Discussion Papers In Economics And Business

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Abstract

English agriculture in the first half of the nineteenth century was characterised by the 'high-wage north and low-wage south' pattern. The serious problem of rural unemployment in southern England is also widely acknowledged for this period. The question then remains: Why did agricultural labourers stay in the south? Why did they not move to the industrial north where more job opportunities were available? In answer to this question, I propose that; the wage rate in the south was high enough, if income-in-kind is taken into consideration, and that in-kind income, especially in the form of drink allowance, was more prevalent in the south. This paper also attempts to estimate regional unemployment rates directly. While unemployment in the south has been well recognised, the perceptions are largely based on indirect evidence such as per capita poor law expenditure, or descriptive information derived from contemporary writings. However, poor law expenditure is likely to have been affected by the actual practice of poor relief in the local context, and it is almost impossible to use contemporary remarks for systematic regional comparison. Therefore, I attempt to estimate unemployment rates more directly, in percentage terms. The second aim of this paper is to estimate regional real wages inclusive of income-in-kind. The Rural Query of the 1834 Poor Law Report, the main source for this paper, asked the rate of male wages with or without beer, cider, or other victuals. I used this information to estimate real wages. Thirdly, I estimate female wages and consider job opportunities for women, to calculate annual family income in a regional perspective.

Keywords: the Industrial Revolution; income-in-kind; food/drink allowances; regional wage gaps; migration.
JEL Classification: N13, N33, N53.

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* Earlier versions of this paper were presented at the Cambridge Group Seminar, the annual conference of the Economic History Society, and Summer Symposium of the Socio-economic History Society of Japan. The author would like to thank the participants for their helpful comments. The usual disclaimer applies.
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English agriculture in the first half of the nineteenth century was characterized by a 'high-wage north and low-wage south' pattern. In 1852, a contemporary commentator, James Caird, drew a famous map showing the north-south wage differences and the east-west agricultural ones.[1] Furthermore, rural unemployment was a serious problem in South England.[2] Thus, it is of interest why agricultural labourers stayed in the south, rather than moving to the high-wage north.

In order to answer this question, this study attempts to quantify regional real wages and unemployment, using two directions. One is includes income-in-kind in real wage estimates, and the other determines the unemployment level in percentage terms. The first 'modern' census, which allows historians to investigate England's economy *nationally* and *regionally*, was available only after 1841; furthermore, the first agricultural census was conducted in the 1860s. Thus, previous studies on regional diversity have tended to either focus on a farms or start from 1841. The former is not necessarily representative, and the latter cannot explore the classical Industrial Revolution period. This study uses the 1834 Poor Law Report, a nationwide survey covering over 1,000 parishes that asked 53 questions on parishioners' living conditions to examine the regional diversity of rural workers. Thus, the study also intends to consider the entire country and provide a regionally detailed analysis on the pre-1841 period.

Estimating people's past earnings is a central issue of economic history, and great efforts have been devoted to constructing real wage series. Partly because of the limitation of source materials, most early works attempted to calculate adult male wages; when discussing male wages, attention has been directed only to monetised wages.[3] However, the immobility of southern agricultural labourers must have been regulated by decision making within the household. They considered not only male cash earnings but also all other supplementary sources such as in-kind

[1] Caird, *English Agriculture*, frontispiece, which is reproduced in Figure 2 below. Recent historians have also followed this image. See, for instance, Hunt (1973, 1986), Horrell and Humphries (1992), Boyer (1997), Boyer and Hatton (1997), and Shaw-Taylor (2005).

[2] See Gash (1935), Pollard (1978), and Snell (1985).

[3] See, for instance, Flinn (1974, 1976); Gourvish (1976); Lindert and Williamson (1983, 1985); Crafts (1985a, b); and Feinstein (1998). Clark (2001) estimates an annual wage series of male farm workers.

income, poor law allowances and customary rights, regional unemployment patterns for breadwinners, and job opportunities for wives and children.

Recent developments have been made in this area. For example, Horrell and Humphries (1995) included contributions by female and child labour in family income estimates, and King and Temin (2001) showed that gleaning as customary rights contributed approximately 5 to 10 per cent of family income in the 1830s.[4] Humphries (1990) estimated that the net annual profit of keeping a cow around 1800 was between three and seven pounds.[5] Lindert and Williamson (1983) and Feinstein (1998) incorporated unemployment and short-term work into their national wage series despite that more attention was paid to the trend than to quantification.[6]

Relatively neglected in the debate, however, is regional variation of these factors. Important exceptions are E. H. Hunt's works (Hunt (1973) and Hunt (1986)). His serious effort to collect spatial and chronological wage data has made it possible to draw wage maps for the period between 1760 and 1914. Nevertheless, the former only addresses the period 1850-1914, and the latter does not pay much attention to in-kind income. Clark (2001) also discussed regional variations in farm wages, but regional differences in unemployment level have remained ignored.

Regionally different practices for in-kind allowances—especially survival of live-in servants in the north, whose income consisted almost entirely of in-kind provision—has been given more attention. However, measuring their regional importance is not an easy task. Even when estimates were conducted, the in-kind income of agricultural labourers in the form of beer or cider has been largely understated. Horrell and Humphries (1992) noted that 'in general such payments

[4] King and Temmin (2001), Table 1, p. 463.

[5] Humphries (1990), Table 1, p. 26.

[6] Regarding agricultural unemployment, Lindert and Williamson (1983) used estimated unemployment rates for engineering, metals, and shipbuilding sectors based on union records for the latter half of the nineteenth century, to infer the trend of agricultural unemployment over the three decades between 1820 and 1850 (pp. 12-16). Feinstein (1998) assumed that the excess of winter unemployment over the prevailing summer rate was 10 per cent (based on Boyer (1990) showing actual unemployment as 17 per cent) and applied this figure for the five months from November to March in each year between 1815 and 1850. It was assumed that the additional higher rates during the winter months gradually disappeared by 1870.

constituted a very small percentage of family incomes (less than 1 percent)'.[7] Similarly, Clark (2001)'s national time-series data of male agricultural wage, excluded cases with beer from his dataset. Based on the 1834 Poor Law Report, he asserted the followings:

> [W]here beer was provided it was worth about 10 per cent of wages in winter and summer, and less than this in harvest. Thus changes in the degree of beer provision will have some effect on wages, but not an especially dramatic one.[8]

The results of our analysis, however, show a somewhat different view. Most importantly, chronological changes in the pattern of food/drink allowances differed by place and had a dramatic effect on regional wages.

The remainder of this paper is structured as follows: Section I briefly explains the source material used. Section II offers new estimates of unemployment rates by region, and the traditional north-south gap of unemployment is reconfirmed. Section III offers a revision of the conventional wage pattern. It is argued that the inclusion of food/drink allowance into the calculation leads us to modify the traditional high-wage north and low-wage south pattern of farm wages. Section IV examines regional differences in female job opportunities. It is difficult to reconcile male real figures with evidence on job opportunities of women, because the north enjoyed more plentiful opportunities than the south did. This point is discussed in terms of agricultural practices and poor law administrations in section V, the conclusion.

I

Before delving into the detailed analysis, it is necessary to briefly explain the data sources used. The

[7] Horrell and Humphries (1992), footnote 12, p. 851. Humphries asserted the importance of other forms of income resources derived from common rights such as cowkeep, gathering firewood and peat from common land, and gleaning after harvest. See Humphries (1990).

[8] Clark (2001), p. 480. Although the samples are excluded for the national series, he shows the benchmark figures based on the 1834 report by converting beer into equivalent money wages (Table 2, p. 481).

main source of this paper is the Rural Query of the *1834 Poor Law Report*. According to Blaug (1964), the Royal Commission of Enquiry into the Poor Laws was appointed in 1832, and it is likely that England and Wales were divided into 26 districts. Each district was investigated by one assistant commissioner, who was supposed to visit as many parishes as he could. Although we do not know how many parishes were actually visited by the assistant commissioners, they sent out the Rural Query in mid-August 1832; most queries were returned by January next year. Responses were returned from approximately 1,200 parishes or places in England, covering roughly 10 per cent of parishes and approximately 20 per cent of the population.[9]

Figure 1 shows the geographical distribution of the observations. The number in each county shows how many parishes returned replies. Sussex was well represented, and Westmorland, West Riding, the East Anglian counties, Kent, and Hampshire had over 40 returns. On the other hand, there were less than 10 returns from Middlesex, Rutland, East Riding, Derbyshire, and Monmouthshire.

It is worth commenting on the unit of observation used in this study. Previous studies using the same source tend to summarize figures by county. For instance, Verdon (2002b) noted that the incidence of involvement of women and children in haymaking was observed more frequently in Middlesex than in Sussex because 50 per cent of parishes in Middlesex returned their involvement and 49 per cent of parishes in Sussex did.[10] However, there are only 2 observations in the former—that is one parish reported haymaking and the other did not—and 76 in the latter, so it is difficult to say that Middlesex people actually enjoyed more work in haymaking than those in Sussex did.

To avoid this problem, this study uses wider observation units. Figure 2 is the map proposed by James Caird in 1852.[11] The horizontal line divides England and Wales into the high-wage north and the low-wage south, and the vertical line divides the arable east and the pastoral

[9] Blaug (1964), p. 234.

[10] Verdon (2002b), Table 1, p. 313. Although the sample size of Middlesex shown in Figure 1 is three, one sample did not respond to Question 11 about female job opportunities.

[11] Caird (1852), frontispiece.

west. Following his classification, four regions—the high-wage rable North East, the high-wage pastoral North West, the low-wage arable South East, and the low-wage pastoral South West—are the main units of analysis.

The Rural Query asks 53 questions in addition to the population number and the expenditure on the poor. Among them, this study mainly uses answers to the following five questions:

> Question 6: 'Number of Labourers generally out of Employment, and how maintained in Summer and in Winter?'
>
> Question 8: 'Weekly Wages, with and without Beer or Cyder, in Summer and in Winter?'
>
> Question 10: 'What in the whole might an average Labourer, obtaining an average amount of employment, both in Day-wok and Piece-work, expect to earn in the year, including Harvest-work and the value of all his other advantages and means of living except Parish Relief?'
>
> Question 11: 'Have you any and what Employment for Women and Children?'
>
> Question 12: 'What can Women and Children under 16, earn per week, in Summer, in Winter and Harvest, and how employed?'[12]

While the source is well known and has been frequently mentioned by historians,[13] qualitative nature of these questions raises some difficulties for quantitative analysis. Moreover, the amount of information varies significantly according to location. The following are some examples on the wage levels at Great Faringdon (Berkshire) and Wootton (Oxfordshire).

> Summer, in the hay month, 12*s*. per week, including beer; in the harvest, from 12*s*. to 20*s*. per week. Winter, 8*s*. to 9*s*. per week, without beer.[14].

[12] There are three editions of questions, and wordings in each edition are slightly different from others. The questions of the third edition are presented here.

[13] See, for example, Boyer (1990), King (1991), and Verdon (2002a, b).

[14] BPP 1834, vol. xxx, p. 15a.

From 9*s*. to 12*s*.[15]

Concerning Great Faringdon, the statement contains information about (1) summer wages, (2) availability of in-kind allowance in summer (beer in this case), (3) wage rate during the harvest, (4) wage rate during winter, and (5) availability of in-kind allowance in winter. On the other hand, the description on Wootton is very simple. Therefore, great care is required for quantification. Concurrently, by carefully processing the information contained in the Rural Query, it is possible to present reasonable estimates concerning economic circumstances at the parish level that allow us to draw a national picture with regional details.

II

As previously mentioned, there was serious unemployment in the south after the Napoleonic War, but this perception has mainly been based on somewhat indirect evidence, such as expenditures on poor relief (which skyrocketed after the introduction of the Speenhamland system) and impressionistic commentaries by contemporaries. However, the Poor Law expenditure amount is likely to have been affected by the actual poor relief practice in the local context, and it is almost impossible to use contemporary remarks for a systematic regional comparison.

Figure 3 shows the weighted averages of the per capita Poor Law expenditure by county based on the Report. The map of geographical distribution mentioned previously shows that some counties have only a few parishes that produced information. Thus, we doubt the representativeness; even so, it is possible to find a broad trend: counties where the per capita expenditure exceeded 15 s. are all in the south and in the east. The heaviest burden is observed in Sussex, followed by East Anglia and the Midland counties.

