, and Surrey (Blaug, 1964, pp. 236–237). Given that relief expenditures per capita were relatively high in each of these eight counties, there would appear to be no positive correlation between the use of allowance systems and the amount of outdoor relief expenditures.

therefore, that the major function of outdoor relief from 1795 to 1834 was the provision of relief payments to agricultural laborers unneeded during slack seasons.

The typical relief policy developed to deal with seasonal unemployment was quite similar to current unemployment insurance (UI) policies; laborers unable to find work reported weekly to the parish overseer and were granted a predetermined amount of money, somewhat below the going wage rate.[34] In many parishes, the amount of an unemployed laborer's weekly benefit payment was determined by family size and the price of bread.[35]

Two variants of the UI system were adopted by substantial numbers of parishes during the early 19th century, the roundsman system and the labor rate. Under the roundsman system, laborers who were unemployed in winter were offered to labor-hiring farmers at reduced wage rates, with the parish making up the difference between the laborers' wage income and subsistence. The exact way in which the roundsman system worked varied across parishes. Some parishes required all labor-hiring farmers to hire a share of the unemployed laborers, by rotating the unemployed among farmers. Other parishes adopted a totally voluntary system; unemployed laborers were forced to "go the rounds" in search of work, but farmers could refuse to hire them. Laborers who went unhired received a daily income slightly below that of successful roundsmen.[36] In some parishes, farmers employing roundsmen paid whatever wage rate they chose. Other parishes set the wage rate to be paid roundsmen, and some parishes auctioned off the roundsmen.

The labor rate, which was actually a variant of the roundsman system, did not come into use until the mid-1820s. From then until 1834, it was a popular method for dealing with seasonal unemployment; approximately 20% of the grain-producing parishes that responded to the Rural Queries acknowledged using labor rates in winter (Blaug, 1964, pp. 236–237). Under the labor rate, the total wage bill for the winter of all able-bodied laborers residing in the parish was computed, at wage rates set by the parish so as to provide laborers with at least a subsistence level of income.[37] The total wage bill was then divided among all ratepayers in

[34] It is not possible to determine the typical UI payment/winter wage ratio in agricultural parishes. It will be recalled that Blaug (1963) estimated the benefit/wage ratio to have been between 0.5 and 0.67 in 1795. Polanyi (1944) assumed that the typical benefit/wage ratio was equal to one (p. 79).

[35] This policy, although it is a part of many current UI systems, has led some historians to mistakenly consider parishes that granted UI payments to have adopted allowance systems.

[36] For example, in the parishes of Bottisham and Burwell, Cambridge, in 1792, successful roundsmen earned 24 d. per day, unsuccessful roundsmen 20 d. (Hampson, 1934, p. 191).

[37] Under the typical labor rate, the wage an individual laborer received was determined by the laborer's age and marital status. For instance, in the parish of Kirdford, Sussex, able-bodied married men were paid 10 s. per week, single men over 20 received 8 s.,

the parish, according to their poor rate assessment. A ratepayer could pay his share of the total either by hiring laborers at the wage rate set by the parish or by paying the amount to the parish overseer as a poor rate. Thus, the marginal cost of labor to a ratepayer was equal to zero "up to the amount of labor corresponding to his share of the assessment" (McCloskey, 1973, p. 433).[38]

Like the allowance system, the UI system created disincentive effects on labor supply. It does not follow, however, that the UI system (or the allowance system) magnified the unemployment problem in grain-producing parishes. In blaming outdoor relief policies for the high level of seasonal unemployment in the South and East, the 1834 Poor Law Report assumed that parishes were either unwilling or unable to be selective in their granting of relief.[39] However, because of the small size of parishes, overseers of relief usually knew the employment situation of each labor-hiring farmer and the "industrious" nature of each applicant for relief. There is no reason to assume that parish overseers did not take into account each applicant's character and economic situation before granting him relief (Taylor, 1969, p. 295). In fact, the wording of most surviving allowance scales indicates that only "industrious" laborers were to be granted relief.[40] Overseers of relief (who were generally labor-hiring farmers) often refused to relieve laborers until they had obtained notes from three or more farmers in the parish stating that employment was not available.[41]

Another tactic used by parishes to discourage voluntary unemployment

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youths from 18 to 20 received 7 s., youths from 16 to 18 received 5 s., etc. In each of the Sussex labor rates given in Appendix D of the 1834 Poor Law Report, the highest wage paid was 10 s. per week. The winter market wage rate in Sussex was approximately 12 s. per week for adult males.

[38] That the labor rate was designed to deal with seasonal unemployment is readily apparent from Appendix D of the 1834 Poor Law Report, which contains information on individual parishes' labor rates. In virtually ever parish listed, labor rates went into operation between the last week in November and December 31 and lasted until sometime between the end of March and the end of May. These dates suggest that labor rates went into effect right after threshing was completed and stayed in effect until spring planting.

[39] The 1834 Poor Law Report's analysis of the effects of outdoor relief on able-bodied laborers is given on pp. 77–98, 233–237. The preconceived bias of the Commissioners concerning the effects of outdoor relief on labor supply and the causes of unemployment can be seen in their instructions to the Assistant Commissioners, who were sent throughout England to observe the "practical operation of the laws for the relief of the poor" (Extracts, 1833, pp. 417–418).

