

Clark, Gregory; Page, Marianne

Working Paper

Welfare reform, 1834

Working Paper, No. 08-7

Provided in Cooperation with:

University of California Davis, Department of Economics

Suggested Citation: Clark, Gregory; Page, Marianne (2008) : Welfare reform, 1834, Working Paper, No. 08-7, University of California, Department of Economics, Davis, CA

This Version is available at:

<https://hdl.handle.net/10419/31344>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Welfare Reform, 1834¹

Gregory Clark
Department of Economics, UC-Davis
(gclark@ucdavis.edu)

and

Marianne Page
Department of Economics, UC-Davis and NBER
(mepage@ucdavis.edu)

October 25, 2008

¹ We thank Eric Jamelske for excellent research assistance. We also thank Dan Bogart, Hilary Hoynes, Robert Margo, Douglas Miller, and Ann Stevens for helpful suggestions without implicating them in the conclusions.

Welfare Reform, 1834

[Of the English poor laws] Instead of making the poor rich, they are calculated to make the rich poor....The principle of gravitation is not more certain than the tendency of such laws to change wealth and power into misery and weakness.

David Ricardo, 1817²

Abstract

The English Old Poor Law, which before 1834 provided welfare to the elderly, children, the improvident, and the unfortunate, was a *bête noire* of the new discipline of Political Economy. Smith, Bentham, Malthus and Ricardo all demanded its abolition. The *Poor Law Amendment Act* of 1834, drafted by Political Economists, cut payments sharply. Because local rules on eligibility and provision varied greatly before the 1834 reform, we can estimate the social cost of the extensive welfare provision of the Old Poor Law. Surprisingly there is no evidence of any of the alleged social costs that prompted the harsh treatment of the poor after 1834. Political economy, it seems, was born in sin.

² David Ricardo, 1919, 83, 86.

Introduction

Until 1834 England operated an extensive welfare system. This guaranteed subsistence to all, provided mainly as cash payments to the elderly, widows, working families with many children, the sick, the disabled, and the unemployed. More than 9 percent of people in England were in receipt of such relief yearly between the 1790s and 1834.³

Smith, Bentham, Malthus and Ricardo all denounced this system.⁴ In their writings they complain it reduced the poor's incentives to work and save. It discouraged investment in high unemployment locations by taxing local employers. It impeded labor mobility out of impoverished areas. It increased the fertility of the poor and unemployed by subsidizing children. In summary it "demoralized the working class, promoted population growth, lowered wages, reduced rents"⁵ These complaints, of course, prefigure criticisms of modern welfare systems.⁶

Before the triumph of free trade in the 1840s, the first great achievement of the new school of Political Economy in England was the 1834 Poor Law reform. The 1834 *Poor Law Commission Report*, the reform manifesto, was written by Edwin Chadwick, Bentham's former secretary, and Nassau Senior, the first professor of Political Economy at Oxford. The Commission's Report prompted the radical reform of 1834, *The Poor Law Amendment Act* - the mother of all welfare reforms.

The legal right to support was maintained, but welfare payments were to be made unattractive to all but the destitute. Welfare would be received under strict supervision in a workhouse. Thus was born the Victorian workhouse,

³ This was the share of the population that received payments at some point in each of the year 1813-5.

⁴ Smith, 1776, Bentham 2001, Malthus, 1970, Ricardo, 1919, 82-6.

⁵ Blaug, 1963, 151.

⁶ On Sweden, see for example, Lindbeck, 1997.

immortalized by Charles Dickens in *Oliver Twist*. These reforms were only partially implemented. By 1842, for example, only 16 percent of relief recipients had been forced into the workhouse.⁷ But real payments per capita declined 40 percent between 1833 and 1838. Since workhouse provision of relief cost much more than traditional cash welfare payments, real benefits per person fell by nearly 50 percent.⁸

The reforms replaced a local system of welfare provision, with idiosyncratic payments and eligibility by parish, with uniform national rules. This entailed that the brunt of the reform was borne by 1842 by a minority of parishes. We measure whether the 1834 reforms produced social gains by comparing land rents, wages and population changes in parishes before and after the reform, according to the magnitude of the cuts. Were the losses to the poor from the welfare reduction more than compensated by gains in wages, land rents, and labor mobility? We find that changes in rents, wages and parish populations all indicate that the earlier system had no social costs. The first and most dramatic of all welfare reforms thus delivered none of the gains promised by Political Economy. The social costs of maintaining an extensive system of social support turned out to be modest.

The 1834 reforms were similar in character, though more extreme, than recent US reforms. There are conflicting views of the incentive effects of the current welfare systems. We identify two features of the pre-1834 English system that avoided significant social costs. First local employers adjusted their hiring practices to take advantage of the welfare subsidy. Secondly because welfare payments were raised locally tax payers had an incentive to pay the costs of relocating the poor to where they would be most productively employed.

⁷ Over the course of the nineteenth century increasing proportions of relief recipients were in workhouses. The workhouse itself was not abolished in England until 1929.

⁸ In 1842 the cost per workhouse relief recipient was 63 percent greater than for outdoor recipients (Statistical Society, 1843, 256).

Welfare before 1834

From 1601 anyone in England unable to earn their subsistence had a legal right to support from their parish. Each of the 15,000 parishes and townships in turn had the right to levy a local rate on the occupiers of property to fund these payments to the poor. The administration of relief in each parish was controlled by the parish vestry, composed of the occupiers of land and housing who paid the poor rates.⁹

The Old Poor Law thus mixed a national right to relief, with local setting of eligibility and relief levels. Support levels varied substantially by district. Thus in 1832-3 the payment guaranteed to a family of a husband, wife and three children varied from 6 to 14 s. per week across 337 parishes whose payments were recorded in the *Poor Law Commission Report*.

In more generous parishes workers received support when they were too old to work, when they were ill, when they were unable to find work, and when their earnings fell below the adjudged subsistence level for their family. Thus in Todenham in 1832-3 those in receipt of poor relief were:

“eight efficient Labourers with four Children and upwards, 14s. 8d.; three infirm old Men, 9s. 6d.; three Bastards, 5s. 8d.; eleven Widows, £1. 8. 5.; three with Families, £1. 0. 9.” (Parliamentary Papers, 1834b, p. 202b).

⁹ The vestry was the parish council. Up until 1834 local magistrates, with jurisdiction over groups of parishes, adjudicated if the parish denied relief to an applicant and set the level of relief that had to be offered. Thus in the parish of Ardleigh, in Essex, in 1795 the overseer's account book notes “Relieved John Lilly on complaint by order, 5 s.” (Essex Record Office, Overseers Accounts, D/P 263/12/1)

The allowance paid to employed laborers in Todenham was calculated as the difference between their wage and their family need, where this was measured as 15 d. per family member, plus 30 d. extra for the husband and wife.

Although parishes were required to provide subsistence, they could choose how it was provided. Some of the poor, typically the old, the infirm, and children, were accommodated in Poor Houses. But the great majority were maintained in their own homes with weekly stipends and rent and clothing subsidies, as in most modern welfare systems. Many families received a weekly cash allowance from the Overseers of the Poor.