This section substantiates this trend with a more direct indicator: the unemployment rate. The Rural Query of the 1834 Poor Law Report asks the ‘Number of Labourers generally out of

[15] BPP 1834, vol. xxx, p. 382a.

Employment, and how maintained in Summer and in Winter' (Question 6). As exemplified in the following examples, the information is descriptive and the amount of information varies by location.

> In Summer about 6, chiefly old and infirm Men, employed in repairing the Parish Roads; in Winter about 12 or 14 employed on the Parish Roads when out of work.[16]

> In summer very few willing and able-bodied men are ever out of employment. Some few drunkards and idle persons, whom no one is willing to employ, are put to less productive labour, such as stone-picking, and in part supported from the Poor's Rate.[17]

> In Summer, in general none out of employment. In Winter, none.[18]

In order to estimate parish unemployment rates, the following procedure was used.

1. The descriptions shown in Appendix are given a value of 0.
2. Information is classified as general, summer, winter, harvest, and spring.
3. If the number of unemployed is given using a range (*e.g.* '10 to 12'), a simple mean of the range is used.
4. If only one value is given, NA (not available) is used except for the case in which the value is a general description.
5. The following are used for two values:
    - if the values are for summer and winter, a simple mean of the two is adopted.
    - if they are for summer and harvest, NA is used.
    - if they are for summer and spring, NA is used.
    - if they are for winter and harvest, a weight of 48/52 is used for the unemployed in

[16] Iddesleigh, Devonshire, BPP 1834, vol. xxx, p. 129a.

[17] Witham, Essex, BPP 1834, vol. xxx, p. 190a.

[18] Dalton, Lancashire, BPP 1834, vol. xxx, p. 271a.

winter and 4/52 is used for the unemployed during the harvest.

6. Where three values are provided,
    - if the values are for summer, winter, and harvest (spring), the weight is 22/52 for summer, 26/52 for winter, and 4/52 for harvest (spring).
    - if they are for general, harvest, and spring, the weight is 44/52 for general,4/52 for harvest, and 4/52 for spring.
7. In some parishes, more than one report was made. In this case, a representing number for each report is calculated in accordance with these rules, and a simple mean of the figures is computed. If the amount of information differs in each report (*e.g.* there are two reports for Ford, Northumberland: one reports the number of unemployed workers in summer and the other contains figures for summer and winter), the report containing more information is adopted.
8. The denominator used to calculate the unemployment rate is the male population aged 20 and above in the 1831 census.[19]

Parish-level data are aggregated into Caird's four regions and not to counties, because some counties have few observations, as shown in Figure 1.

Table 1 shows the results. Unemployment was most serious in the south, and the rate was higher in South East England than in South West. In contrast, agricultural labourers in the north enjoyed almost full employment. This is consistent with the traditional view. In the 1830s, northern farmers had to compete with factory owners for unskilled labourers, which likely tightened the labour market in the north such that the unemployment rates remained low. In contrast, labour surplus prevailed in the south, mainly because the only prominent industrial town was London.[20] Furthermore, many rural textile industries, which were important sources of income for rural

[19] BPP, 1832, vols. xxx-xxxi.

[20] '…late eighteenth-century London had more steam engines with more horse power than Lancashire; mid nineteenth-century London remained by far the largest manufacturing city in the country' (Schwarz (1992), p. 1).

labouring families, had disappeared by the 1830s. According to Caird's or Hunt's assertion, agricultural labourers in the south, largely suffered from serious unemployment and low wages. However, whether they suffered from low wages is unknown.

III

(1) Evaluating income in kind in monetary terms

In order to explore the chronological changes, this section reviews another contemporary survey. *The State of the Poor* published by Sir Frederic Morton Eden in 1797 contains information similar to that available in the 1834 Poor Law Report. Eden's investigation was conducted in 1794 and 1795. Crop failure in these years, which caused steep increases in corn prices, led him to explore 134 perishes using 20 questions, such as parish areas, parish population, occupations of parishioners, and their earnings and expenditure.[21] The results of the exploration are assembled in Volume II, 'parochial reports'. Eden gathered information chiefly through asking local clergymen. When no such assistance was available, he himself visited the parish or sent 'a remarkably faithful and intelligent person; who has spent more than a year in travelling from place to place'.[22] Along with 99 family budgets, *the State of the Poor* contains general observation of wage levels in 134 parishes.

Neither *the State of the Poor* nor the 1834 Reports mentioned exact food/drink provision amounts in monetary terms but simply stated whether they exited, as shown in the followings examples:

> The common wages of labour, in husbandry, are, 1s. a day, without board.[23] (Dunstable, Bedfordshire)

> Common labourers receive 9s. a week, and beer; in hay harvest, 10s. a week, and beer; in corn

[21] However, the information about individual parishes was selective. Typically, only a few points were mentioned for each parish.

[22] Eden (1797), vol. I, p.ii.

[23] Eden (1797), vol. II, p. 1.

harvest, 2s. a day, and dinner.[24] (New Windsor, Berkshire)

The wages of labourers are, in harvest, 10d. 1s. and 14d. a day, with victuals; at other times of the year, 10d. a day, with victuals.[25] (Gilcrux, Cumberland)

In addition, of the 134 parishes surveyed, the number of parishes that provided common wage rates applicable throughout the year such as Dunstable was only 36. Most parishes such as New Windsor and Gilcrux reported some seasonal differences in wage levels. The former case is straightforward. A common wage of 1 s. a day in Dunstable is assumed to apply throughout the year. Constructing a dataset with the data provided in this manner may be more correct. However, to explicitly identify seasonal effects and to maximize the sample size, a regression analysis was conducted by assuming the following wage function.

$$WAGE = \alpha_1 + \alpha_2 PRINX + \alpha_3 SSUM + \alpha_4 SWIN + \alpha_5 SHAR + \alpha_6 SHAY + \alpha_7 VICDUM \qquad (1)$$

The variable WAGE is nominal wage rates described in the sources. PRINX is the price index proposed by Saito (1981). Following Arthur Young's proposition, Saito set up three price zones according to the distance from London.[26] The same price index is applied to all parishes in the zone, and the index takes a value of 100, 88, or 81. SSUM, SWIN, SHAR, and SHAY are season dummies with 'common' or 'general' wages as a reference for summer, winter, harvest, and hay harvest, respectively.[27] Thus, New Windsor and Gilcrux produce more than one observation. Gilcrux includes 10 d. per day in the dataset with no seasonal dummy and 1 s. a day (a simple mean

[24] Eden (1797), vol. II, p. 23.

[25] Eden, (1797), vol. II, p. 76.

[26] Saito (1981), pp. 640-1.

[27] Because the dataset from *the State of the Poor* contains very few data for hay harvest, I combined hay and harvest wages for 1795; furthermore, *SHAY* is applied only to the estimation for the 1830s.

of 10 d., 1 s., and 14 d.) for the harvest season (SHAR=1). VICDUM is a binary victual dummy: If the wage information includes beer, cider, or any other victuals, VICDUM takes a value of 1. Therefore, the coefficient α_7 becomes the estimated amount of victuals in monetary terms.

(2) Declining victuals and drinks: 1795 and 1832

The estimation results are as follows, where Equation 2 refers to the 1790s and Equation 3 to the 1830s.[28]

$$\begin{aligned} WAGE = {} & .255 + .103\ PRINX + .493\ SSUM - 1.903\ SWIN \\ & (.08) \quad (2.89)^{**} \quad (.70) \quad (-2.56)^{*} \\ & + 2.827\ SHAR - 2.408\ VICDUM \\ & (3.62)^{**} \quad (-4.06)^{**} \\ & \text{adjusted } R^2 = .253 \quad N=110. \end{aligned} \tag{2}$$

$$\begin{aligned} WAGE = {} & 5.916 + .050\ PRINX + 1.223\ SSUM - .412\ SWIN \\ & (9.11)^{**}\ (7.51)^{**} \quad (6.52)^{**} \quad (-2.20)^{*} \\ & + 5.025\ SHAR + 3.091\ SHAY - 1.565\ VICDUM \\ & (18.59)^{**} \quad (8.07)^{**} \quad (-13.45)^{**} \\ & \text{adjusted } R^2 = .286 \quad N=1,932 \end{aligned} \tag{3}$$

According to Equation 2, a labourer's wage increased by 0.493 s. during the summer, and it rose further by 2.827 s. during the harvest; however, wages dropped by 1.903 s. in winter. However, if food or drink was offered, the wage level was reduced by approximately 2.4 s. Similarly, estimated victuals in 1832 are estimated as 1.6 s., suggesting that agricultural labourers experienced great

[28] T values are in parentheses. '**' and '*' indicate significance at the 1 per cent and 5 per cent level, respectively.

reduction of food/drink allowance over the four decades. Ignoring seasonal differences and food/drink allowances, the nominal wage rates averaged 8.3 s. per week in 1795 and 11.0 s. per week in 1832. Thus, the importance of income-in-kind dropped from 28.9 per cent to 14.2 per cent.

It is somewhat surprising that income-in-kind accounted for approximately 30 per cent of farm workers' income at the end of the eighteenth century. As previously mentioned, Horrell and Humphries (1992) stated that income-in-kind contributed less than one per cent of family income, which seems low. Furthermore, the proportion of cash income changed considerably. Therefore, the assertion by Clark (2001) that the degree of beer provision did not have dramatic effects on wages is questionable.

Food/drink provision seems to have declined not only in monetary terms but also in its frequency. Table 2 shows the geographical distribution of the observations. The decline in the percentage of observations 'with victuals' is remarkable, from 62.7 per cent to 33.1 per cent, consistent with the conventional view of declining in-kind income during the period. In the sixth volume of *the Agrarian History of England and Wales*, Armstrong (1989) summarized the situation as '[I]n any case, with rising prices during the second half of the [eighteenth] century they [payments in kind] became more costly to provide in real term'.[29] Thus food or drink was offered less frequently to farm workers in 1832, and it may have been more modest when offered (*i.e.,* possibly drink, and not food).

(3) Regional differences

Table 2 provides insight on the geographical diversity of in-kind income, which seems to have been widespread in the South West England (*e.g.* Devonshire and Somersetshire). However, two problems must be considered. One is the distinction between food allowance and drinks, and the other is a re-tabulation of Table 2 by location instead of by frequency of observations.

It is likely that the cost of food allowance was much more expensive than drinks. Clark (2001) presents a case in a Cumberland estate in 1732, where 'the same person was paid both 9d. per

[29] Armstrong (1989), p. 720.

day and 4d. per day for threshing'.[30] By contrast, in the course of his farm wage estimation between 1670 and 1869, he used the 1834 Poor Law Report as a benchmark and converted beer allowance into money wage equivalents. The average difference between wages with and without beer in specific parishes in each season was used, and he calculated 1.94d. per day for winter, 2.13d. per day for summer, and 2.67d. per day for hay and harvest.[31] While the Cumberland worker received 5d. less than he did 100 years prior without a food allowance, beer allowance in 1832 was approximately half that even in the hay and harvest seasons. Following Clark's assumption of a six-day week, the current estimation (1.565 s. per week) equals 3.130d. per day, which is slightly higher than Clark's maximum figure mainly because food and drinks are not distinguished in Equations 2 and 3.

Separating beer allowance from food provision, the following is derived:

$$\begin{aligned} WAGE = {} & 6.877 + .040\ PRINX + 1.234\ SSUM - 0.405\ SWIN + 5.549\ SHAR \\ & (10.689)^{**}\ (6.016)^{**} \quad (6.747)^{**} \quad (-2.217)^{*} \quad (20.654)^{**} \\ & + 3.170\ SHAY - 1.367\ BEERDUM - 3.411\ FOODDUM \qquad (4) \\ & (8.481)^{**} \quad (-11.841)^{**} \quad (-11.5546)^{**} \\ & \text{adjusted } R^2 = 0.321 \quad N=1{,}932 \end{aligned}$$

Here, beer allowance was 1.367 s. per week, and the cost of food provision was twice as high as that of drinks. Overall, 1.367 s. per week equals 2.73 d. per day, which is consistent with Clark's figure.