[40] Even the 1795 Speenhamland scale used the term industrious in describing who should receive relief. (See footnote 29.) Of course, parish overseers might have ignored the wording of allowance scales and granted relief indiscriminantly. However, so long as the costs of determining a worker's character was low (as it must have been in small parishes), it was in every rate payer's interest to grant relief only to industrious workers.

[41] For example, the parish overseer for Birchanger, Essex refused to grant further relief to a laborer upon learning that he had been "this day offered work by Mr. J. Linsel at the rate of 6 shillings per week which he absolutely refused" (E.R.O. D/P 25/8/82).

consisted of requiring relief recipients to perform work for the parish. A large percentage of parishes responding to the Rural Queries wrote that unemployed laborers were used to repair the parish roads.[42] Other parishes simply made up activities to employ the recipient's time. Even the 1834 Poor Law Report admitted that many parishes

> force[d] the applicants to give up a certain portion of their time by confining them in a gravel-pit or in some other enclosure, or directing them to sit at a certain spot and do nothing, or obliging them to attend a rollcall several times in the day, or by any contrivance which shall prevent their leisure from becoming means either of profit or of amusement (p. 20).

Given these policies to guard against the labor supply disincentive effects of outdoor relief, there is reason to doubt the traditional literature's assertion that outdoor relief policies created large amounts of voluntary unemployment.

The available evidence on the administration of poor relief leads us to conclude that, in most parishes, outdoor relief was granted to able-bodied laborers only when they were unemployed. The three most prevalent forms of outdoor relief were geared toward providing relief for seasonally unemployed workers. Thus, the use of outdoor relief appears to have been part of an implicit labor contract between farmers and laborers in areas where the demand for labor varied significantly over the crop cycle. Similar contracts still exist in the rural sectors of LDCs. Bardhan (1979, 1980) found that Indian farmers entered into "implicit contracts with laborers for future (i.e., across seasons) commitment of labor" in order to ensure the "ready availability of labor during peak operations" (1980, p. 93; see also 1979, pp. 495–497).

Seasonal fluctuations in labor demand in early 19th century Britain were especially pronounced in the grain-producing South and East. Using data collected by Arthur Young in the 1770s, Timmer (1969) calculated that a typical 500-acre farm cropped according to the four course "Norfolk system" required approximately 70 workers in March and August, but less than 25 workers in November, December, January, April, and May (p. 393). Collins (1976) found that, as late as 1867–1869, the number of workers employed on grain-producing farms was from 21 to 100% higher in peak seasons than in slack seasons (p. 39).

Evidence from grain-producing areas shows that substantial amounts of surplus labor during winter months went hand in hand with labor scarcity during planting, haying, and harvest. This evidence comes from

[42] Question 6 of the Rural Queries asked how unemployed laborers were "maintained in Summer and Winter." Of the 117 parishes from Sussex, Buckingham, and Suffolk (the counties with the highest per capita relief expenditures in 1831) that acknowledged having positive unemployment rates, 67, or 57.3%, responded that unemployed laborers were required to perform work for the parish in order to obtain relief.

three types of sources: testimony before Parliamentary commissions dealing with agriculture and the Poor Law; the Rural Queries collected by the Royal Poor Law Commission; and individual parish record books.

Question 6 of the Rural Queries asked the parish to state the "number of labourers generally out of employment, and how maintained in Summer and Winter." The responses by parishes located in grain-producing regions reveal a large amount of seasonal unemployment. Table 3 presents a tabulation of the responses of 247 reporting parishes in 10 Southern and Eastern counties. The extent of winter unemployment can be seen in columns (2) and (3). Two-thirds of the parishes reported having more than 10% of their agricultural laborers unemployed in winter; half of the parishes had winter unemployment rates above 15%. Summer unemployment rates were substantially lower: 44% of the parishes with winter unemployment rates above 10% had summer unemployment rates below 5%. Overall, 43% of the parishes had summer unemployment rates above 5%, and only one-quarter of the parishes had summer unemployment rates above 10%.

There are several reasons to believe that the above evidence overstates the extent of chronic surplus labor. Parishes were not asked to state the number of laborers unemployed at harvest time. Less than 10% of the parishes gave both the number of laborers unemployed in summer and the number of laborers unemployed during harvest. These parishes invariably answered that they had a positive level of unemployment in summer (often above 5%) but full employment at haying and harvest. Presumably, if all parishes had reported the number of laborers unemployed at harvest, the seasonality in the demand for labor would have been much more pronounced.[43]

Evidence from the same questionnaire on seasonal wage differentials and on employment of women and children also suggests that the extent of chronic surplus labor is overstated in Table 3.[44] In parishes whose responses to question 6 suggested the existence of year-round unemployment, harvest wages for adult males were often more than double

[43] This conclusion is apparently contradicted by evidence reported by Blaug (1964) that almost 60% of the Southern and Eastern parishes responding to the Rural Queries "reported the existence of disguised unemployment." He arrived at this conclusion, however, not by consulting the answers to question 6 on the number of workers unemployed, but rather by comparing "the replies to question 4: 'Number of labourers sufficient for the proper cultivation of land?' and question 5: 'Number of agricultural labourers?' " (Blaug, 1964, p. 235) The answers given to the questions concerning employment and wage rates of adult males, women, and children (questions 6, 8, 11, and 12) suggest, however, that the answers to questions 4 and 5 were not made in reference to peak seasons, but rather gave an estimate of the *average* number of surplus laborers in the parish. Blaug's data therefore should not be used as an estimate of the extent of chronic surplus labor.