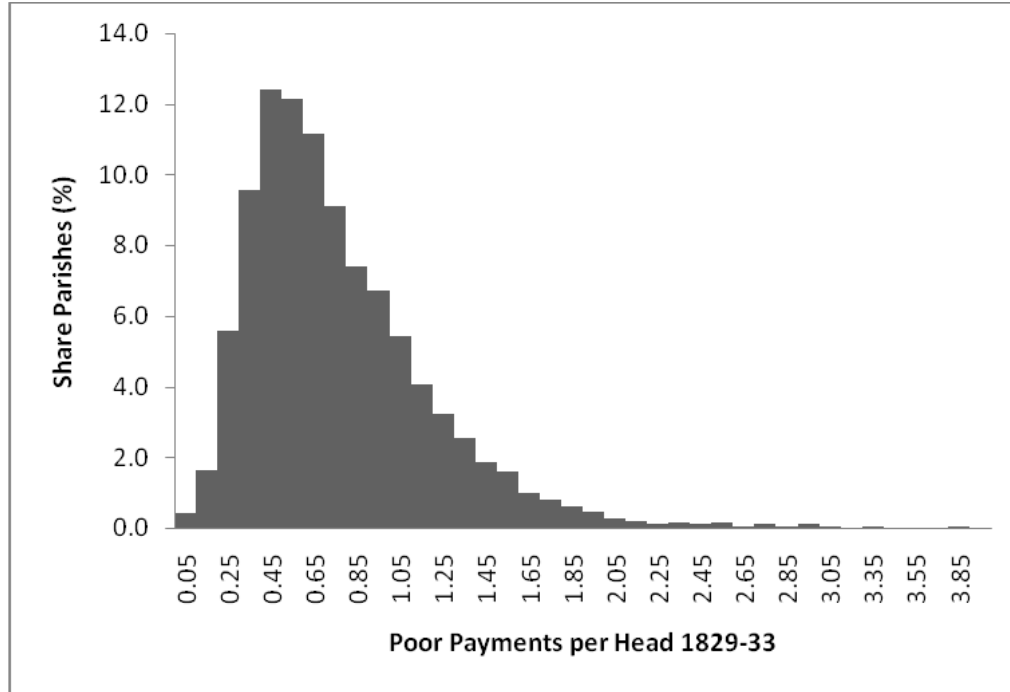
Wage subsidies were very common in many parishes by the early nineteenth century. In 81 out of 261 rural parishes surveyed in 1832-3 the subsistence level set for a family with three young children equaled or exceeded the wage outside harvest for farm laborers. By the early nineteenth century 9 percent of the English population was in receipt of relief at some point in the year. But in rural southern England the fraction receiving relief was even higher: 13 percent or more in 1813-15.

Poor relief payments per person varied widely across parishes under the Old Poor Law. At one extreme, in Ardleigh in Essex, detailed poor relief expenditures and population figures for 1821-23 show 28 percent of the population were in families in regular receipt of relief in 1823. 22 percent of males aged 15-59 received unemployment payments at some point in the year 1821.¹⁰ Elsewhere there were parishes where no-one received relief.

Figure 1 shows payments per person in 1829-33 by parish. The average was £0.8 per person. Since average wage income per person was about £8 per year per person for laboring families, poor relief payments averaged more than 10 percent

¹⁰ Essex Record Office, Overseers Accounts, D/P 263/12/7-8, Census Returns 1821, D/P 263/28/1.

Figure 1: Poor Payments per head, 1829-33 (£)



Source: Parliamentary Papers, 1835.

of laboring families' budgets. But in 5 percent of parishes payments were more than twice this average, and in 17 percent of parishes less than half.

Using 787 parishes where we have information on wages and relief systems in 1832 from the *Poor Law Commission Report* we explored the source of this variation with the following regression:

$$PPN_{1829-33} = a + b_1W_{1832} + b_2FLABAG_{1831} + b_3FARA_{1837} + b_4LDEN_{1831} + b_5DN + b_6DSE + b_7DSW + b_8CHILD6 + b_9CHILD4 + b_{10}CHILD3 \quad (1)$$

W_{1832} is the estimated annual wage in farming in the parish in 1832. FLABAG is the fraction of men aged 21 and over engaged in farming. FARA is the fraction of parish farmland employed in arable farming in 1837. LDEN₁₈₃₁ is the logarithm of people per acre in 1831. DN an indicator for parishes located in northern England, DSE an indicator for parishes in the southeast, and DSW an indicator for parishes in the southwest (with the Midlands the omitted category).¹¹

From the Poor Law Report we categorize parishes into those that allowed no support to employed men with children (41 percent), those that gave support to employed men with 3 or even fewer children (CHILD3 - 15 percent), those where support started with the fourth or fifth child (CHILD4 – 29 percent), and those that only gave support to employed men with 6 or more children, or allowed support in an unspecified way to “large families” (CHILD6 – 15 percent).¹²

The variables in the regression explain 48 percent of the variation in poor payments per person across parishes. Most of that explained variation came from practices with respect to paying child allowances and from the location of the parish. The child allowance indicators alone explain 24 percent of the variation. Child allowance plus regional indicators explains 39 percent of the variation. If we use fixed effects for each of the 42 counties in England rather than just the four regional fixed effects, then this along with child allowance practices, explains 48 percent of the variation. Indeed restricting ourselves to the parishes where the majority of men were employed agriculture, which we will use in the empirical tests below, location and welfare rules alone explained 53 percent of the variation in poor payments. Adding all the other variables to the regression improves explained variation by only 3 percent.

¹¹ The fraction of the land employed in arable cultivation comes from the tithe surveys carried out in parishes mainly in the years 1837-1845. Only for 35 percent of parishes do we have this fraction directly. For the rest we estimate it as the average of the county the parish was in (there were 42 counties).

¹² Where child allowance was allowed just for “large families” without a specific rule it was often stated or implied that this was an infrequent occurrence.

Table 1: Explaining parish variation in poor payments per person, 1829-33

Variable	Coefficient estimate	Standard Error
Constant	0.45	0.106
Farm Wage 1832 (£/year)	-0.004	0.003
Fraction of males in agriculture	0.414**	0.075
Fraction acreage arable	0.030	0.078
Log Population density	-0.043*	0.019
North	-0.249**	0.037
South East	0.161**	0.028
South West	-0.207**	0.036
Child Allowance 6+	0.077*	0.031
Child Allowance 4-5	0.203**	0.027
Child Allowance 1-3	0.343**	0.033

Note: ** indicates statistically significant at the 1 percent level, * significant at the 5 percent level.

Thus the most important component in explaining variations in poor payments per head seems just to have been differences in parish and regional “tastes” for providing welfare payments, rather than labor demand (as indexed by wage levels), or the type of agriculture.¹³ Higher wages had a very modest association with the level of poor payments. Going from the lowest annual wages of £19 to the highest of £46 reduced predicted poor payments per head by £0.11, much less than the differences induced by regional and local welfare tastes. Since the average poor payment per person was £0.8, the predicted difference of £0.75 between a northern parish without child allowances, and a south eastern parish paying the most generous child allowance was very substantial.

¹³ King, 2000, makes the argument that there were regional differences in attitudes to welfare that created these different expenditures.

The 1834 Poor Law Report

The Old Poor Law was argued by the Poor Law Commission Report to have four significant social costs.