Table 3 shows the spatial distribution of food and drink allowances by county. The number of parishes where any form of in-kind allowance was reported (not observations) is counted. For example, Table 2 shows that there are 34 observations for Bedfordshire, but the number of parishes where wage data are available is 15 parishes according to Table 3. Although the sample size as a whole seems to be sufficiently large, a breakdown into 42 counties makes some of the subsets too

[30] Clark (2001), p. 480.

[31] See the notes in Clark (2001), p. 481, Table 2.

small: the Middlesex and Rutland percentages are not significant.

Figures 4 and 5 map the regional patterns of income-in-kind presented in Table 3. Figure 4 shows the counties in which at least one parish reported food provision, and the pattern looks conventional. Counties in the north and South West had few parishes reporting food provisions: one in Sussex and three in Bedfordshire. These parishes in the southern counties may be exceptional. However, in Cumberland, food allowance seemed more common (*i.e.* 7 out of 35 parishes).

As hinted in Table 2, drink allowance prevailed in South West England. In Devonshire, 17 out of 18 parishes reported that some form of drink was provided to farm workers. Herefordshire and adjacent counties also show high percentages of drink allowance. The survival of allowance in the Midlands and East Anglia differs from the traditional view, in particular, high percentages for Cambridgeshire and Essex (55.9 per cent and 55.8 per cent, respectively). Because the sample sizes for the counties are 34 and 43, respectively, the results should be relatively reliable. In contrast, the northern counties of Northumberland, Cumberland, Westmorland, and Durham are cash-dependent. Notably unique is Durham, in which no parish reported the existence of drink provision.

(4) Revising regional wage estimates

Literature on the regional differences in farm wages in the mid-nineteenth century has generally followed the contemporary findings presented in Caird's *English Agriculture* originally published in 1852, which defines high- and low-wage regions as shown in Figure 2.[32] Although nominal wage rates are used, the image has been reinforced in the study by Hunt (1986), one of the most prominent contributions to the debate. Figure 6 shows his calculation on farm wages in 1833-45. With the exception of London and its adjacent counties, the general pattern is consistent with Caird's map.

Regardless of whether the wage comparison is conducted as a time series or cros secion, one issue persists: differences in the cost of living. In the second half of the nineteenth century, the purchasing power of farm wages seems to have been similar in many locations. Comparing the

[32] Caird (1852), frontispiece. See, for instance, Hunt (1973, 1986), Horrell and Humphries (1992), Boyer (1997), Boyer and Hatton (1997), and Shaw-Taylor (2005).

prices of bread, flour, butter, tea, sugar, bacon, and cheese between 1860/1 and1912/13, Hunt (1973) concluded that 'the cost of living of rural workers did not vary significantly in different parts of the country: differences in real wages paralleled differences in money wages'.[33] In other words, he claims that nominal money wages can be considered real wage rates. Even if this were the case in the early nineteenth century, the regional differences in the survival of food/drink allowance imply that real wage rates could be biased if they were ignored. Therefore, our next task is to use the results of the estimation of food/drink allowance to draw a new regional wage map.

While the 1834 Rural Query contains useful information concerning wages, constructing wage figures representing each parish is difficult. As previously mentioned, information provided in the report is not always numeric but somewhat exemplary. Moreover, the amount of information varies by location. A single general figure or several seasonal figures may be provided for the year. In order to consider seasonal wage differences and the inclusion of food and drink allowances, the following procedure was employed. Steps 3 and 4 represent adjustments made for food and drink allowances, while steps 5 to 8 relate to seasonal adjustments.

1. Wage data in each parish were classified into five categories: general (*i.e.* throughout the year), summer, winter, harvest, and hay time.
2. When a range of wage rates such as 'from 10 s. to 12 s.' is given, a simple mean of the values is adopted (in this case, 11 s.).
3. When wage rates with and without beer (*e.g.* victuals/board/meat) are provided separately, those without in-kind allowance are used.
4. When the wage rate is that with beer (or victuals), 1.37 (or 3.41) s. are added.
5. When one wage rate is provided, it is adopted if it is a general wage rate. In other cases, 'NA' is used for the parish.
6. When two seasonal wage rates are given, the following occurs:
    - if the wage rates are for summer and winter, a simple mean of the two is adopted.

[33] Hunt (1973), p. 87.

- if they are general and harvest wages, a weighted average is calculated using a weight of 48/52 for general wage and 4/52 for harvest wage.
- if they are general and summer wages, a similar weighted average is conducted, that is, the weight for the general wage is 48/52, and that for summer is 4/52.
- if they are winter and harvest wages, weightings of 48/52 and 4/52 are used for the winter wage and harvest wage, respectively.
- if the two have another configuration, 'NA' is used.

7. When three figures are given,
   - if they are general, harvest, and hay-time wages, weights used are 44/52 for the general, 4/52 for the harvest, and 4/52 for the hay harvest wages.
   - if they are summer, winter, and harvest wages, weights used are 22/52, 26/52, and 4/52 for summer, winter, and harvest wages, respectively.
   - if they are summer, winter, and hay-time wages, weights are 22/52 for summer, 26/52 for winter, and 4/52 for hay harvest.
   - if they are winter, harvest, and hay-time wages, weights are 44/52 for winter, 4/52 for harvest, and 4/52 for hay harvest.
   - In other cases, 'NA' is used.
8. There is only one combination for four values provided (summer/winter/harvest/hay). Weights of 18/52, 26/52, 4/52, and 4/52 are applied to these respective wage rates.

Because parish-level data are derived from this procedure, the adult male population in each parish (aged 20 years and older) is used as the weight to calculate the corresponding county-level figure.

Figure 7 shows a different pattern than Figure 6 does. Overall, there is a downward revision in the north and an upward revision in the south. Downward revisions are found for nine counties, that is, Cheshire, Cumberland, Derbyshire, Lancashire, Northumberland, Westmorland, and North and West Ridings of Yorkshire. Most revisions are in the high-wage north defined by Caird. The most notable is Cheshire, where the wage level of 11.4 s. seen in Figure 6 is reduced to 9.9 s. in

Figure 7. Upward revisions of more than one s. are found in Berkshire, Buckinghamshire, Cambridgeshire, Dorset, Essex, Hampshire, Hertfordshire, Huntingdonshire, Kent, Middlesex, Northamptonshire, Staffordshire, Surrey, Sussex, Warwickshire, Wiltshire, Worcestershire, and East Riding of Yorkshire: most, apart from Staffordshire and the East Riding of Yorkshire, are south of Caird's line. The wage level of Huntingdonshire is the one revised most upward, although the number of samples for the county indicates questionable reliability. As shown in Equation 4, regional price differences are considered, making our figures more reliable than Hunt's nominal wages.

(5) Male wages and unemployment

Inclusion of income-in-kind into the calculation of real wage rates has revealed the following three points. First, as previous studies have suggested, the importance of food/drink allowance declined during the Industrial Revolution. The proportion of in-kind income to the average male nominal wage rates fell from 28.9 per cent at the end of the eighteenth century to 14.2 per cent in the 1830s. The frequency of provision declined as well. While food/drink allowance was observed in 62.7 per cent of the sample parishes in 1795, this number dropped to 33.1 per cent in 1832. Second, the extent to which food/drink allowance survived differed by county. Food provision remained in the north, but drink allowance survived in the south. Drink allowance was available in many parishes in the Midlands and in the East Anglian counties, such as Northamptonshire, Leicestershire, Warwickshire, Worcestershire, Herefordshire, Cambridgeshire, and Essex. Third, the actual wage level in the south was higher than previously assumed. In other words, the conventional 'high-wage north and low-wage south' view should be revised. As previously indicated, even in the 1830s, drink allowance was fairly common in the south. Thus, the real wage rates in most southern counties were estimated to be higher. Thus, the clear-cut pattern of 'high-wage north and low-wage south' suggested by Caird is incorrect.

The last point is interesting, because it suggests that the effect of industrialization on male wage rates may not have been significant. Comparing farm labourers' wages in Lancashire (12.4 s.) and Buckinghamshire (9.8 s.) in 1833-45, Hunt (1986) concluded the following:

> Few would deny that industrialization was a main cause of the relative improvement in Lancashire wages in the eighteenth century and of the wage advantages Lancastrians enjoyed throughout the following century. And most would agree that Buckinghamshire exemplifies the plight of peripheral regions that experienced population increase unaccompanied by industrialization.[34]

However, estimates in this paper are 11.9 s. and 10.9 s. respectively. In other words, 'the advantage Lancastrians enjoyed' was reduced from 26.5 per cent to only 9.2 per cent.

This revision allows us to solve the conundrum that low wage rates and high unemployment coexisted in the South. Hunt's observation of the large Lancashire-Buckinghamshire wage gap shows a labour market segregation in the first half of the nineteenth century, as Pollard indicated three decades ago. However, concerning male wages, this problem is solved even for the integrated regional labour markets. Figure 8 shows our estimates of the regional male wages together with unemployment rates by Caird's regions. The wage rate in South East England was slightly higher than that in North West, where factory production flourished the most. Thus, South East agricultural labourers stayed, because the farms paid wages above the equilibrium.

IV

Concerning male weekly wage rates, the 'high-wage north/low-wage south' divide is now blurred. This suggests that southern agricultural labourers did not move because their wage level was sufficiently high to take a risk of leaving familiar villages. However, it is difficult to reconcile this hypothesis with evidence on annual household income. In this section, we discuss this issue from the three following viewpoints: 1) how to convert weekly male wages into annual income, 2) inclusion of female earnings into household decision-making considerations, and 3) the effect of job opportunities for women on female annual incomes.[35]

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[34] Hunt (1986), p. 961. Furthermore, see his Table 4 on the same page.

[35] The Rural Query also asks wage rates for children. However, only earnings of wives are discussed here,

Besides Question 8, which asks about weekly wages, the Rural Query contains a question about annual income. Question 10 asks 'what in the whole might an *average* Labourer, obtaining an *average* amount of employment, both in Day-wok and Piece-work, expect to earn in the year, including Harvest-work and the value of all his other advantages and means of living except Parish Relief?' The answers here are again impressionistic to some extent, but I assume that they reflected some information on seasonal fluctuations in job opportunities and short-term working hours.

Column (b) of Table 4 summarises the answers to Question 10,[36] and Column (c) shows the annual income derived from weekly wages based on Question 8. I simply multiplied each figure in Column (a) by 52 (weeks). Income based on weekly-wages are expected to be larger than those based on Question 10, because weekly wages implicitly assume full employment. This does not apply to South West Endgland, but the overall picture seems to be consistent. I took simple meansof the two as best guesses, which are shown in Column (e).

This exercise does not change the order of income level ranking. The annual income in South East England, 29.9 pounds, is higher than 29.3 pounds in North West. However, this order changes if we consider female wage rates and job opportunities, because weekly wage rates for females were higher in the north.

The 1834 Poor Law Report also asks about female wages (Question 12). As in the evaluation of food/drink allowance with male wages in the previous section, we can derive the following equation with female wages:

female wage = 8.320 - 0.049 *PRINX* + 0.522 *SSUM* - 1.606*SWIN* + 3.742 *SHAR*

---

because it is very difficult to confirm the typical household structure in each parish or region. However, children's contribution to household income in the period was considerable. Horrell and Humphries (1995) estimated that their contribution between 1817 and 1839 was 20.1 per cent in high-wage agriculture (Caird's north region) and 4.6 per cent in low-wage agriculture (Caird's south). Horrell and Humphries (1995), Table 1, p. 491.

[36] While the question clearly asks 'annual' earnings, some answered daily or weekly wages. For the tabulation of Table 4, parishes that returned these types of remarks are discarded and only annual figures are included.

(12.176)** (-7.114)** (2.060)* (-6.314)* (14.478)**

+ 2.314 *SHAY* – 1.355 *BEERDUM* – 1.512 *VICDUM* (5)

(4.326)** (-3.868)** (-3.104)**

adjusted R^2 = 0.429 N=2,007

In order to obtain representative female wage rates for each parish (*i.e.* wage rates controlling for seasonality and drink/food allowances), a procedure identical to that for representative male wages is applied. For the adjustment of income-in-kind, 1.36 s. for beer and 1.51 s. for food was used, and instead of using females aged 20 years and older, the total female population is used for weight to calculate regional figures.