[44] This evidence comes from the answers to questions 8 (on adult male wages), 11 (on employment for women and children), and 12 (on wage rates for women and children).

TABLE 3
Unemployment Data from Rural Queries

County	(1) Parishes	(2) Winter $U > 10\%$	(3) Winter $U > 15\%$	(4) Summer $U > 5\%$	(5) Win. $U > 10\%$ & Sum. $U < 5\%$
Bedford	15	11	7	4	7
Berkshire	21	11	7	6	5
Buckingham	21	16	12	6	8
Cambridge	24	18	14	8	8
Essex	24	13	10	13	3
Hertford	13	7	4	2	5
Huntington	10	7	6	3	4
Kent	32	19	14	13	11
Suffolk	31	22	17	20	4
Sussex	56	45	32	30	19
	247	169	123	105	74

summer wage rates, implying that the extremely elastic labor supply curve of labor-surplus models was not present. This increase in male wage rates took place despite a substantial increase in the work force as women and children joined in the harvest as day laborers.[45] Hay time and harvest were the only times of the year women and children were employed in agriculture in many parishes. In other parishes where women and children were employed weeding, hoeing, or picking stones throughout the summer, their wage rates tended to double at harvest time. Overall, the evidence from the Rural Queries suggests that labor was indeed scarce during hay time and harvest in grain-producing areas.[46]

The most detailed evidence on seasonal fluctuations in the demand for labor comes from parish record books, and in particular, from account books of the overseers of the poor. While payments to unemployed

[45] The parish of East Hendred, Berkshire, for example, reported that 16 of 124 laborers (12.8%) were unemployed during the summer. However, the parish also reported that adult male wages more than doubled at harvest, and women joined in the harvest. The weekly income of a male laborer and his wife at harvest time was reported to be 35 s., well more than double family earnings during a typical summer week.

[46] This conclusion is supported by testimony given by local officials who appeared before the numerous Parliamentary committees set up between 1816 and 1834 to investigate the depressed rural sector. For instance, James Comely from Hampshire testified before the 1833 Select Committee on Agriculture that while "every hand that can be got is employed" at haying time and harvest, laborers were "burthensome to the parish . . . from Christmas till May, when there is little out-of-door work in the fields" (Parl. Papers, 1833, V, p. 187). Earl Stanhope, appearing before a House of Lords committee in 1831, stated that "some [agricultural] labourers must . . . [be] out of employ during the winter months," but concluded that "in those districts which are entirely agricultural, I do not believe that there is a greater number of persons than could be profitably employed, or than are actually requisite, taking the average of the year" (Parl. Papers, 1831, VIII, p. 212).

laborers are lumped together with all other relief payments in most account books, some parishes kept separate accounts of relief payments to unemployed laborers. For example, a weekly account of "surplus labourers' payments" survives for Ampthill, Bedford, for the period April 1826 to March 1830 (B.R.O., P. 30/12/10-12). Quarterly expenditures on relief to unemployed laborers, and the average number of laborers receiving relief payments in summer and winter, are given in Table 4. Ampthill's laborers were fully employed every harvest; the number of weeks when no laborers received relief varied from 4 during the summer of 1826 to 13 during the summers of 1827 and 1828. The situation was markedly different during the winter months. For the 3-month period from December 1828 through February 1829, an average of 27.3 laborers were relieved each week, 19.4 of whom were relieved for at least 5 of the 6 working days of the week. Unemployment was also a problem during the fall and spring. Thus, while Ampthill experienced full employment throughout the summer, it was plagued by surplus labor for three-quarters of the year.

Besides the evidence on seasonality, two other facets of agriculture are revealed by the Ampthill data: the amount of surplus labor varied from year to year (as can be seen from the levels of winter unemployment); and the time of peak labor demand varied from year to year. Looking at the 4 years for which data is available, the period of full employment ended the last week in August in 1828 and 1829, but ended by mid-August in 1826, and extended 2 weeks into September in 1827. Full

TABLE 4
Quarterly Expenditures on Surplus Laborers, Ampthill Parish

Time period	£	s.	d	Ave. No unemp. per week
June 4–Sept. 2, 1826	14	3	9.5	6.0
Sept. 3–Dec. 2	27	7	10.5	
Dec. 3–Mar. 3, 1827	68	10	2	18.5
Mar. 4–June 2	36	6	8.5	
June 3–Sept. 1	2	2	5	0.8
Sept. 2–Dec. 1	30	18	5.5	
Dec. 2–Mar. 1, 1828	48	5	6	13.1
Mar. 2–May 31	32	4	8	
June 1–Aug. 30	0	0	0	0.0
Aug. 31–Nov. 29	58	17	3.5	
Nov. 30–Feb. 28, 1829	101	5	3	27.3
Mar. 1–May 30	17	19	7	
May 31–Aug. 29	13	12	9	3.9
Aug. 30–Nov. 28	33	6	2	
Nov. 29–Feb. 27, 1830	75	4	2	19.5

employment existed throughout July and August in 1827 and 1828. In 1826, however, during 2 weeks in July, 8 and 7 unemployed workers received relief, 4 and 2 for the entire week. During the week ending July 18, 1829, 13 workers received relief, 8 for the entire week.