Reduced Work Incentives - The poor law allegedly destroyed the incentive of workers to work hard at work, and to seek out employment if they were unemployed. In a parish where the market wage rate for a worker was below the guaranteed minimum, the worker faced effectively a 100 percent marginal tax rate. This should have reduced work effort since unemployment costs were lowered. The commissioners concluded this would lower market wages.¹⁴

Figure 2 shows for 261 parishes or townships in 1832-3 both the reported weekly wage in winter for an adult male in agriculture, and the level of income at which the parish would start supporting a family of husband, wife and 3 young children. On average that subsistence allowance for men with families was 93 percent of the winter wage, and in 24 percent of cases it exceeded the winter wage. The report concluded

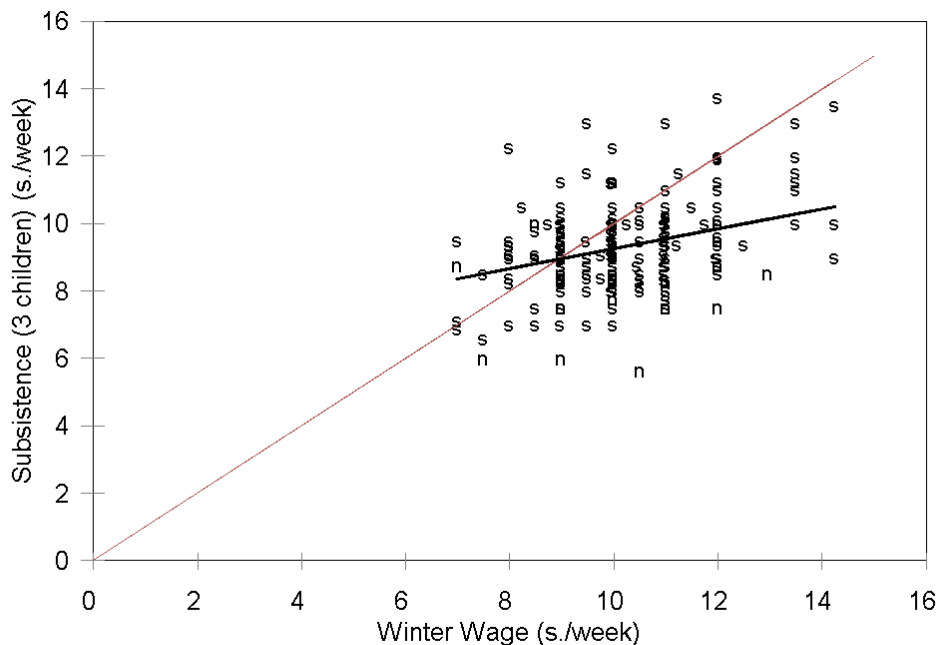
We have seen that in every instance in which the able-bodied labourers have been rendered independent of partial relief, or of relief otherwise than in a well-regulated workhouse -

- 1. Their industry has been restored and improved.*
- 2. Frugal habits have been created or strengthened.*
- 3. The permanent demand for their labour has increased.*
- 4. And the increase has been such, that their wages, so far from being depressed by the increased amount of labour on the market, have in general advanced.¹⁵*

¹⁴ The logic of the commissioners argument has been criticized. See, for example, McCloskey, 1973.

¹⁵ Parliamentary Papers, 1834a, 146.

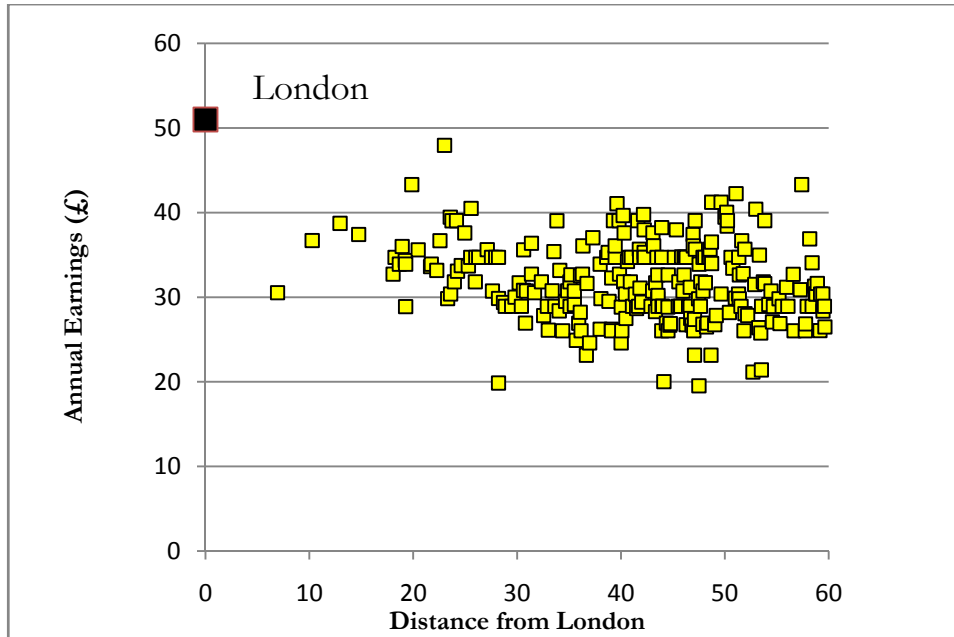
Figure 2: Winter Wages versus the Subsistence Allowance, 1832-3



Note: “n” indicates a parish in the north, “s” a parish elsewhere.

Reduced Labor Mobility - Since workers were guaranteed a subsistence income in their place of birth they had reduced incentives to bear the costs and hazards of moving in response to higher wage opportunities in the cities, or in other parishes. Thus poor relief impeded labor mobility. Figure 3 shows annual agricultural wages in 1832 in parishes within 60 miles of London in the south of England, as well as the annual wage of a building laborer in London (£51). The average wage in these parishes was less than £32. Housing was much more expensive in London, but even taking this into account, the real wage in London substantially exceeded that in nearby rural areas. There were parishes less than 50

Figure 3: Wages in London and nearby parishes



Source: Parliamentary Papers, 1834b.

miles from London where the annual wage was below £20. The poor relief system was retarding labor mobility to high wage opportunities.

Reduced Investment - The Old Poor Law reduced landowners' incentive to invest capital in land improvement. Poor relief was paid out of parish taxes assessed on the estimated rental value of property. Land value was partly determined by soil fertility, but it also strongly depended on investments in farmhouses, buildings, roads, fences, drainage and soil amendment. The tax rate on property under the Old Poor Law was as high as 40 percent in some rural parishes. In these parishes the required return on investments in land

improvement would be correspondingly greater. Thus the Old Poor Law reduced rural labor demand by discouraging investment.

Increased Fertility by the Poor - In many parishes each additional child beyond some established minimum – 2, 3, 4, 5, or more - received a proportionate allowance from the poor rates. It was feared that precisely for the poorest of the population, relief recipients, the normal economic costs of greater fertility had been taken away. Where for richer groups earlier marriage implied more children and a substantial decline in living standards, for the poor earlier marriage had no costs. Fertility would be increased most precisely in those areas with the least demand for labor. And fertility would increase for those with the least education and prospects.

The 1834 Reform

The *Poor Law Amendment Act* of 1834 enacted radical reforms. The legal right to relief was maintained, but now able-bodied relief applicants were expected to enter a workhouse to receive it. In the workhouse, the conditions were deliberately planned to be wholesome but monotonous and confining. This was the so-called “Workhouse Test.” There was to be no payment to relief to those living independently or as a subsidy to wages, except on a temporary basis in the case of illness. Indoor relief was more expensive than outdoor, but the hope was that the new regime would discourage all but the truly needy from applying. Workers would instead migrate in search of work, limit fertility (through delaying marriage), or make do with what the market offered.¹⁶

To ensure compliance with the reform objectives at the local level, parishes were grouped into unions, where the decision about who was entitled to relief,

¹⁶ Besley and Coates, 1992, set out a micro-theoretic conditions which would underpin this approach.