Table 5 shows the results, and the north-south wage gap is clear. The weekly wage rate was highest in North East England followed by North West. On the other hand, the wage rate in South East England was low. Consequently, the contribution of women to household income is the lowest in South East England. While the annual earnings of women in North East England accounted for 39 per cent of male annual income, that of South Eastern women was below 30 per cent.

Furthermore, the numbers shown in Table 5 must be overstated, for the same reasons as male weekly wages are. Unfortunately, we cannot obtain direct information about female unemployment. Instead, I used female job opportunities as a denominator to control this problem.

The Rural Query asks 'Have you any and what Employment for Women and Children?' (Question 11). The descriptive nature of answers is the same as for other questions, which makes any generalization difficult. It is possible to group the information contained in the answers into two types: The qualitative and quantitative value of job opportunities. In some cases, both types of information are given. In Cople, Bedfordshire, 'lace-making, and gleaning in time of harvest' were women's jobs,[37] and in Little Marlow, Buckinghamshire, 'very little: weeding, lace-making, reaping and raking in Harvest'[38] was available. Information on the frequency is thus omitted, and the

[37] BPP 1834, vol. xxx, p. 4a.

[38] BPP 1834, vol. xxx, p. 40a.

contents of job opportunities are classified into agricultural and manufacturing jobs. Thus, manufacturing and agricultural jobs were available in Cople. Buryan Deanery in Cornwall, where 'the cultivation of potatoes, weeding the crops, harvesting hay and corn, straw hat weaving, and curing fish' were mentioned,[39] is also interpreted as a parish where agricultural and manufacturing jobs were available. In South Bedburn in Durham, there was 'nothing, but in Husbandry, no manufactories'.[40] Therefore, available jobs in the parish are agricultural only.

Table 6 summarizes the result. Thus, job opportunities for women were significant: the percentage for England was 80 per cent overall. However, nothing was available in 171 out of 851 parishes in England. Regional variation in manufacturing opportunities was larger than that in agricultural ones. Although 38 per cent of North Eastern parishes enjoyed manufacturing jobs, total employment in manufacturing in the North East was only 7 per cent. According to the descriptions in the Rural Query, water-powered mills were built in the northern countryside, and women were directly employed there. In other cases, jobs are likely to have been supplementary to factory production. In the Ovenden township on the outskirts of Halifax, for instance, women were 'employed chiefly in cotton and worsted weaving, cotton and worsted mills, and other manufactures',[41] where there seem to have been some factories. In Brampton, Cumberland, approximately 17 miles east of Carlisle, 'there is field-work for Women and Children during the Summer and Autumn months; and spinning, knitting, sewing, *winding of bobbins* [*italics* added], and weaving, at other times of the year'.[42] On the other hand, rural industries in South East England seem to have disappeared or to have been declining. The reply from Sherborne in Dorset reads 'the silk-throwing business generally; ... the silk business, however, of late years, has been much depressed'.[43] In Rodborne tithing, Wiltshire, available jobs were 'very little, and that only in

[39] BPP 1834, vol. xxx, p. 82a.

[40] BPP 1834, vol. xxx, p. 146a.

[41] BPP 1834, vol. xxx, p. 623a.

[42] BPP 1834, vol. xxx, p. 101a.

[43] BPP 1834, vol. xxx, p. 145a.

Summer. Lace-making in the Winter; but that is declining very fast'.[44]

The overall pattern of female job opportunities was similar to that of male unemployment. The percentages of parishes where neither agricultural nor manufacturing jobs were available was high in South East England and lower in the north.[45] I used these percentages to discount female incomes, and the 'adjusted female annual income' in Table 7 shows the results.[46] The level of female income in North East England was 42 per cent higher than England as a whole, and that of South West remained as small as 89 per cent.

Attention should be paid to the annual family income index shown in the right column in Table 7. While male annual income in North West England was lower than that in South East, low female wages and less job opportunities in South East England made the annual family income slightly lower than North West, so the high-north and low-south pattern has reappeared. Although the difference between the two is small, lower income coinciding with the higher unemployment rate in the south leads us go back to the first question: Why did the southern agricultural labourers not move to high-wage areas but stay unemployed? Even if the job situation for women was more favourable in the north, male wage rates should have mattered most. Southern agricultural labourers probably did not relocate because the male income level was likely sufficient if in-kind income is considered.

In addition, regional agricultural practices must have affected the structure of labour supply and demand. While cottage industries in the south were declining sharply, most southern farmers still required their employees' wives and children to work during harvest. The availability of agricultural job opportunities was almost identical in the north and south. Combining North West and North East, the number of parishes where agricultural jobs were available accounts for 63.6 per

[44] BPP 1834, vol. xxx, p. 579a.

[45] This should not be taken for granted, because sexual division of labour was the norm in the period. For example, lace-making and straw plaiting were almost exclusively female jobs. In agriculture, stone picking, weeding, and milking were practiced mainly by women. Wheat was harvested by male mowers with scythes that women and children gathered.

[46] Thus, female annual income in England as a whole, 9.2 s., is multiplied by 0.80 for either or both manufacturing and agriculture jobs available in 680 out of 851 parishes (or 80 per cent (Table 9)).

cent, while that in the South was 63.7 per cent.

Arable farmers faced greater seasonal fluctuation in labour requirement. During winter, there were few particular jobs other than threshing. In summer, however, haymaking and harvest required a significant amount of labour. Furthermore, the peak period in the harvest of main cereals, especially wheat, is relatively short. It was essential for arable farmers to keep a sufficient number of mowers and reapers during this crucial period. If a farmer failed and the wheat over-ripened before harvest, his loss could be enormous.

Figure 9 shows the percentages of arable and pastoral parishes in each region. The Rural Query also reports the land use of each parish. Total acreage of each parish and of arable, pastoral, commons, gardens, woods, and other lands were reported. The reports are, again, imperfect here. A comparison of the parish acreages reported in the 1834 Report with those shown in the 1831 Census reveals that the number of entries where the two figures are identical is only 14 of over 1,000 entries. In some cases, even the total acreage is not given. Therefore, I defined a parish as 'arable' if the ratio of arable to pastoral acreage in the parish was over 1.560 (or the arable acreage divided by the sum of arable and pastoral acreages (arable/(arable + pastoral) is equal to or greater than 60.8 per cent), which is the average for England as a whole. If this ratio was smaller, the parish is defined as 'pastoral'. The map fits well with the division by Caird (Figure 2). North East and the South East England are very arable; in the west, pastoral parishes represent over half the parishes.

A significant number of arable parishes exited in South West as well, although the percentage was slightly less than half. This particular feature of agriculture in the south in general must have been related to the immobility of southern labourers. It is very likely that southern cereal farmers, facing seasonal fluctuation in labour demand, had a strong incentive to keep a surplus of labour in the region. Because the dismissal of a male worker meant that the farmer might also lose the labour of the worker's wife and children, the bargaining power of male agricultural labourers may have strengthened. Thus, a high level of unemployment and its consequences (*i.e.* the heavy burden of the poor rates in the south) were institutionalized through this peculiar kind of bargaining structure, which manifested itself in relatively higher male real wages of the region.

V

Pollard (1978) listed the reasons urban industry failed to use labourers in the countryside because of which this labour pool continued to exist during the first third of the nineteenth century. His list includes the following: 1) the technical difficulty of transport, 2) labourers' reluctance to face a new occupation and new environment, 3) the Poor Law and the Settlement Acts, and 4) the interest of landlords and farmers to keep the labour reserve for harvest weeks.[47] Although related to the fourth point, relative high wages in the south should be added to his list. Because of the regionally different pattern of decline and survival of drink allowances, southern agricultural labourers enjoyed relatively higher income than previously thought. As a result, the wage level in the south remained above the equilibrium level.

The seasonal fluctuation in arable farming provided a strong incentive for cereal farmers to keep a labour reservoir. This incentive must have also existed in North East England, which was another region where males enjoyed high wages. Table 6 shows there were relatively numerous jobs for women in the region. This could also be applied to male workers because of the proximity of fast-growing industrial areas. Figure 10 shows the net migration rate in each county. The North East region is comprised of Northumberland, Durham, North Riding, East Riding, and Lincolnshire. Attention should be drawn to a serious population drain from North Riding, which is surrounded by counties in which net immigration was enormous. It appears that Durham mines and industrial towns in West Riding, Lancashire, and Nottinghamshire offered wage labour and attracted people from North Riding, East Riding, and Lincolnshire. Thus, the bargaining power of farmers in North East England may have been eroded.

Compared with the northern counties, labour mobility in the south was rather modest. Although the net immigration in and around London, Birmingham, and Monmouthshire was apparent, the population flow to and from other southern counties was not obvious. This may have been partly because of the rather higher male wage rates, as previously shown. However, this should

[47] Pollard (1978), pp. 108-10.

be interpreted in the sense that farmers in South East England included a drink allowance to reduce the incentives of agricultural labourers to emigrate.

Other traditional explanations, such as labourers' reluctance to leave their home villages and farmers' anxiety regarding social disturbances also played a role in the endurance of this labour reservoir. Other parts of the Rural Query provide some information on these points. As a vicar of Westoning, Bedfordshire, mentioned, 'In this parish and neighbourhood, the strongest prejudices prevail against emigration, among the poor, owing in part to want of sufficient information on the subject'.[48] Boyer and Hatton (1997) explored determinants of migration for the second half of the nineteenth century by conducting regressions to determine the effects of wage gaps, distance, and the stock of previous migrants on male migration flows. The elasticity of the stock of previous migrants they estimated was substantial and comparable to that of wage gap. In other words, a 10 per cent increase of migration stock offset a 10 per cent increase in the wage gap, meaning that people were unlikely to relocate unless a substantial number of people had already out-migrated beforehand. Prior to the railway age, most rural workers could not expect their acquaintances to live in large towns.

If rural farm workers, reluctant to leave their parishes, were not satisfied with the total income derived from cash wages, in-kind allowance, and outdoor relief, disturbances occurred. Before the enquiry for the 1834 Poor Law Report occurred, agricultural riots raged in southern counties.[49] The Swing Riots, which began in 1830, included arson, threatening ('Swing') letters, and breaking of machines, where workers demanded higher wages, more job opportunities, rent and tithe reduction, and improved poor relief conditions. The 1834 Poor Law Report also asks, 'Can you give the Commissioners any information respecting the causes and consequences of the Agricultural Riots and Burning of 1830 and 1831?' (Question 53). William Mount, an overseer and Justice of the Peace in Wasing, Berkshire, attributed the causes to 'evil-disposed persons worked upon an ill-paid discontented peasantry, who, for want of regular employment during the Winter months, were in the

[48] BPP 1834, vol. xxxiv, p. 9e. In Westoning, the unemployment rate was the highest at 33.1 per cent. The figure is my own calculation reflected in Table 6 and Figure 12.

[49] Hobsbawm and Rudé (1969)

habit of spending their time in those rural pest, the beer-shop', and described the consequence as follows:

> 'great destruction of property, heavy pecuniary charges on Counties, Parishes and individuals; and for a time unprecedented misery in the families of the rioters. The best and steadied Labourers were unsettled; mutual confidence destroyed, and alarm prevailed through this and the six adjoining Counties. The wages of a Labourer with a family were in most instances raised from 9 s. to 10 s. per week, and those of a single man in proportion'.[50]

The answer by another JP from Steeple Claydon, Buckinghamshire was as follows:

> 'Causes: discontent, disturbance in France, private revenge, idleness. Consequences have been, raising the unmarried Man's pay from 3 s. 6 d. to 5 s. weekly, which made the Farmer far more angry and discontented than the Labourer had been'.[51]

Concerning mechanization in agriculture, Collins (1987) found that southern arable farmers found it very difficult to adopt labour-saving schemes. He maintained that the 'social cost of mechanization, expressed in terms of wage rates, levels of employment and labour relations, might outweigh the economic benefits'.[52] Indeed, agricultural labourers often burnt reapers and binders at night as late as 1890s.

It is worth noting that, at least in these two parishes, labourers successfully increased wages, which must have increased their incentive to stay in the parish. Corn-producing farmers in arable parishes required a labour pool for harvest, which made wage rates and income levels negotiable. As a result, the income level in the region remained higher, the mechanism behind the immobility of agricultural labourers in the South East. It may have been unstable, but it was in

[50] BPP 1834, vol. xxxiv, p. 28e.