The Ampthill data illustrate the extent to which the time of peak labor demand, and the quantity of labor demanded, was determined by the weather. Further evidence of the impact weather had on harvest operations can be seen in data for a Gloucester farm for the years 1830–1865 (Jones, 1964, pp. 62–63). The length of harvest varied from 23 to 71 days (the average was 34.9 days), while the beginning of harvest varied from July 27 to September 6. More recently, Bardhan (1980) concluded that the uncertainty created by weather dependence increased farmers' incentives to enter into implicit contracts with laborers to ensure "a dependable supply of labor at the right time" (p. 93).

The extent of seasonality in the demand for agricultural labor was significantly different in the pasture farming West and extreme North than in the South and East. Snell (1981) found that "employment was spread comparatively evenly over the year" for both males and females in pasture farming areas (p. 423; see also Jones, 1964, p. 64). This relative absence of seasonality must have had a significant impact on the form of labor contracts adopted in the West and North. If the major function of outdoor relief was the provision of UI benefits to seasonally unemployed laborers, we should find that Speenhamland policies were much more widespread in grain-producing areas than in pasture farming areas. Evidence that this was indeed the case is given in Section IV.

IV. AN ECONOMIC MODEL OF THE RURAL LABOR MARKET

Were implicit labor contracts containing layoffs and unemployment insurance (in the form of outdoor relief) an efficient method for dealing with the economic environment that existed in agricultural areas during the years 1780 to 1834? In order to answer this question, we must compare such contracts with the alternative contracts available to rural parishes for ensuring the existence of an adequate peak season labor force. In this section, we use a simple economic model to determine the conditions under which it was efficient for parishes to adopt labor contracts containing outdoor relief provisions.

Farmers anxious to secure a resident labor force equal to the amount of labor required at peak times had to provide workers with a level of utility at least as large as that which they could have obtained outside the parish. We assume that the rural laborer's "opportunity income" was given by the income of unskilled laborers in the urban sector. In order to prevent resident laborers from migrating to urban areas, farmers had to offer them an explicit or implicit contract which yielded an expected utility equal to the expected utility of urban unskilled workers minus the

cost of migration.[47] These contracts differed widely across parishes; the exact form which the contract took in a parish depended on the parish's economic and political environment. While all contracts between farmers and laborers included wage labor in agriculture during peak seasons, they differed in their provision of income for laborers during slack seasons. Given the decline of cottage industry, the following four methods for providing laborers with an annual level of utility as large as that of urban unskilled workers (and combinations of these methods) exhaust the feasible set open to farmers:

(1) Year-long labor contracts, with the wage rate either constant for the year or varying with demand, so long as expected utility was at least as high as the necessary minimum level.

(2) Wage rates during peak periods high enough to sustain a laborer's family at the minimum level of expected utility for the entire year.

(3) Some form of unemployment insurance scheme to provide income to laborers who were unemployed during slack seasons, which could combine with wage labor in agriculture during peak seasons to provide all laborers with an expected utility at least as high as that of urban unskilled workers.

(4) Some form of allotment scheme, in which the parish provided land for agricultural laborers on which to grow enough food to be able to reach the minimum level of utility despite slack season unemployment.[48]

Alternatives 3 and 4 differ from 1 and 2 in that workers do not have to rely solely on wage labor in agriculture as their source of income. Also, alternatives 1 and 2 are policies under which the farmers who

[47] During this period migration was hindered by the Settlement Laws, which gave parishes the power to "order the removal back to their parish of settlement" any nonsettled persons who applied for relief. The effect of this law, from the standpoint of rural laborers, was to reduce the expected utility of jobs in the urban sector, and hence to slow down the rate of migration. However, the quantitative impact of the Settlement Laws can easily be exaggerated. Redford (1964) maintained that manufacturers were generally "only too eager to get workmen, . . . [and thus] there was no strong reason why the town authorities should be anxious to check immigration by a harsh use of their power of poor removal" (p. 92; see also Eden, 1797, I, pp. 296–299). Available evidence on removals from manufacturing towns suggests that such places followed selective removal policies, and that the threat of removal had only a small impact on the rural–urban migration of able-bodied laborers (Boyer, 1982, pp. 267–281).

[48] Parliament passed laws in 1819 and 1831 empowering parishes to purchase land and rent it, at below market rates, "to any poor and industrious inhabitants . . . to be occupied and cultivated on their own account." (Quoted in Nicholls, 1898, II, p. 202.) The allotments were meant to be just large enough to occupy "a labourer and his family, during their spare hours"; the optimal size was assumed to be between one-sixteenth and one-quarter of an acre. (See the discussion of allotments in the 1834 Poor Law Report, pp. 181–194.) However, the responses to question 20 of the Rural Queries, which concerned the renting of allotments, suggest that the majority of parishes did not adopt allotment schemes. This supports my hypothesis that contracts containing relief payments to seasonally unemployed workers dominated contracts containing allotments.

employ wage laborers pay the entire cost required to keep the laborers from leaving the parish. Under 3 and 4, part of the cost of maintaining workers during the slack season is borne by parishioners who do not hire agricultural labor.[49]

Alternative 4 represented the only policy for dealing with the seasonal demand for labor that gave rural workers employment other than wage labor in agriculture. We have seen, however, that the rise in land values which led to the enclosure movement also made farmers less willing to provide cottagers with allotments. The substitution of poor relief for rights to land which occurred throughout the South of England in the late 18th century is evidence that grain-producing farmers found it cheaper to include relief payments rather than allotments in their implicit contracts with laborers. Therefore, we can eliminate alternative 4 from further consideration.