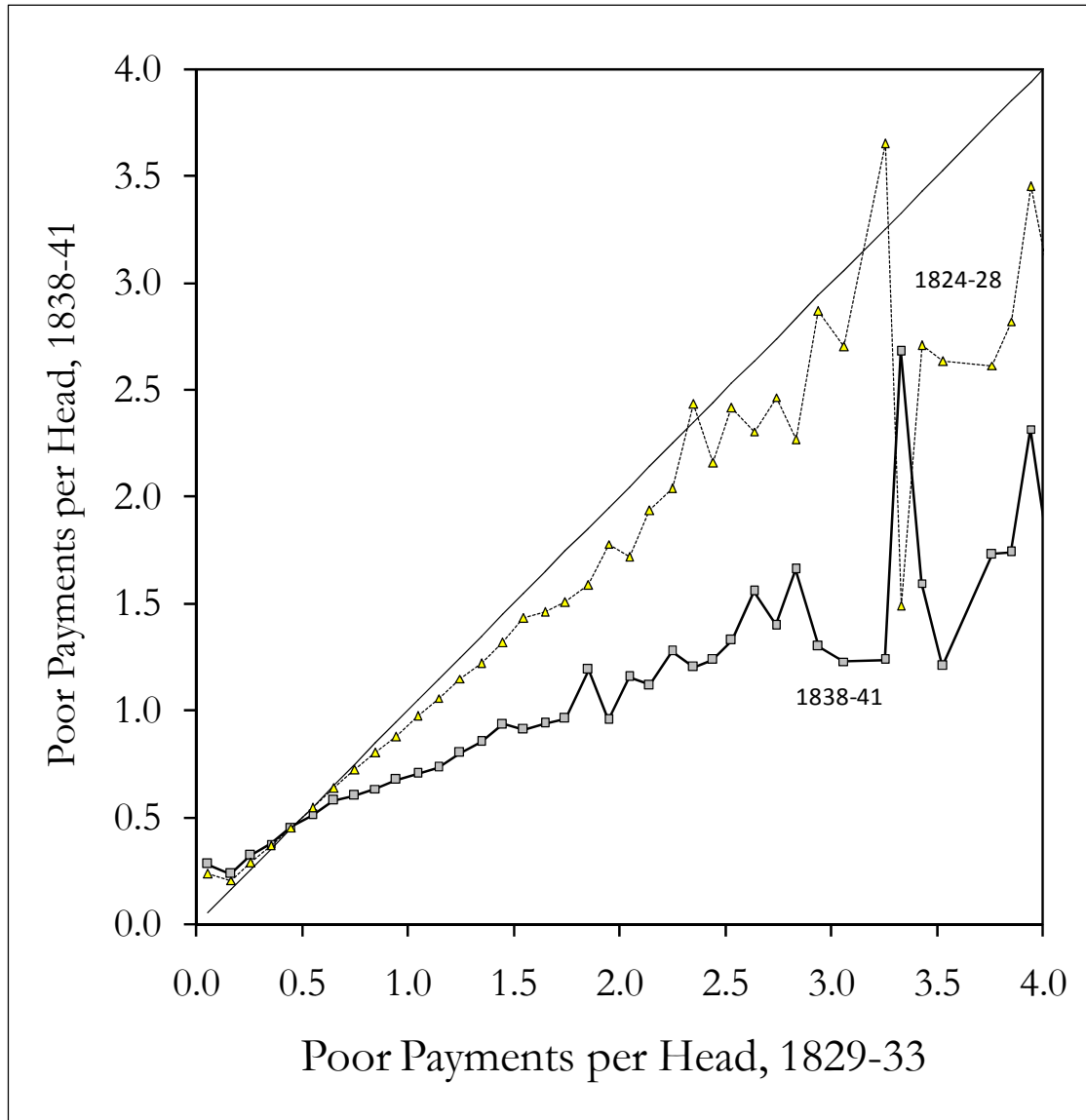
and how much relief to provide, was now to lie with the Board of Guardians of the union. The Board of Guardians was composed of the magistrates resident in the Union, along with an elected representative from each parish. In the election for the guardians, however, large occupiers and large landowners were given more votes. Though the 1834 reform was not immediately implemented in all its rigor – there were not sufficient workhouse places and there was significant local opposition to the measures – it did lead to a sharp reduction in poor relief.

In the years before the reform there is a strong correlation between the places with high payments in 1829-33 and those with high payments in 1824-8, with little sign of regression to the mean. The payment pattern across parishes was stable, as figure 4 shows. After the reform the payment pattern is largely unchanged for parishes with payments per head of population of less than £0.60: average payments per head fell from £0.42 to £0.40. But in the higher paying parishes there is a clear pattern of cuts. The higher the payment the greater the proportionate cut. Parishes paying more than £0.60 per year saw a decline in average payments from £1.07 to £0.68. Thus the reforms imposed real cuts, and imposed them in the areas of highest relief payments per head.¹⁷

Our interpretation is that in low payment parishes payments before 1834 were principally to the elderly, widows and orphans, and were unaffected by the strictures of the New Poor Law. The areas of high payments per capita were those with wage subsidies in support of children, and thus were cut. The effects found in aggregate also show up if we divide the data into four regions, the North, the Midlands, the South West and the South East. Payments fell most where they had been highest. In rural parishes in the South West average poor payments per head fell from £0.62 to £0.58. In the South East average payments fell from £1.09 to £0.73.

¹⁷ We include the 1824-28 data to show that the relationship between the payments in 1829-33 and 1838-41 cannot be just the result of larger random components in the higher paying parishes in 1829-33. If so the curve relating 1824-28 payments to 1829-33 would show a similar regression to the mean.

Figure 4: The effects of the New Poor Law by the earlier level of payments per head



Note: The figure shows on the horizontal axis average poor payments per head in 1829-33 by 0.1 increments. It shows on the vertical axis the average payment per head in 1838-41 and 1824-28 for the corresponding group of parishes.

We can explain 58 percent of the variance in the change in poor payments per head by parish or township between 1829-33 and 1838-41 (ΔPPN) with the simple regression specification

$$\Delta PPN = \beta_0 + \beta_1 PPN_{1829-33} + \beta_2 DHIGH \cdot (PPN_{1829-33} - 0.5) + \varepsilon \quad (2)$$

where $PPN_{1829-33}$ is the poor relief payments per resident in 1829-33, and $DHIGH$ is an indicator variable which is 1 when $PPN_{1829-33} \geq 0.5$. In contrast if we look at the changes under the Old Poor Law regime between 1824-28 and 1829-33, then the same specification explains just 8 percent of the variance. Thus the regime change alone explains at least half of the changes in poor payments per head between 1829-33 and 1838-41.¹⁸

In the tests of the effects of the poor law reform below we will be using as an independent variable poor payments per acre in rural parishes, defined as those with the majority of workers employed in agriculture. Changes in poor payments per acre in rural parishes are even more predictable than changes in poor payments per head. If we translate the equation above into poor payments per acre by multiplying every term by people per acre in 1831, then we can explain 68 percent of the variance in changes in poor payments per acre between 1829-33 and 1838-41.¹⁹

¹⁸ Addition of other variables such as indicator variables for local effects, for urban versus rural parishes, and for the poor law union the parish belonged to can raise the R^2 to 0.64. But this implies that these other elements explain only a very small share of the variance.

¹⁹ Again looking at the change from 1829-30 to 1831-33 the same variables explain only 2 percent of the variance across time periods in poor payments per acre.

Social Gains from the Reform?

The Poor Law Commissioners optimistically expected that in parishes with high welfare payments reform would raise wages, raise land rents by more than the decrease in the tax, and reduce fertility by the poor. It would also increase labor mobility. Can we detect any of the anticipated social gains from the reform? Below we estimate the effects of the cuts on land rents, wages, and (in combination) fertility and labor mobility.