[51] BPP 1834, vol. xxxiv, p. 33e.

[52] Collins (1987), p. 36.

equilibria until the mid-nineteenth century.

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Appendix

Zero unemployment in the parish/township is assumed for the following descriptions.

- all are employed in Summer and Winter
- All are generally kept in employ although all are not wanted.
- all are in full employment
- All are, generally speaking, employed in Summer.
- all employed
- ample employment
- but few
- But very few Labourers are out of employ in this parish.
- Employment generally good
- few or none
- generally employed
- generally in employment
- Labourers are generally employed.
- Mines at present employing all.
- never
- never any
- no
- No Labourers entirely out of Employment.
- none
- none but those that are idle
- none except some old men employed on the Roads.
- none under the name of Labourers.
- not any
- not frequently any

- not one
- scarcely any
- seldom unemployed
- Should any be out of employment they are either taken by the farmers, or sent to the roads.
- The working class in the hundred of Amounderness needs never to be unemployed, as weaving is carried on throughout the hundred.
- There are no Labourers out of employ
- There is generally good employment all the year round.
- they are generally employed
- very few
- very seldom
- We have no Labourers out of employment at any part of the year.
- We have very few out of employment.
- We have very few out of employment; we take care to find work for all; there are some bad characters in most parishes who will not work if they can avoid it.

Table 1 Unemployment rates in Caird's regions

	Unemployed	Male 20+	Unemployment Rate	N
England	8,035	210,150	3.8%	643
North East	171	17,653	1.0%	54
North West	712	36,642	1.9%	98
South East	5,574	109,524	5.1%	318
South West	1,577	46,331	3.4%	173

Source: BPP 1834, vols. xxx-xxxiv.

Table 2 Geographical distribution of wage data observations, 1795 and 1832.

	1795 (the State of the Poor)			1832 (the Poor Law Report)		
	without victuals	with victuals	Total	without victuals	with victuals	Total
Bedfordshire	2	4	6	19	15	34
Berkshire	0	4	4	44	18	62
Buckinghamshire	0	3	3	41	23	64
Cambridgeshire				39	34	73
Cheshire	1	4	5	20	3	23
Cornwall				29	26	55
Cumberland	4	21	25	60	10	70
Derbyshire				8	3	11
Devonshire	0	2	2	19	29	48
Dorsetshire	1	0	1	4	7	11
Durham	1	0	1	57	0	57
Essex				63	45	108
Gloucestershire	1	0	1	29	19	48
Hampshire				71	21	92
Herefordshire				13	25	38
Hertfordshire	0	2	2	19	21	40
Huntingdonshire				18	5	23
Kent				61	16	77
Lancashire				24	5	29
Leicestershire	2	3	5	16	19	35
Lincolnshire	10	2	12	28	3	31
Middlesex				3	1	4
Monmouthshire				11	3	14
Norfolk	4	1	5	54	9	63
Northamptonshire	1	6	7	17	18	35
Northumberland				35	4	39
Nottinghamshire	0	3	3	41	9	50
Oxfordshire				25	18	43
Rutland				5	1	6
Shropshire	6	2	8	16	16	32
Somersetshire	0	1	1	22	29	51
Staffordshire	0	1	1	10	13	23
Suffolk	0	2	2	67	10	77
Surrey	0	1	1	31	8	39
Sussex				90	32	122
Warwickshire	0	2	2	30	45	75
Westmorland	1	1	2	31	7	38
Wiltshire				34	18	52
Worcestershire	1	0	1	17	20	37
Yorkshire, East Riding	6	4	10	4	5	9
Yorkshire, North Riding				19	2	21
Yorkshire, West Riding				49	24	73
Total	41	69	110	1293	639	1932
	37.3%	62.7%	100.0%	66.9%	33.1%	100.0%

Source: Eden (1797); BPP, 1834, vols. xxx-xxxiv.

Table 3 Existence of food/drink allowance, 1832

	Beer/Cider		Food		N
Bedfordshire	8	53.3%	3	20.0%	15
Berkshire	13	52.0%	0	0.0%	25
Buckinghamshire	16	66.7%	0	0.0%	24
Cambridgeshire	19	55.9%	0	0.0%	34
Cheshire	3	23.1%	0	0.0%	13
Cornwall	16	66.7%	8	33.3%	24
Cumberland	1	2.9%	7	20.0%	35
Derbyshire	2	40.0%	2	40.0%	5
Devonshire	17	94.4%	1	5.6%	18
Dorsetshire	4	66.7%	0	0.0%	6
Durham	0	0.0%	0	0.0%	30
Essex	24	55.8%	0	0.0%	43
Gloucestershire	15	78.9%	0	0.0%	19
Hampshire	14	30.4%	0	0.0%	46
Herefordshire	12	80.0%	2	13.3%	15
Hertfordshire	13	81.3%	0	0.0%	16
Huntingdonshire	4	40.0%	0	0.0%	10
Kent	11	26.8%	0	0.0%	41
Lancashire	3	20.0%	2	13.3%	15
Leicestershire	12	80.0%	2	13.3%	15
Lincolnshire	3	17.6%	0	0.0%	17
Middlesex	1	33.3%	0	0.0%	3
Monmouthshire	2	33.3%	0	0.0%	6
Norfolk	5	16.1%	0	0.0%	31
Northamptonshire	11	73.3%	0	0.0%	15
Northumberland	2	11.1%	2	11.1%	18
Nottinghamshire	8	33.3%	1	4.2%	24
Oxfordshire	10	58.8%	0	0.0%	17
Rutland	1	33.3%	0	0.0%	3
Shropshire	10	62.5%	2	12.5%	16
Somersetshire	17	89.5%	4	21.1%	19
Staffordshire	8	88.9%	0	0.0%	9
Suffolk	7	18.9%	0	0.0%	37
Surrey	6	30.0%	0	0.0%	20
Sussex	21	33.9%	1	1.6%	62
Warwickshire	24	85.7%	4	14.3%	28
Westmorland	1	5.9%	4	23.5%	17
Wiltshire	12	52.2%	0	0.0%	23
Worcestershire	12	75.0%	1	6.3%	16
Yorkshire, East Riding	2	50.0%	1	25.0%	4
Yorkshire, North Riding	1	7.7%	0	0.0%	13
Yorkshire, West Riding	13	36.1%	4	11.1%	36
England	384	43.5%	51	5.8%	883

Source: BPP, 1834, vols. xxx-xxxiv.

Table 4 Male wage rates and annual income

	Weekly male wages based on Question 8		Male annual income based on Question 10		Male annual income based on weekly wage		(b)/(c)	Annual income (best guesses)
	(a)		(b)		(c)=(a)*52		(d)	(e)
	(shilling)	N	(pound)	N	(pound)	N	(%)	(pound)
England	11.39	490	28.3	622	29.6	490	95.5%	28.9
North East	12.19	32	29.7	52	31.7	32	93.8%	30.7
North West	11.70	72	28.2	114	30.4	72	92.7%	29.3
South East	11.74	236	29.3	290	30.5	236	95.9%	29.9
South West	10.01	150	26.6	166	26.0	150	102.3%	26.3

Source: BPP, 1834, vol. xxx.

Table 5 Female weekly wages and annual income

	Weekly female wages based on Question 12		Female annual income (weekly wage * 52)	Male annual income (best guesses)	Female annual income as % of male earnings
	(shilling)	N	(pound)	(pound)	
England	3.5	745	9.2	28.9	32%
North East	4.5	71	11.8	30.7	39%
North West	3.6	130	9.4	29.3	32%
South East	3.3	329	8.6	29.9	29%
South West	3.5	215	9.0	26.3	34%

Source: BPP, 1834, vol. xxx.

Table 6 Job opportunities for women

	N		Agricultural		Manufacture		either or both		none	
England	851	100%	542	64%	219	26%	680	80%	171	20%
North East	68	100%	58	85%	5	7%	60	88%	8	12%
North West	152	100%	82	54%	57	38%	124	82%	28	18%
South East	386	100%	250	65%	66	17%	290	75%	96	25%
South West	245	100%	152	62%	91	37%	206	84%	39	16%

Source: BPP, 1834, vol. xxx.

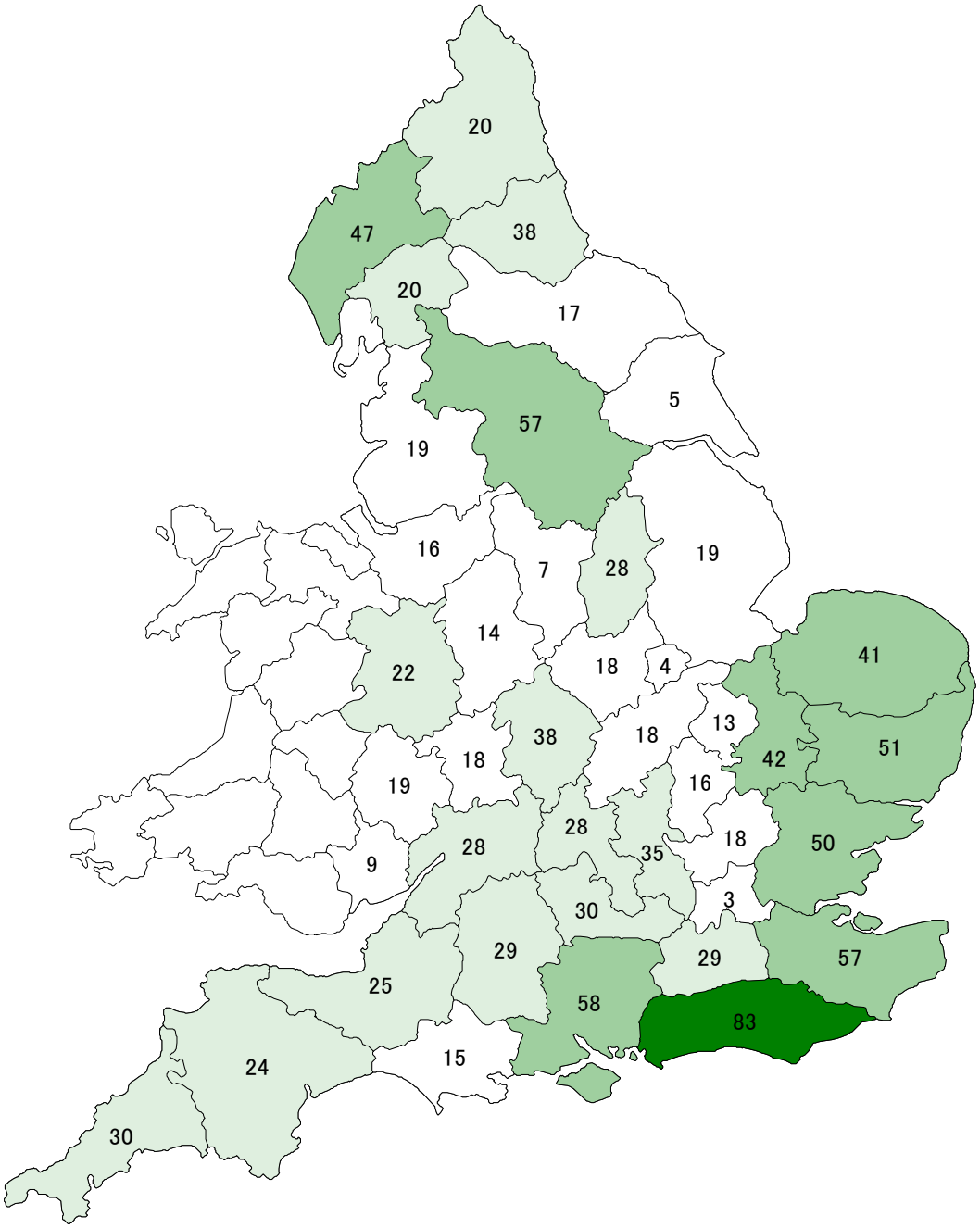
Table 7 Annual family income (in pound)

	Male annual income (best guesses)		Female annual income (weekly wage*52)		Adjusted female annual income (*job availability)		Adjusted annual family income	
England	28.9	(100)	9.2	(100)	7.3	(100)	36.2	(100)
North East	30.7	(106)	11.8	(129)	10.4	(142)	41.2	(114)
North West	29.3	(101)	9.4	(102)	7.6	(104)	36.9	(102)
South East	29.9	(104)	8.6	(94)	6.5	(89)	36.4	(101)
South West	26.3	(91)	9.0	(98)	7.6	(103)	33.9	(94)

Source: Tables 5 and 6.