I contend that the major function of Speenhamland policies in grain-producing areas was the provision of unemployment insurance to workers unneeded during slack seasons. In order to demonstrate that outdoor relief was part of the optimal feasible policy for dealing with seasonal fluctuations in labor requirements, it must be shown that an implicit contract between farmers and laborers that contained an unemployment insurance provision dominated all contracts in which the laborers' sole source of income was wage labor in agriculture.

We can compare the available contract alternatives using a simple one-period model of profit maximization by farmers which takes into account seasonal fluctuations in labor requirements. For simplicity, we will assume that there are two seasons of equal length, which we label peak and slack, and that there is only one farmer in the parish who negotiates a labor contract with the number of workers he expects to require in the peak season, n_p. The farm's production function is assumed to depend only on labor inputs and is denoted $f(n_p) + g(n_s)$, where $f(\cdot)$ is the peak season production function and $g(\cdot)$ is the slack season production function.[50] Both $f(\cdot)$ and $g(\cdot)$ are differentiable, strictly increasing, and strictly

[49] Private allotment schemes were sometimes established between individual farmers and their laborers. If farmers rented allotments to laborers for less than the market price of land, in lieu of poor relief, they would have borne the entire cost of maintaining agricultural laborers, as in (1) and (2). It is not possible to determine whether parish or private allotment schemes were more extensive during this period. However, parish allotment schemes were clearly less expensive to labor-hiring farmers than private schemes which they initiated. In parishes where labor-hiring farmers were politically dominant, therefore, one would expect to find that existing allotment schemes were financed by the parish.

[50] The choice of functional form for the production function was made somewhat arbitrarily. The additive form adopted is attractive because of its simplicity. The development literature has little to say on models of agricultural production given seasonal shifts in the demand for labor. Bardhan (1979) used a multiplicative functional form, $f(n_p)g(n_s)$. Others have argued that slack season production serves merely as an intermediate output which inputs

concave. We assume that $f(n_i) > g(n_i)$ and $f'(n_i) > g'(n_i)$ for all i. Graphically, these two assumptions mean the peak season production function lies above and has a steeper slope than the slack season production function for any level of labor input, n. The assumptions concerning the production function further allow us to presume that $n_p \geq n_s$, the amount of labor employed during the slack season is at most as large as the amount of labor employed during the peak season.

The farmer wants to maximize profit subject to the constraint that any contract offered to workers must yield an expected utility large enough to keep workers from leaving the parish. This necessary minimum expected utility is assumed to be equal to the expected utility of an unskilled worker's job in the urban sector, U^*, minus the cost of migration to the urban sector, C. The worker's utility is assumed to be a function of the wage rate, w (or its cereal equivalent), and the disutility of work, d. The utility function $U(w - d)$ is assumed to be differentiable, strictly increasing in the wage rate and decreasing in d, and concave. We assume that the length of the working day is fixed across seasons, and that agricultural laborers worked harder during peak seasons than slack seasons, i.e., that $d_p > d_s$.[51] The disutility of work associated with being on poor relief varied across parishes. In parishes where relief recipients were not forced to do parish work, there was no disutility associated with being unemployed. In parishes where relief recipients had to perform daily tasks in return for their relief, there was a positive disutility associated with being unemployed. We assume that the magnitude of this disutility, d_u, was at most as large as that of the disutility of work during the slack season, i.e., $0 \leq d_u \leq d_s$.[52]

Our parish has the option of adopting an outdoor relief policy that enables each unemployed laborer with a settlement in the parish to collect an amount b per week.[53] We assume that the size of this UI payment is a choice variable of the farmer. This assumption follows from our belief that labor-hiring farmers dominated the administrative affairs of most rural parishes during the Speenhamland era, and thus were able to

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into the peak season production function, and hence that the correct functional form is $f(n_p, g(n_s))$. It can be shown, however, that the choice of functional form does not substantially alter the model's results concerning the choice of an optimal labor contract.

[51] Our assumption concerning the length of the working day is made in order to simplify the mathematics of the model. It is shown in Boyer (1982) that the removal of the fixed-hours constraint leads merely to a change in degree of the model's results.

[52] One of the major recommendations of the 1834 Poor Law Report was that parishes should increase the disutility associated with being unemployed, either through the adoption of make-work projects, or through the use of workhouses (p. 262).