Poor relief payments were paid through taxes on property. Did property owners benefit significantly from the reforms? For this test we concentrate on rural parishes where most of the poor were concentrated. In these parishes the main payment for the law came from a tax on land. To estimate the gains by landowners we assume that the farmland rent per acre in each parish i with poor payments of 0 would be in year t , $V_t + \varepsilon_{it}$. When a poor rate is charged the actual rent per acre becomes

$$RENT_{it} = V_t - b \cdot POOR_{it} + \varepsilon_{it} \quad (3)$$

The change in rent between the earlier period and 1842 is thus

$$\Delta RENT_i = \Delta V_i - b \cdot \Delta POOR_i + \Delta \varepsilon_i \quad (4)$$

$\Delta POOR$ measures the change in the tax per acre on farmland in each parish between the two periods. ΔV_i is assumed to be a constant, ΔV . b measures the fraction of the reduction in the tax rate which gets translated into higher rental values for land owners. If poor payments were just a transfer to the needy from landowners, with no effects on investment, wages, or labor efficiency, then changes in wages and property values net of the tax will be zero, and the estimate of b will be 1.

The Poor Law Commission interpretation, however, was that poor relief was reducing investment in land improvement by driving up the cost of capital, and raising the effective cost of labor. In this case when we estimate (4) we will find $b > 1$. For b will pick up also gains in property values after reform from the lower real labor cost and the greater investment in land improvement.

The estimation of b from (4) will be a biased estimate of the total effects of poor relief reforms on land rents if the changes in poor relief payments were partially endogenous. This bias could go in either direction. Suppose, for example, poor relief payments declined more in 1829-33 to 1838-41 in parishes close to growing urban areas because of a more buoyant demand for labor. The growing urban areas would also increase farmland rents. In this case the estimated value of b will be biased upwards from the true value. Alternatively suppose that some parishes had faster population growth for reasons independent of welfare provision, such as a better health environment or accidents of demography. The enhanced labor supply would drive down wages, and drive up land rents. But if the decline in wages was accompanied by more poor relief payments, it would bias the estimate of b downwards towards 0.

We control for this endogeneity by using an instrument for the change in poor rate payments per acre 1829-33 to 1838-41. That instrument, based on figure 4, is just the predicted change in poor payments per unit of rent in a parish based on the level of those payments per person in 1829-33. Since the instrument depends only on features of the parish before the cuts in welfare payments it is purged of any endogenous connection between changes in rents and changes in poor rate payments in a parish after 1829-33.²⁰

²⁰ To be a valid instrument the level of poor payments per head before the reform also must have no direct effect on the change in rent. We demonstrate in table 1 above that these payments were largely determined by local tastes for welfare, which we expect are unconnected directly with subsequent changes in the rental values of farmland.

Table 3: Estimate of the Effects of Poor Payments on Land Rental Values

Independent Variables	OLS	OLS	OLS	IV	IV	IV
Δ Poor Rate per Acre	0.15 (.24)	-0.25 (.24)	-0.23 (.27)	1.04 (.29)	0.27 (.29)	0.41 (.32)
Δ Share land private	-	0.35 (.09)	0.39 (.09)	-	0.35 (.09)	0.39 (.09)
Population per acre, 1831	-	1.02 (.17)	0.95 (.18)	-	0.93 (.17)	0.87 (.18)
County Dummies	NO	NO	YES	NO	NO	YES
Number of parishes	2,207	2,207	2,207	2,207	2,207	2,207

Table 3 shows the results of estimating equation (4) using both Ordinary Least Squares and Instrumental Variables. We include also two control variables in the regression. A transition occurring in English agriculture throughout this period was the conversion of land from partially common ownership to pure private status. This change was accompanied by rent increases per acre. We know the fraction of land that was still common land in parishes in 1842. We know also the fraction of the plots that was used for the earlier rent estimate that was common. Thus we can construct a measure of the change in the fraction of private land between our estimates for these two dates. This variable is included as a test of whether rents were indeed responsive to the economic value of land even over this short period, and whether our measured change in rent indeed contains information about changing land values. We know the magnitude of this

coefficient should be around 0.3 for this period based on earlier work on the gains from enclosure of common land in this period.²¹

We also include measures of population density in 1831. This controls for differential rent trends in more urbanized parishes and more fertile land. But as is discussed in the data appendix there will be errors in the measurement of the rent change in parishes post reform that are correlated with parish population densities. Rural parishes with low population densities will tend to have an underestimate of the true rental value of farmland after the reform, and hence an underestimate of rent gains. Low population density parishes do indeed show lower rent gains in the estimations in table 3.

The main result that emerges is that cuts in poor rate payments produced surprisingly little gain in land rental values. The effects are greater with the instrumental variable estimates. But even there we estimate each £1 saved in poor rate payments increased rents by only £0.24-0.41. We can rule out with confidence the idea that poor rate payments imposed any significant burden on rents above the actual amount collected. If the Old Poor Law was causing substantial inefficiencies they were not showing as losses to land owners. If there were substantial efficiency costs it would have to be in wage losses to workers.

Could our failure to find much gain in rents from the reform stem just from very poor measures of rents, so that the left hand side of equation (4) is just noise? This can be ruled out in two ways. First if either the pre or post rent measures was just noise then the two sets of measures would be uncorrelated. However, if we regress the average rental value per acre of holdings in the years 1820-1834 ($rent_{20-34}$) in the sample of rural parishes on the rental value per acre of the parish as a whole in 1842 ($rent_{42}$) the estimate is

²¹ Clark, 1998, 88.

$$\begin{aligned}
 \text{Rent}_{20-34} &= 1.011 & + & 0.560 \text{rent}_{42} \\
 &(.047) & & (.031) & & R^2 = 0.13 & (5)
 \end{aligned}$$

There thus information in our measure on rent changes by parish from pre-reform to post-reform. Secondly we do detect very clearly the gains from land switching from common to private control over the same interval. The magnitude of this effect is even stronger than that found in Clark (1998), and is highly significant statistically.

Reform, Fertility and Labor Mobility

Two other potential costs of the Old Poor Law alleged by the Poor Law Commission were its implicit subsidy to fertility among the poorest, and the distortion of the labor markets it created by subsidizing workers who stayed in low wage parishes.

Parishes with the highest payments typically had child allowances that supported all additional dependent children beyond a specified minimum from the public purse. Malthus, one of the great critics of the Old Poor Law, referred to these subsidies as “a direct, constant, and systematic encouragement to marriage.”²² The *Poor Law Report* envisioned the Old Poor Law as multiplying the population in precisely those parishes where there was little demand for labor. But at the same time by paying workers allowances above the market wage level the Old Poor Law impeded the movement of that labor to parishes where its marginal product was higher by subsidizing the poor to stay where they were born.

Even if there was no impediment to labor mobility, we would from the *Poor Law Commissioners Report* expect more children per employed laborer in parishes

²² Quoted in Boyer, 1989, 94.

with generous welfare in 1834 from earlier and more frequent marriage, and hence greater population densities. It has been debated ever since whether indeed the Old Poor Law stimulated fertility. James Huzel looking at a time series of parishes before and after elimination of child allowances in the 1820s under the Old Poor Law finds no evidence of a positive effect of child allowances on fertility.²³ However, Huzel's study had no controls for the potential endogeneity of the decision to end allowances. George Boyer looking at a cross section of 214 parishes in 1832 finds that the generosity of child allowances correlated positively in cross section with the birth rate under the Old Poor Law. Parishes giving a child allowance for the third and higher children reporting birth rates 25 percent greater than those with no child allowance.²⁴

In 1831 with the high fertility levels of this period, those under age 20 were 50 percent of the population of rural parishes. If child allowances stimulated fertility in the way expected from Boyer's study we would expect noticeably higher population densities in rural parishes with high levels of poor relief. In fact the estimation in table 1 suggests that rural parishes with high poor payments tended to be less densely populated in 1831. But many other variables can intervene in such a cross section, obscuring the true relationship.