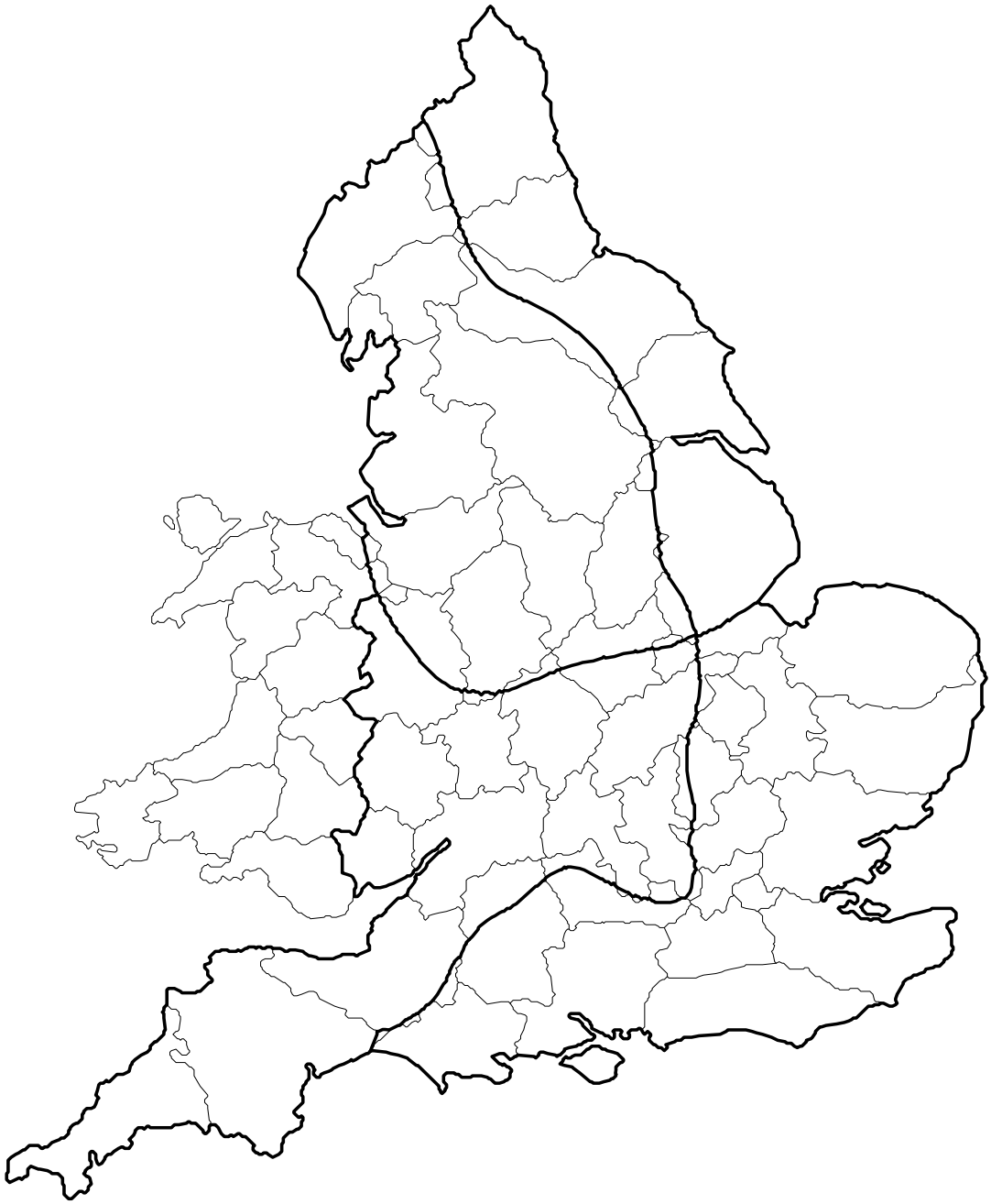
Note: Indices are normalized to England (=100) and shown in parentheses.

Figure 1 Geographical distribution of observations; the 1834 Poor Law Reports



Source: BPP 1834, vols. xxx-xxxiv.

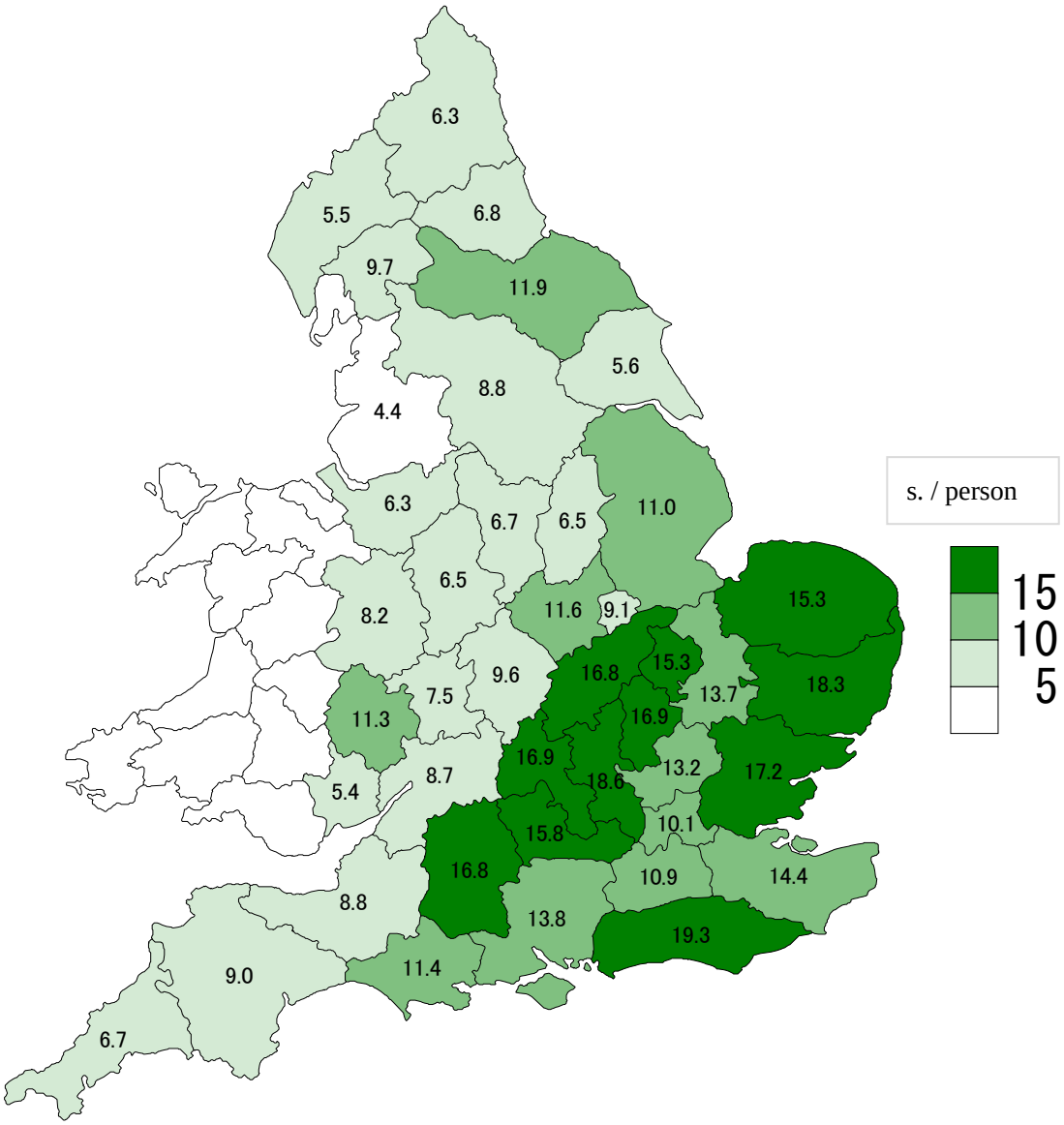
Figure 2 Wage level and agricultural practice in England and Wales proposed by Caird



Source: Caird (1852), frontispiece.

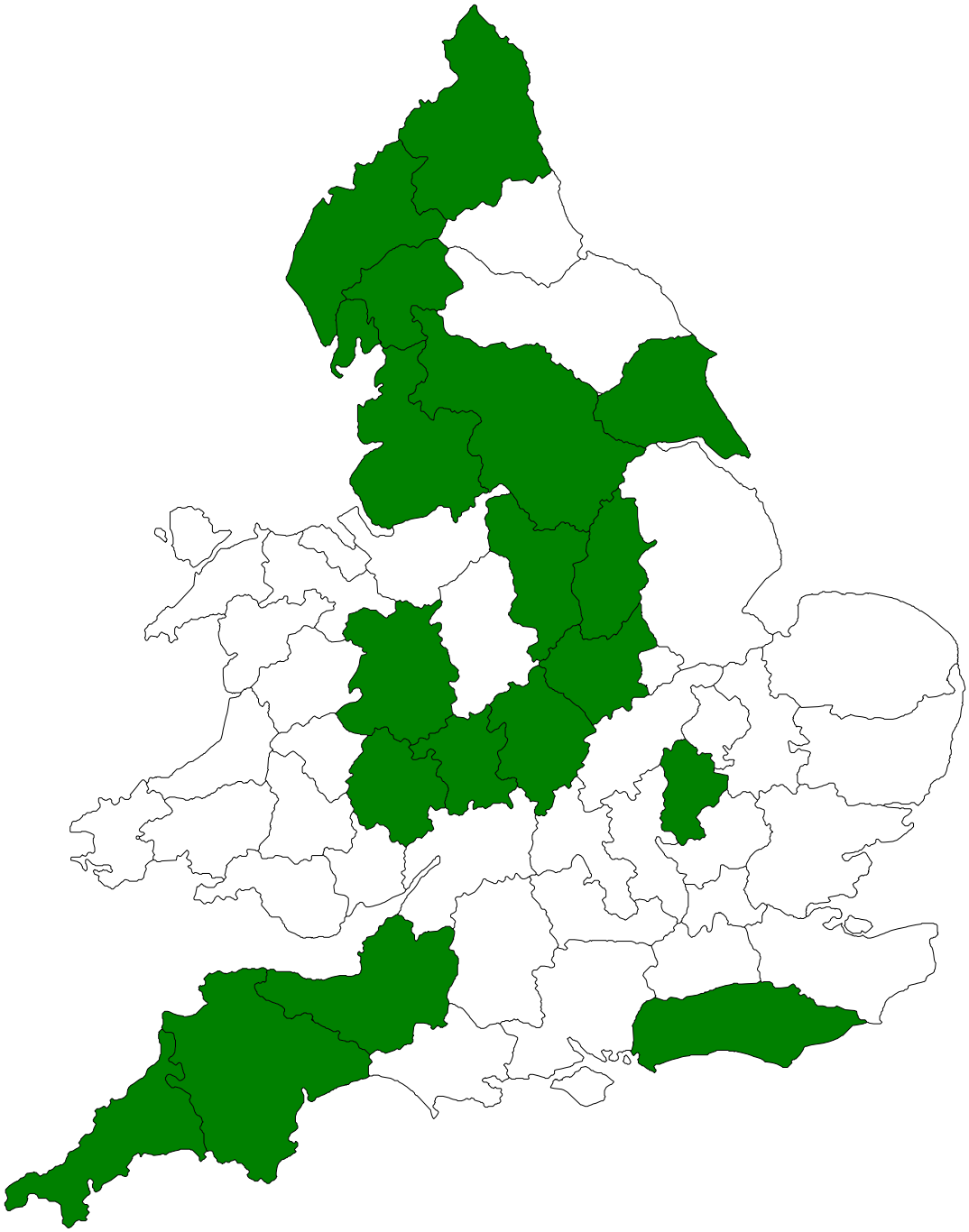
Note: The horizontal line shows the division between the high-wage north and low-wage south. The vertical line divides the arable east and pastoral west.