[53] A laborer was entitled to relief only in his parish of settlement. This was usually the parish in which he was born, although a laborer could acquire a settlement in another parish by living there for a specified number of years.

set the size of the weekly UI payment at its profit-maximizing level.[54] To a large extent, this domination was a result of "the principle of weighting the right to vote according to the amount of property occupied," introduced by Gilbert's Act in 1782, and extended by the 1818 Parish Vestry Act (Brundage, 1978, pp. 7, 10).[55]

The UI payments were financed by a tax (poor rate) levied on all parishioners whose annual rateable value exceeded some minimum level—generally £5. The size of each ratepayer's contribution to the UI fund was determined in most parishes by "the annual value of lands and tenements occupied" (Cannan, 1912, p. 80). Family farmers, shopkeepers, and tradespeople contributed to the fund along with labor-hiring farmers. Thus, farmers who hired (and laid off) agricultural laborers paid only a proportion $e(0 < e \leqslant 1)$ of the total UI payments. The value of e, the farmers' experience rating factor, was determined by the distribution of landholdings within the parish, and hence is exogenous to the model.[56] A parish that consisted entirely of labor-hiring farmers and agricultural laborers (who did not contribute to the poor rate) would have a value of e equal to one, while a parish that contained family farmers and tradespeople would have a value of e less than one. So long as e was less than unity, labor-hiring farmers were being subsidized by the parish, as they did not pay the entire cost required to keep their workers from leaving the parish. Using current jargon, we would say that the farmers were not fully experience rated.

In terms of our model, the farmer's problem can be written as follows:

$$\underset{(n_p,n_s,w_p,w_s,b)}{\text{Max}} \quad P[f(n_p) + g(n_s)] - w_p n_p - w_s n_s - eb[n_p - n_s]$$

[54] Of course, even if the size of the UI payment is not a choice variable, profit-maximizing farmers may still prefer labor contracts containing layoffs and UI payments to alternative labor contracts. This will be the case so long as the exogenously determined value for b is relatively close to the "optimal UI payment" b^* (chosen by the profit-maximizing farmer).

[55] The Parish Vestry Act set up the following scale for voting: persons "rated at less than £50, are to have one vote, and 'no more'; persons . . . rated at £50 and upwards, are to be entitled to one vote for every £25 of assessment, up to the limit of 6 votes . . ." (Nicholls, 1898, II, p. 180).

[56] I have not been able to determine the typical value for e in agricultural areas. In order to estimate the value of e, one would need the tax rolls for a sample of agricultural parishes. I was able to locate such information only for Terling, Essex. The "lands and tenements" of Terling had a rateable value of £1968 as of March 23, 1801. Persons whose property was valued at less than £20 paid 11.3% of the total assessment; persons whose property was valued at less than £50 paid 32.8% of the total assessment (E.R.O. D/P 299/12/4). Thus, I would estimate that labor-hiring farmers paid somewhere between 67.2 and 88.7% of the total poor rate.

subject to

$$U(w_p - d_p) + U(w_s - d_s)n_s/n_p + U(b - d_u)(1 - (n_s/n_p)) \geq U^* - C - H$$

where P is the price of output (grain), n_s/n_p is the probability that any given worker will be employed in the slack season, and H refers to income obtained from employment in cottage industry.[57]

The farmer's problem is solved in the Appendix. From first-order conditions (1), (2) and (5), we see that the "optimal UI payment" is determined by

$$U_b(b^* - d_u)/e = U_w(w_p^* - d_p) = U_w(w_s^* - d_s). \tag{9}$$

In order to establish that a contract containing a UI provision and seasonal unemployment dominated the alternative labor contracts, it is necessary to show that a profit-maximizing farmer would want to lay off workers during the slack season, i.e., that $n_s^* < n_p^*$. From Eq. (8), it can be determined that layoffs will occur if

$$P'_g(n_p) + eb < w_s - z_s \tag{10}$$

where $z_s = [U(w_s - d_s) - U(b - d_u)]/U_w(w_s - d_s)$, the marginal benefit to a worker of being employed rather than unemployed in the slack season. The left-hand side of the inequality represents the gain to the farmer from hiring the last worker; namely, the worker's value of marginal product (VMP), plus the reduction of eb from the farmer's payment to the UI fund. The farmer will lay off workers during the slack season if his benefit from employing the last worker is less than the net wage rate of workers employed in the slack season.[58] The existence of layoffs during the slack season therefore depends heavily on the VMP of labor at full employment and on the value of e, the farmer's experience rating.

We determined in Section III that seasonal fluctuations in the demand for labor were significantly more pronounced in the grain-producing South

[57] The larger a family's income obtained from cottage industry, the less compensation the family has to obtain from agricultural labor and/or poor relief, in order to remain in the parish. I have included H on the right-hand side of the utility constraint because income from cottage industry is not a choice variable of the farmer.

[58] In effect, z_s is a transfer payment from workers employed in the slack season to workers unemployed in the slack season. Thus $w_s - z_s$ represents the net wage of workers employed in the slack season. Another way to formulate the condition determining layoffs is as follows. The farmer should lay off workers in the slack season if: $P[f'(n_p) + g'(n_p)] < w_p + w_s + (z_p - z_s)$, where $z_p - z_s$ can be interpreted as a premium paid to workers to compensate them for a positive probability of being unemployed in winter. Thus, $z_p - z_s$ roughly corresponds to the "marginal underemployment premium," $\phi(w)$, in Azariadis (1975, p. 1190; see also Burdett and Hool, 1979, p. 8).

and East of England than in the pasture farming West and North. It follows that the VMP of labor at full employment during the slack season must have been significantly higher in pasture farming areas than in grain-producing areas. Indeed, our data on the slack season labor requirements of grain-producing farms suggest that the marginal product of labor at full employment must have been close to zero in winter. Combining the information on regional differences in the extent of seasonality with our model's necessary condition for layoffs to occur, we are led to conclude that grain-producing parishes satisfied the condition but pastoral farming parishes did not. Therefore, labor contracts containing layoffs and outdoor relief for unemployed laborers dominated year-long labor contracts in the South and East, while year-long contracts were dominant in the West and North.