If the *Poor Law Commissioners Report* was correct, however, then the end of child allowances, and the tightening of general conditions of relief after 1834, should have led to a relative decline in population in rural parishes with previously generous benefits. First the number of dependents per employed laborer should drop in these parishes between 1831 and 1841, as laborers delayed marriage, or reduced fertility within marriage. Second labor would migrate away from parishes where workers no longer received a supplement to their wages.

²³ Huzel, 1980, 369-75.

²⁴ Boyer, 1989, 105. Boyer controls in his estimations for such things as the income of laborers, and the availability of housing and other income sources.

To test whether jointly the Old Poor Law increased fertility and reduced emigration we estimate the parameters of the expression

$$\left(\frac{N_{41} - N_{31}}{N_{31}} \right)_i = a + b\Delta PPN_i + \sum_j c_j \text{CONTROLS}_{ji} + e_i \quad (6)$$

where N_{31} and N_{41} are the parish populations in 1831 and 1841, and PPN are poor payments per head of population. It is not possible with this data to disentangle the effects of enhanced out-migration with those of potential fertility reductions from delayed marriages. Instead we will see a combined effect. How did population change in parishes with large welfare cuts compared to those with no cut? If the Poor Law Commission Report was correct, we would expect to see b be positive and large.

Population rose by on average 8 percent between 1831 and 1841 in the predominantly rural parishes in our sample. This is much less than for England as a whole. Since rural birth rates were higher than in urban parishes most rural parishes experienced significant out migration: 7 percent or more of their population over 10 years.²⁵ The average poor payment per head in 1829-33 was £0.8, more than 10 percent of the income of rural laboring families. If these payments were increasing fertility or reducing out-migration, then we should be able to detect changes by 1841.

As with the change in rents, ΔPPN is potentially endogenous. Suppose parishes are subject to labor demand shocks in a way not controlled for by the *CONTROL* variables. A parish which experienced a positive shock between 1833 and 1841 could see both a decline in relief payments per head, and a larger than expected population relative to 1831. We deal with this again by using as an instrument for ΔPPN the predicted change from payments per person in 1829-33.

²⁵ We excluded parishes where less than 50 percent of males were employed in agriculture in 1831, and where the population in 1831 was less than 50 people.

Table 4: Estimate of the Effects of Poor Payments on Population Changes, 1831-41

Independent Variables	OLS	OLS	OLS	IV	IV	IV
Δ Poor Expense /Person	-0.14** (.008)	-0.14** (.008)	-0.17** (.009)	-0.003 (.011)	0.003 (.011)	0.018 (.013)
$(N_{1831}-N_{1801})/N_{1801}$	-	-0.04** (.008)	-0.05** (.008)	-	-0.05** (.008)	-0.07** (.023)
Population per acre, 1831	-	-0.14** (.024)	-0.12** (.028)	-	-0.09** (.017)	-0.09** (.029)
Fraction Agricultural Employment 1831	-	-	0.07** (.021)	-	-	0.06** (.021)
County Dummies	NO	NO	YES	NO	NO	YES
Number of parishes	6,948	6,948	6,948	6,948	6,948	6,948

Note: ** indicates defers from 0 at the 1 percent level of statistical significance. * indicates defers from 0 at the 5 percent level of statistical significance.

Table 4, reports OLS and IV estimates of the parameters of equation (6) linking population change to changes in poor payments per head. With the OLS estimation there is a significant negative association between the change in poor relief payments per head and the population change. This is because parishes where poor payments per head fell saw greater population growth. Thus the 15 percent of parishes where poor payments per head fell £0.5 or more had a population growth of 12 percent on average between 1831 and 1841. But this

association came from unobserved shocks on labor demand that both increased population and reduced poor relief payments. With the instrumental variable estimation this association disappears. Poor payment cuts had no statistically significant association with population change from 1831 to 1841.

Indeed the best estimate from table 4 is that a reduction of poor payments in a parish equivalent to about 7.5 percent of annual wage income for all workers, the typical reduction in the South East, would lead to a decline in population between 1831 and 1841 of 0.65 percent. Even at the 95 percent confidence limit the most the reform of the poor law could have reduced population in rural parishes by 1841 was by 0.9 percent, taking into account both changes in fertility and migration. This is a tiny fraction of the observed average migration of more than 7 percent per decade. Thus whether the population movements induced by the poor law reform were statistically significant or not, they had an imperceptible impact in England in 1834.

The population changes after the reform of the Old Poor Law are inconsistent with the law having large efficiency effects through misallocation of labor. They are similarly inconsistent with the idea that the Old Poor Law induced significantly higher fertility in parishes with high payment levels. In that case the seven years between the 1834 reform and the 1841 census there was plenty of time for the elimination of child subsidies to show up through delay or avoidance of marriages.

Reform and Wages

Landlords gained little from the reform, and perhaps not even as much as their reduced tax payments. Fertility and labor allocation did not change. But perhaps all the gains of the reform went to the poor themselves in the form of higher wages?

Table 5: Day Wage Movements after the Poor Law Reform

Period	North (d./day)	Midlands (d./day)	South East (d./day)	South West (d./day)
1830-4	24.1	23.4	22.6	18.8
1835-9	23.2	22.7	21.4	19.1
1840-4	23.0	23.9	22.2	19.5
1845-9	25.3	23.5	21.8	19.9
Average change	-0.3	0.0	-0.8	0.7
Estimated welfare cut per laborer	0.4	1.0	1.9	0.2

Source: Clark, 2001. These are male wages between October and May, outside the harvest season.

We have much less complete wage data for rural England in these years. But what there is strongly suggests that rural labors did not make significant gains in wages as a result of these reforms. Table 5 shows average nominal winter day wages in the four regions of England used above in each of the 5 year periods, 1830-4, 1835-9, 1840-4 and 1845-9, from a sample of farm accounts in each of these regions. Also shown is the change in average daily wages between 1830-4 and 1835-49. The last row of the table shows the implied cuts in welfare payments per worker per day of work in each region, on the assumption that adult male workers were 30 percent of the population, and that the low paid laborers who would receive welfare were on average half the labor force.

As noted before the welfare cuts were concentrated in the south east. There they would have constituted a decline of as much as 7 percent in the average income of the poorest workers. Yet there is no sign that day wages in the south east adjusted to compensate for these cuts, or indeed that wages rose strongly in the south east as the labor market was freed up with the ending of many welfare payments. The evidence of day wages suggests instead that the relative earnings of workers in the south east fell after the reforms.

Interpretation

Clearly the 1834 welfare reform fulfilled none of the hopes of the Political Economists. It is estimated that rents rose in parishes with the greatest reduction in welfare payments, but most likely by less than the reduction in poor rate taxes. Certainly there were no gains for landowners beyond the decline in their tax burden. Labor did not migrate faster from rural parishes after the reforms, nor is there sign of any reduction in fertility. The reform did not spur any observable increase in wages in the south east where payments were high through enhancing the discipline and efficiency of workers, and inducing greater capital investment.