Figure 3 Per capita Poor Law expenditure, 1833



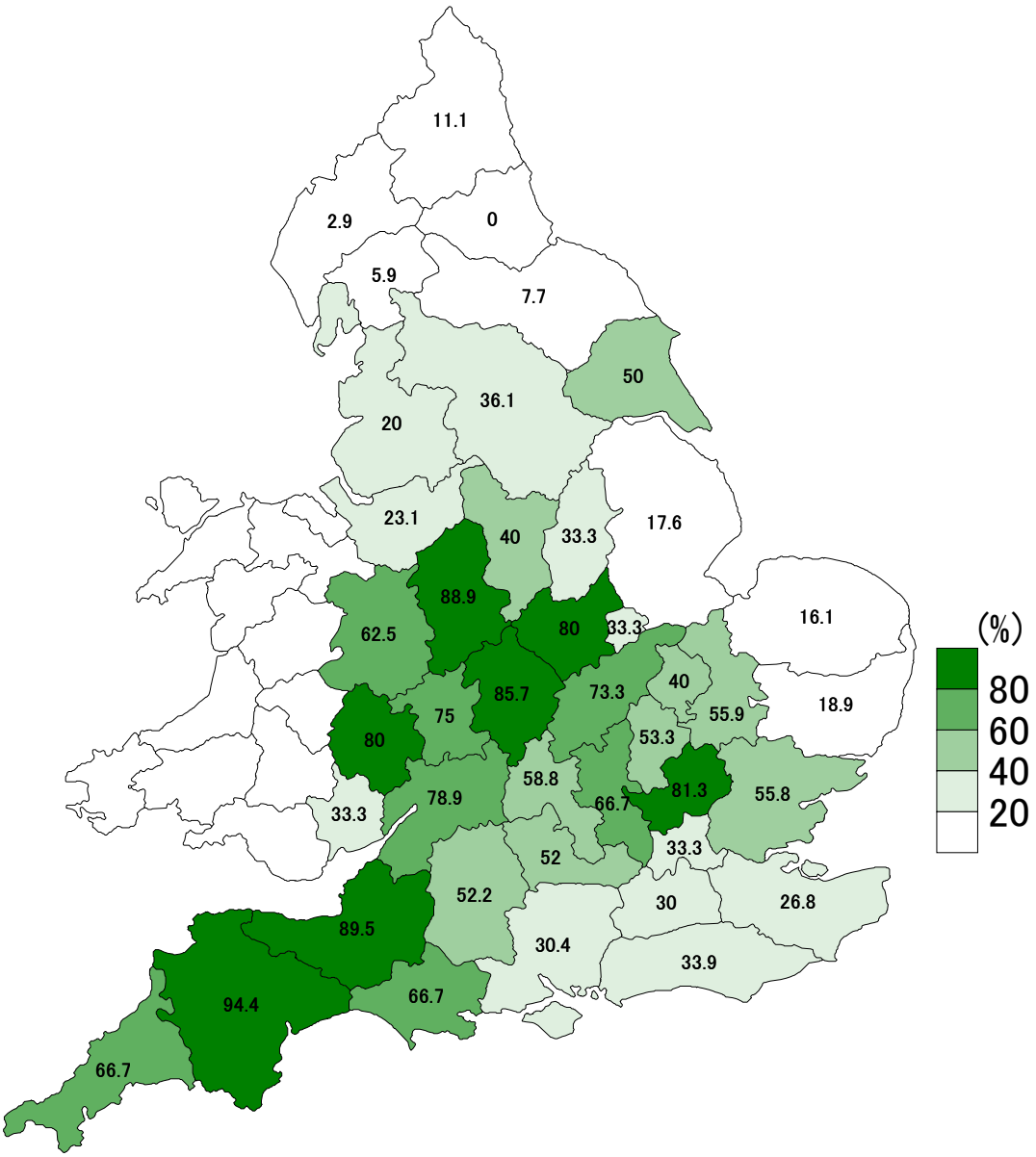
Source: BPP 1834, vols. xxx-xxxiv.

Figure 4 Survival of food provision, 1832



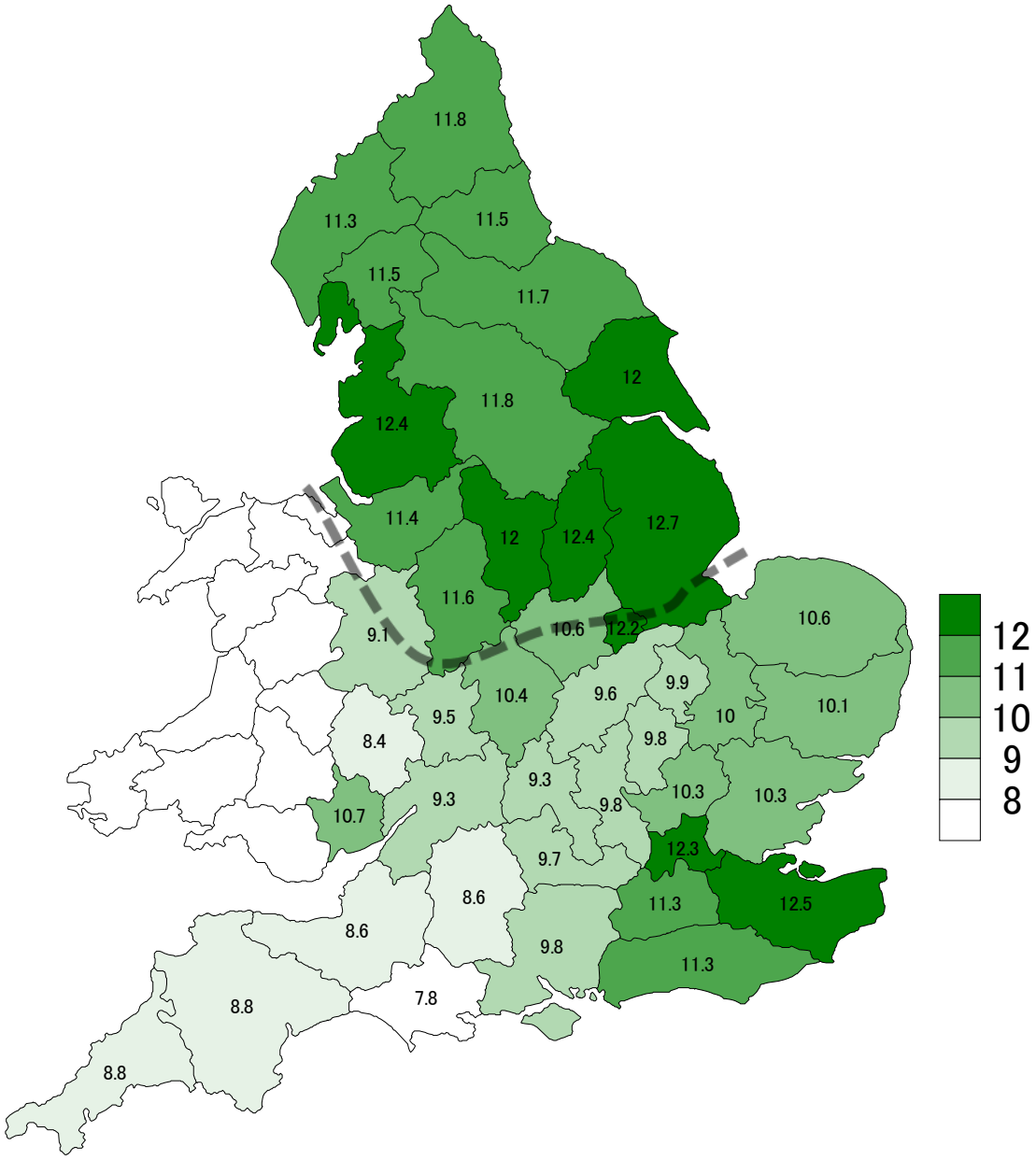
Source: BPP 1834, vols. xxx-xxxiv.

Figure 5 Percentage of parishes where drink allowance was available, 1832



Source: BPP 1834, vols. xxx-xxxiv.

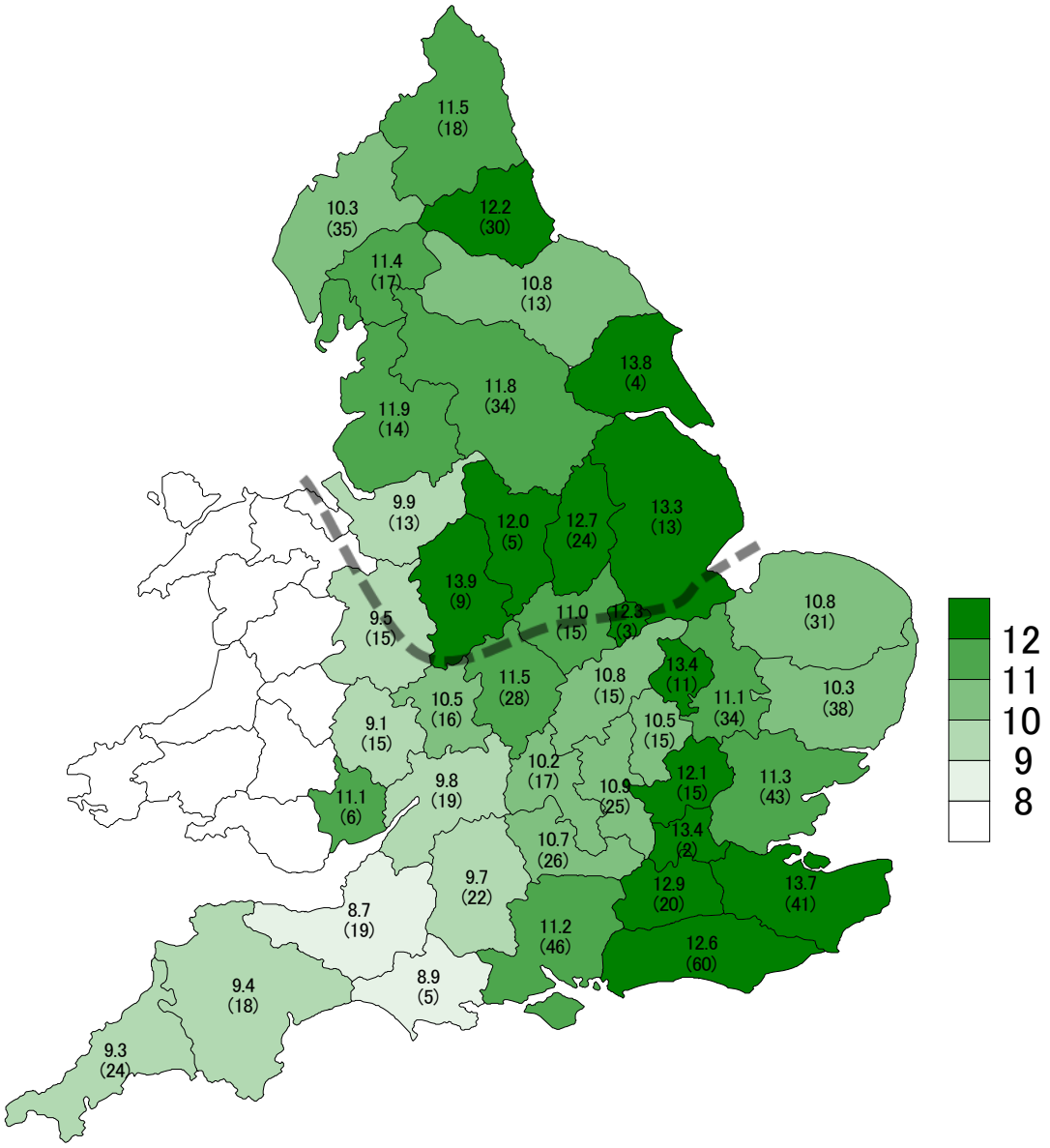
Figure 6 Agricultural labourers' wages in England (1833-45), estimated by Hunt (s. / week)



Source: Hunt (1986), Table 6, p. 965.

Note: Scotland and Wales are excluded. Wages are in s. per week.