Our hypothesis is supported by evidence on regional variations in the length of labor contracts and regional variations in per capita poor relief expenditures. Explicit year-long labor contracts remained widespread in pasture farming areas throughout the Speenhamland era, while weekly (or even daily) contracts became predominant in the South and East during the last few decades of the 18th century (Hasbach, 1908, pp. 176–178, 262–263, 329; Hobsbawm and Rudé, 1975, pp. 40, 43–44). The absence of year-long contracts in grain-producing areas suggests that farmers were indeed laying off laborers during certain seasons. There is also a positive correlation, at the county level of aggregation, between per capita poor relief expenditure and the importance of grain production.[59] If we follow Caird's (1852) division of England into "corn and grazing counties" (except to shift Westmoreland, Durham, and the North Riding from corn to grazing), we find that, in 1831, per capita poor relief expenditures averaged 14.70 s. in grain-producing counties, as opposed to 8.85 s. in pasture farming counties.[60] For 1821, the averages are 16.13 s. per capita in grain-producing counties, and 11.48 s. per capita in pasture farming counties.[61]

[59] This correlation was first pointed out by Blaug (1963), who noted a "striking coincidence . . . between the spread of Speenhamland and the production of wheat" (p. 171).

[60] I have also grouped counties according to the proportion of farm land under grain crops, using data from the *Returns Relating to the Acreage of Land under Crops* for 1866, the first year in which such data was available (Parl. Papers, 1866, LX, pp. 6–9). There is a strong correlation between per capita relief expenditures and the percentage of farm land under grain crops. In the 16 counties with more than 35% of their land under grain crops, per capita poor relief expenditures averaged 14.79 s. In the 15 counties with between 25 and 35% of their farm land under grain crops, per capita relief expenditures averaged 10.44 s. Finally, in the 10 counties with less than 25% of their farm land planted in grain, per capita relief expenditures averaged 6.52 s.

[61] The relief expenditure data used in these calculations, and the similar calculations on page 161, cover all forms of parish poor relief, not just outdoor relief to able-bodied laborers. However, there is no reason to believe that the differential in per capita relief expenditures between "corn and grazing counties" would decline if the calculations were performed using only data on relief expenditures for able-bodied laborers.

It appears that, on average, labor-hiring farmers responded in an efficient manner to the new economic environment of the early 19th century. In areas where contracts containing layoffs and outdoor relief represented an efficient method for securing a peak season labor force, poor relief expenditures were relatively high, and workers tended to be hired by the week.[62] On the other hand, poor relief expenditures were relatively low, and explicit year-long contracts were widespread, in areas where contracts containing Speenhamland policies were not efficient.

Our conclusion that the adoption of Speenhamland policies represented the least cost method for dealing with pronounced seasonal fluctuations in the demand for labor raises one last question. Why did Parliament disallow the use of outdoor relief in 1834? While this question will not be answered here, I will point out two important facts that have often been ignored in the literature. First, it is not at all clear that farmers from grain-producing areas were in favor of the repeal of the Old Poor Law. Polanyi (1944) cites several comments by Assistant Poor Law Commissioners suggesting that "the farming community was stolidly in favor of retaining Speenhamland" (pp. 298–299).[63] Second, there is evidence that grain-producing parishes continued to use outdoor relief after 1834, in spite of the Poor Law Amendment Act. Digby (1975) concluded that the payment of outdoor relief to seasonally unemployed workers continued throughout the 1830s and 1840s in East Anglia, Hertford, and Bedford (pp. 70–73; see also Caird, 1852, p. 515). This hypothesis is supported by county level data on per capita relief expenditures. Again following Caird's division of England, we find that per capita poor relief expenditures, in the year ending March 25, 1847, averaged 9.13 s. in grain-producing counties, and 6.11 s. in pasture farming counties. In other words, arable counties continued to spend approximately 50% more on poor relief than nonarable counties, 13 years after the Old Poor Law was abolished. The problem of seasonality still existed in the South and East throughout the 1840s, and parishes continued to respond to it by adopting implicit labor contracts that included slack season layoffs and outdoor relief for unemployed laborers.

[62] I am not claiming that the use of outdoor relief was efficient from society's standpoint. If the adopton of outdoor relief hindered the migration of labor from agriculture to labor-scarce urban industrial areas, then it was not socially efficient. However, from the view of politically dominant labor-hiring farmers, it was efficient because it represented the lowest cost method for securing an adequate peak season labor force.

[63] For instance, Assistant Commissioner Cowell wrote that "without the allowance system the farmers could not possibly continue to cultivate the soil," and Commissioner Mann commented that "the farmers like that their men should be paid from the poor-book." (Quoted in Polanyi, 1944, p. 299.)

V. CONCLUDING REMARKS

Most of the literature on the Old Poor Law has focused on the economic effects of the Speenhamland system rather than on the reasons for Speenhamland's adoption and persistence. Given that the (relatively) recent studies by Mark Blaug and Daniel Baugh presented convincing evidence that the adoption of Speenhamland policies did not have disastrous consequences on the rural labor market, it is high time that Poor Law research shift gears and turn its attention to the economic role of outdoor relief in agricultural parishes. This paper has been an attempt to do just that. I have used a tool of modern labor economics, implicit contracts theory, to demonstrate that the adoption of Speenhamland policies was a rational (i.e., profit-maximizing) response by grain-producing farmers to changes in the economic environment of late 18th century Britain. Our model also provides an economic explanation for the regional adoption of Speenhamland: contracts containing Speenhamland policies were dominant only in areas where the demand for labor varied significantly over the crop cycle. In areas where seasonality was not pronounced, such as the pasture farming West of England, full employment contracts dominated Speenhamland contracts.