George Boyer has a political economy interpretation of the Old Poor Law that can explain some of these findings. Boyer argued that the pre-1834 did not transfer income from property owners to the poor, but instead reallocated labor costs in rural parishes from farmers to non-labor hirers, such as house owners and the collectors of tithe payments from farmers. It persisted because rural landlords, whose tenant farmers operated the poor relief system within parishes, were gaining from the payments.²⁶ Such farmers operated within a competitive labor market, and needed to pay enough to retain adequate labor in the countryside. By laying-off workers when labor demand was low in winter, and

²⁶Boyer, 1990. Boyer considers the main loser from these transfers to be smallholders who did not hire labor, or house owners. But the tithe collectors, who could get as much as 20 percent of the rental income in a parish, would also typically not hire labor locally.

having them supported by the parish, they reduced net labor costs since the occupiers of the houses and the tithe owners paid part of the poor relief.

Boyer explains the geographic variation in relief payments under the Old Poor Law, noted above in table 1, as stemming from differences in the marginal product of labor in winter in different areas. Payments were greater in the grain growing south east than in the equally poor but pastoral south west. The grain growing areas have little demand for labor in winter. Thus the farmers could at little cost lay off workers and have the parish support them in the winter months.²⁷ Similarly much higher rural than urban payments stem from these seasonal labor demands, as well as the political power of labor hirers in rural as opposed to urban areas.

On Boyer's interpretation, where poor relief payments were mainly a replacement for wages, the reduced form estimate of b in equation (4) will actually be negative. For if we assume that wages in each rural parish are set by the wage level in the nearest urban community, then the total of poor relief plus wage payments in each parish will not change after the reform. Thus for every £1 of relief payments avoided wages have to be supplemented by a £1. But since others were paying some of the taxes landowners end up paying an increased wage bill, and hence land rents fall. Boyer would also predict no increase in wages to compensate for the reduction in poor relief payments, and no increased migration out of villages with high poor payments after the cuts.

However there are a number of facts of the period that do not fit with this political economy of the poor law. As is shown below in table 6, even entirely urban parishes in the south east paid more relief per person in 1829-33 than urban parishes in the south west and north. Poor payments per head in the most

²⁷ Boyer's primary empirical support for his theory is data on a cross section of parishes in 1832-3. He shows that parishes with higher poor law payments were those with more seasonal labor demands, and also those with a larger proportion of ratepayers who were farmers. Boyer, 1990.

Table 6: Urban and Rural Relief Payments by Region, 1829-33

Region	Most Urban Number of Parishes	Most Urban Payments per head (£)	Most Rural Number of Parishes	Most Rural Payments per head (£)
South East	122	0.78	810	1.18
Midlands	142	0.68	683	0.90
North	340	0.25	330	0.77
South West	163	0.35	421	0.65

Sources: Parliamentary Papers, 1833, 1835.

urban parishes, those with fewer than one male in 10 employed in agriculture in 1831, followed the same regional pattern as those in the most rural parishes, those with more than 8 in 10 males employed in agriculture.

Further if we refer back to the estimated coefficients from equation (1) we see values that are at odds with the Boyer theory. Once we control for regional effects, parishes with more arable land and hence more seasonal employment demands do not spend more on poor relief. Further the regression shows that an important source of high payment levels in parishes was the practice of making child support payments. Since these were paid to employed workers, they would also act as a wage subsidy for farmers. But they would subsidize farmers in all regions, not just those in the south east. Yet such payments were much more common in the south east. This conflicts with Boyer's particular Political Economy story. It is consistent with the idea of regional welfare cultures.²⁸

²⁸ King, 2000.

One way to interpret this would be that farmers did not lobby for the particular welfare systems we observe, but they did respond to the local welfare culture in their own compensation to workers. Where relief was generous they did not have to compensate the workers as well to keep them in the rural areas.

Our data on winter day wages, which show no sign of adjusting after the end of the Old Poor Law, is discordant with this. But there were other dimensions along which farmers could adjust labor compensation. They could offer more days of employment per worker over the winter. Varying amounts of work were offered at piece rates, which traditionally offered higher compensation per day. They could also offer more employment opportunities for wives and children. Thus it is possible that rents rose little after the reforms, and labor did not migrate from the countryside, because farmers had to raise labor payments to workers in compensation.

But all this depends on the earlier system having modest efficiency costs. Given our description above of that system how was it possible not to have had such social costs? A key element here was that it was the people operating the system at the local level who bore the costs. As owners of land, or more frequently as tenants, any money they saved from reduced poor payments went directly to their pocket (though for tenants those savings would in a few years get transferred to the landlord in the form of higher rents when the next lease renewal came). Within the constraints of the law, then, they had the incentive to operate the system as efficiently as possible.

Take the example of allowances paid in aid of wages. Since the minimum subsistence income set for a man with three or more children frequently exceeded the going wage, the argument was that such payments must have severely undermined labor incentives, and so driven up real labor costs even beyond the amounts paid in poor rate taxes. However, the detailed records of parishes like Ardleigh in Essex suggests that, well aware of the incentive issues, parishes would fix a standard allowance to be paid, independent of the actual earnings of the

family. If the husband could earn more at work then he got to keep all of it. The very pervasiveness of such payments reflected in part an attempt to avoid the incentive problems that would arise if industrious workers lost out as a result of their industry.

Similarly the lack of any increased emigration out of parishes with high poor rate payments after the cuts reflects the fact that local parishes before the reform were legally entitled to use the poor rate to pay the costs of emigration for families. If rural parishes had surplus workers who could productively be employed elsewhere, parishes had a financial incentive to pay the costs of their relocation. Even before the reform of 1834 there were some such schemes organized by groups of parishes. One of the provisions of the New Poor Law was an explicit authorization for parishes to subsidize the foreign immigration of their poor. In 1836-1852 English parishes, for example, paid for the emigration of paupers to Australia. Yet the numbers involved were very modest in proportion to the total rural population. And in 1852 Australia refused to accept such pauper immigrants. There was no large pool of productive pauper labor awaiting reallocation.

Conclusion

Despite the polemics of the political economists and pamphlet writers the Old Poor Law seemingly imposed little cost on land owners before 1834. It had no impact on rural wages, and was little barrier to labor mobility. Nor did it increase the fertility of the poor. The draconian reforms of the New Poor Law, in place in England until 1906, and dramatized by Charles Dickens in *Oliver Twist* in 1838, had no measurable social benefits.

Over the course of the nineteenth century hundreds of thousands of the poor in England were subjected to the harsh regime of the workhouse based on the mistaken conclusions of the Political Economists. Parents were separated

from each other and their children, men and women were set to long hours of meaningless make work like breaking stones. The children in laboring families with the misfortune to produce large numbers of surviving children were brought up in conditions of grinding poverty.

Yet this deliberately induced suffering gained nothing for the land and property owners who funded poor relief. One of the first great triumphs of the new discipline of Political Economy, the reform of the Poor Laws, consequently had no effects on economic growth and economic performance in Industrial Revolution England. Political Economy was born in sin.

Data Appendix

Because of the intense public debate about reforming the poor law, the English collected a great deal of information about poor payments, population and occupations by parish in the years 1825-1842.

For the tests outlined above we measure farmland rents in 1842 from the tax valuations for this year of all farmland in a parish (Parliamentary Papers, 1845). For properties let within 7 years of the assessment (i.e. 1835-42) the rental value was the contracted value. For properties on longer leases it was the assessed market value. Thus the parish land rents measured in 1842 all stem from the post reform period. We added any tithe payments (also recorded in this source) to the rents, so that the 1842 measure is for all rental claims on farmland in the parish. Only parishes with more than two-thirds of the property value coming from land in 1842 were included so that we are dealing mainly with rural parishes.