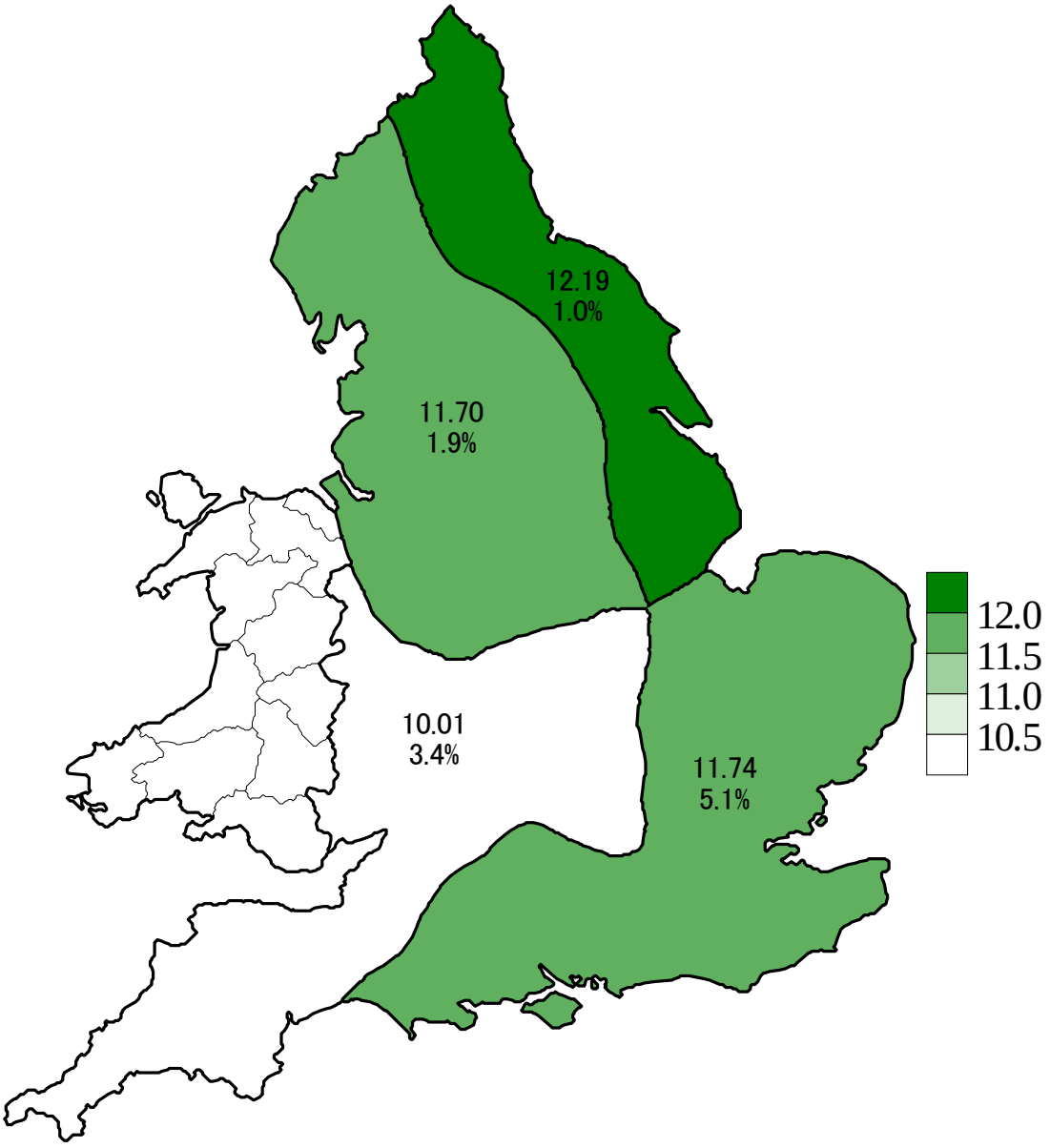
Figure 7 Agricultural labourers' wages in England (1832) based on the Poor Law Report (s./week)



Source: BPP, 1834, vols. xxx-xxxiv.

Note: The sample size is shown in parentheses.

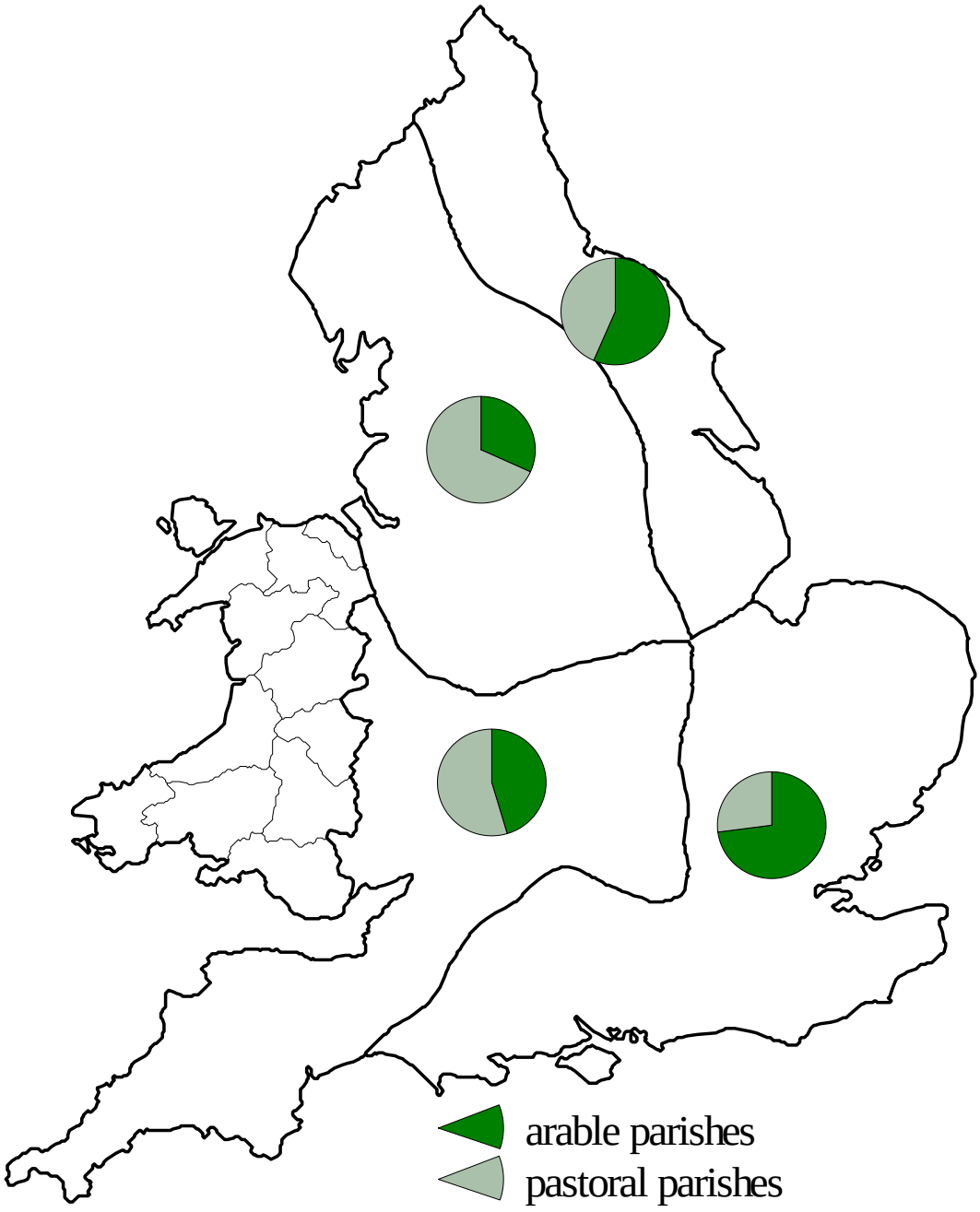
Figure 8 Regional differences in wages and unemployment rates



Source: BPP 1834, vols. xxx-xxxiv.

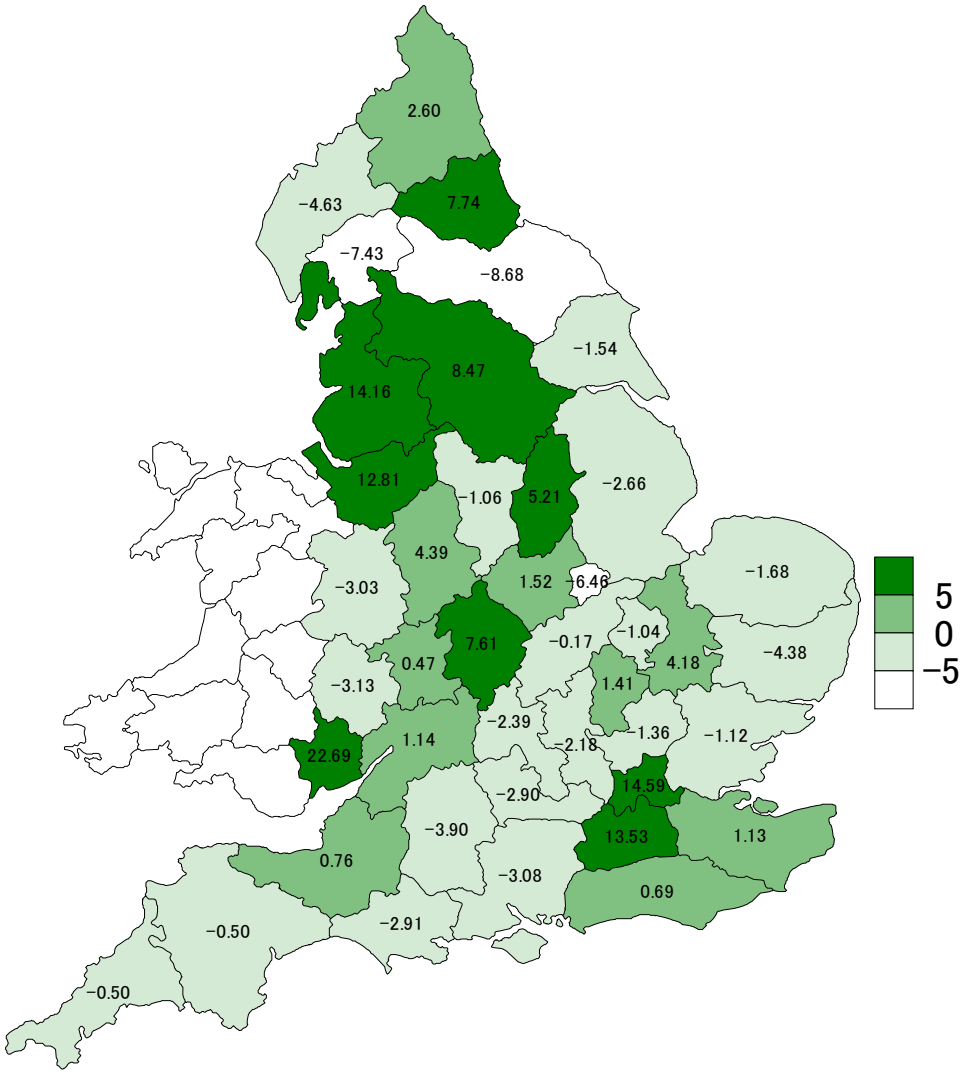
Note: Wages are shown in s. per week. Unemployment rates are also presented in percentage.

Figure 9 Agricultural practice (arable and pastoral farming)



Source: BPP 1834, vols. xxx-xxxiv.

Figure 10 Social increase of county population, 1821-1831 (per 1000)[53]



Source: 1831 Census, Enumeration Abstract and Parish Register Abstract, BPP 1833 vols. xxxvi-xxviii.

[53] We do not have direct information on migration, which is useful for nation-wide and regionally detailed analyses on this period. Because census enumerators' books provide birthplace data, we can trace migration history of individuals after 1841 to some extent. However, CEBs for the 1841 Census only provide 'whether born in the same county' or not. After the 1851 Census, home parishes became identifiable. Figure 3.2 shows net migration rates based on baptism and burial registers. The Parish Register Abstract of the 1831 Census Reports provide the numbers of baptisms, burials, and marriages in each parish. See BPP 1833, vol. xxxviii. The rates of social increase are calculated as follows:

$$\frac{(Population_{1831} - Population_{1821}) - \sum_{i=1821}^{1830}(Baptism_i - Burial_i)}{(Population_{1831} - Population_{1821})/2} \times 1{,}000$$