While this paper has focused on the response of rural English parishes to the breakdown of their preindustrial economy, it has broader implications. Sen has suggested that one of the stylized facts of economic development is the existence of "an intermediate phase of development in which the dependence [of rural laborers] on the market increases sharply (given the breakdown of the traditional peasant economy) and in which guaranteed entitlements in the form of social security benefits have yet to emerge" (Sen, 1977, p. 56). It would appear that the method for analyzing the English Poor Law developed in this paper has a promising future in the study of rural labor contracts in other countries during their period of industrialization. We suspect that the result of such research will be a further confirmation of the existence of rational economic behavior in the rural sectors of industrializing countries.

APPENDIX

The farmer's problem developed in Section IV can be written

$$\underset{(n_p, n_s, w_p, w_s, b)}{\text{Max}} \quad P[f(n_p) + g(n_s)] - w_p n_p - w_s n_s - eb(n_p - n_s)$$

subject to:

$$U(w_p - d_p) + U(w_s - d_s)n_s/n_p + U(b - d_u)(1 - (n_s/n_p)) \geq U^* - C - H$$

where

P = output price
w_p, w_s = weekly wage rate in peak and slack seasons
d_p, d_s = disutility of work in peak and slack seasons
n_p, n_s = number of laborers employed in peak and slack seasons
$U(w - d)$ = worker's utility if employed
$U(b - d_u)$ = worker's utility if unemployed
n_s/n_p = probability of worker being employed in slack season
b = weekly unemployment insurance payment
e = proportion of UI payment paid by employer
U^* = worker's utility in urban unskilled job
C = cost of migration to urban areas
H = income obtained from employment in cottage industry.

The above optimization problem yields the following Lagrangian:

$$L = P[f(n_p) + g(n_s)] - w_p n_p - w_s n_s - eb(n_p - n_s) + \mu[U(w_p - d_p) + U(w_s - d_s)(n_s/n_p) + U(b - d_u)(1 - (n_s/n_p)) - (U^* - C - H)].$$

The problem's first-order conditions are

$$L_{w_p} = -n_p + \mu U_w(w_p - d_p) \leqslant 0; \quad w_p L_{w_p} = 0 \tag{1}$$

$$L_{w_s} = -n_s + \mu U_w(w_s - d_s)(n_s/n_p) \leqslant 0; \quad w_s L_{w_s} = 0 \tag{2}$$

$$L_{n_p} = Pf'(n_p) - w_p - eb + \mu(n_s/n_p^2)[-U(w_s - d_s) + U(b - d_u)] \leqslant 0; \quad n_p L_{n_p} = 0 \tag{3}$$

$$L_{n_s} = Pg'(n_s) - w_s + eb + \mu(1/n_p)[U(w_s - d_s) - U(b - d_u)] \leqslant 0; \quad n_s L_{n_s} = 0 \tag{4}$$

$$L_b = -e(n_p - n_s) + \mu U_b(b - d_u)(1 - (n_s/n_p)) \leqslant 0; \quad bL_b = 0 \tag{5}$$

$$L_\mu = U(w_p - d_p) + U(w_s - d_s)(n_s/n_p) + U(b - d_u)(1 - (n_s/n_p)) - (U^* - C - H) \geqslant 0; \quad \mu L_\mu = 0 \tag{6}$$

We assume the above problem has an interior solution (i.e., w_p, w_s, n_p, $n_s > 0$). Substitution from first-order conditions (1) and (2) into (3) and (4) enables us to determine the optimal wage rates w_p^* and w_s^*.

$$w_p^* = Pf'(n_p) - eb^* - (n_s/n_p)z_p \tag{7}$$

$$w_s^* = Pg'(n_s) + eb^* + z_s \tag{8}$$

where $z = [U(w - d) - U(b - d_u)]/U_w(w - d)$, the marginal benefit to a worker of being employed rather than unemployed. Assuming that z_p and z_s are positive in value, Eqs. (7) and (8) show that the peak season wage rate is less than labor's value of marginal product during the peak season, and the slack season wage rate is greater than labor's value of marginal product during the slack season. Even if z_s is negative, the slack season wage rate will be greater than labor's value of marginal product so long as $eb^* > z_s$. From first-order conditions (1), (2), and (5), it follows that the "optimal UI payment" b^* is determined by:

$$U_b(b^* - d_u)/e = U_w(w_p^* - d_p) = U_w(w_s^* - d_s). \tag{9}$$

The condition under which layoffs will occur can be determined from Eq. (8). The profit-maximizing farmer will want to employ all resident laborers during the slack season if

$$Pg'(n_p) - w_s + eb + z_s > 0$$

or, what amounts to the same thing, layoffs will occur if

$$Pg'(n_p) - w_s + eb + z_s < 0.$$

This can be rewritten as

$$Pg'(n_p) + eb < w_s - z_s. \tag{10}$$

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