To get the rent per acre in 1842 we divide by the land area of the parish. Since not all of this parish area was farmland it introduces an error in this measurement, which fortunately is on the left hand side of our estimation of equation (4). In some rural parishes a large part of the land was not used for

agriculture, being too hilly. For rural parishes the fraction of the area that was actually farmland will correlate with the population density. So we include population density as a control for this measurement error when estimating equation (4). In table 3 the estimated coefficient on population density is positive, which is what we would expect from the nature of the measurement error.

There is no parish level data available on land rents before the 1834 reform. To get rental values in the years before the reform we use data collected by Clark on newly formed rents (and tithes) on individual plots within parishes in the years 1820-1834.²⁹ From these we estimate parish rental values per acre before the reform by adjusting for plot sizes. Rents per acre tended to be much higher on smaller plots. We adjust land rents to the average plot size that would be expected for a parish of that character (based on population density, location, and type of agriculture). In 1820-34 overall farm rents stayed constant (Clark, 2002) but in estimating pre-reform parish rents we included year dummies to control for such year effects. From 5,739 plot rentals we estimate 2,207 rural average parish land rents per acre.

Though the data comes from very different sources, the parish rent per acre for 1820-33 estimated in this way is strongly linked to rents per acre in 1842. Thus

$$\begin{array}{rcc}
 \text{Rent}_{20-34} & = & 1.011 \quad + \quad 0.560 \text{rent}_{42} \\
 & & (.047) \quad \quad \quad (.031)
 \end{array}$$

Note that the intercept is greater than 0, and the coefficient on the 1842 rent less than 1. This implies, as we indicate above, significant errors in the later measures of rent per acre at the parish level.

²⁹ Clark, 2002.

Data is available from the Parliamentary Papers on poor rate collections in each of the years 1824-1833, and 1838-41 (Parliamentary Papers, 1830-1, 1835, 1844). We average these into poor rate collections in 1824-8, 1829-33, and 1838-41, and so calculate poor rate payments per head, and poor rate payments per acre based on the 1831 and 1841 population totals. We calculate poor payments charged on farmland by multiplying these parish totals by the share of the parish property value in 1842 that was land. We calculate poor payments per acre by dividing the totals for the parish by the measured land area of the parish. This would introduce a measurement error which would bias the estimate of b toward 0, except that we are effectively normalizing on the left hand side of equation (4) with the same imperfect measure of farmland area.

We measure the fraction of land which was common property in 1842 using parish level data on common land from Tate (1978). The fraction of common on the plots earlier is estimated as discussed in Clark (2002).

The 1831 census supplies information for each parish on the population, the number of resident farmers hiring labor, the number of resident farmers not hiring labor, and the numbers of agricultural laborers (Parliamentary Papers, 1833). We can thus identify rural parishes where most employment in 1831 was in agriculture. We kept in the sample only parishes where agriculture was the listed occupation for at least 50 percent of adult males in 1831.

BIBLIOGRAPHY

Official Sources

- Parliamentary Papers. 1803-4. *Returns Relative to the Expense and Maintenance of the Poor in England*. Vol. XIII.
- Parliamentary Papers. 1818. *Returns Relative to the Expense and Maintenance of the Poor in England*. Vol. XIX.
- Parliamentary Papers. 1830-1. *Money Expended for the Relief of the Poor, 1825-9*. Vol. XI, 217.
- Parliamentary Papers. 1833. *1831 Census: Abstracts of the Answers and Returns*. Vols. XXXVI-XXXVIII.
- Parliamentary Papers. 1834a. *Report of the Poor Law Commission*. Vol. XXVII
- Parliamentary Papers. 1834b. *Report of the Poor Law Commission. Appendix B. 1. Part II*. Vol. XXXI.
- Parliamentary Papers. 1835. *Money Expended for the Maintenance of the Poor, 1830-4*. Vol. XLVII, 185-400.
- Parliamentary Papers. 1844. *Poor Rates*. Vol. XL.
- Parliamentary Papers. 1845. *Annual Value of Real Property of Each Parish of Each County of England and Wales assessed to the Property and Income Tax, 1842-3*. Vol. XXXVIII.

Other Sources

- Bentham, Jeremy. 2001. *The Collected Works of Jeremy Bentham. Writings on the Poor Laws. Volume 1*. Edited by Michael Quinn. Oxford: Clarendon Press.
- Besley, Timothy and Coate, Stephen. 1992. "Workfare versus Welfare: Incentive Arguments for Work Requirements in Poverty-Alleviation Programs" *American Economic Review*, 82(1): 249-61.

- Besley, Timothy and Coate, Stephen and Guinnane, Timothy. 2004. "Incentives, information, and welfare : England's new Poor Law and the workhouse test" In *History matters : essays in honour of Paul David*. Stanford University Press, Stanford, California: 245-270.
- Blaug, Mark. 1963. "The Myth of the Old Poor Law and the Making of the New" *Journal of Economic History*, 23: 151-184.
- Boyer, George R. 1989. "Malthus Was Right after All: Poor Relief and Birth Rates in Southeastern England." *Journal of Political Economy*, 97(1): 92-114.
- Boyer, George R. 1990. *An Economic History of the English Poor Law, 1750-1850*. Cambridge: Cambridge University Press.
- Clark, Gregory. 1998. "Commons Sense: Common Property Rights, Efficiency, and Institutional Change," *Journal of Economic History*, 58(1) (March, 1998), 73-102.
- Clark, Gregory. 2001. "Farm Wages and Living Standards in the Industrial Revolution: England, 1670-1870." *Economic History Review*, 54 (3), (August): 477-505.
- Clark, Gregory. 2002. "Farmland Rental Values and Agrarian History: England and Wales, 1500-1912" *European Review of Economic History*, 6(3) (December): 281-309.
- Evans, Eric. 1976. *The Contentious Tithe: the Tithe Problem and English Agriculture, 1750-1850*. London: Routledge and Kegan Paul.
- Huzel, James P. 1980. "The Demographic Impact of the Old Poor Law: More Reflections on Malthus." *Economic History Review*, 33 (Aug): 367-81.
- Kain, Roger J. P. and Hugh C. Prince. 1985. *The Tithe Surveys of England and Wales*. Cambridge: Cambridge University Press.
- King, Steven. 2000. *Poverty and Welfare in England, 1700-1850: A Regional Perspective*. Manchester: Manchester University Press.
- Lindbeck, Assar. 1997. *The Swedish Experiment*. Stockholm: SNS Förlag.
- McCloskey, Donald. 1973. "New Perspectives on the Old Poor Law." *Explorations in Economic History* 10: 419-436.

- Malthus, Thomas Robert. 1826. *An Essay on the Principle of Population*. 6th Edition.
- Malthus, Thomas Robert. 1970. *A Letter to Samuel Whitbread...on his Proposed Bill for the Amendment of the Poor Laws*. 2nd. Ed. London: Johnson, 1807. Reprinted in *The Pamphlets of Thomas Robert Malthus*. New York: Kelley, 1970.
- Ricardo, David. 1919. *The Principles of Political Economy and Taxation*. London: G. Bell.
- Smith, Adam. 1776. *The Wealth of Nations*.
- Statistical Society, 1843. "Pauperism and Poor-Rates in the Parochial Year 1842; Abstracted from the Ninth Annual Report of the Poor Law Commissioners, 1843." *Journal of the Statistical Society of London*, 6(3) (Aug): 256-259.
- Tate, W. E. 1978. *A Domesday of English Enclosure Acts and Awards*. Ed. Michael Turner. Reading: The Library, University of Reading.