Poverty and Population in Pre-Famine Ireland

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Abstract

The link between demographic pressure and economic conditions in pre-Famine Ireland has long interested economists. This paper re-visits the topic, harnessing the highly disaggregated parish-level data from the 1841 Census of Ireland. Using population per land value as a measure of population pressure, our results indicate that on the eve of the Great Famine of 1846–50, population pressure was positively associated with the prevalence of poor quality housing and negatively related with both male and female literacy rates. A crude calculation of effect sizes suggests that had the Irish population remained at its 1800 level there would have been a 7 percentage point decrease in the number of families living in the lowest quality housing and a 4.4 percentage point increase in literacy rates in 1841. Whilst these results suggest an important role for population pressure in explaining poverty in pre-famine Ireland, a supplementary analysis at the lower-resolution baronial level also finds a role for institutional and other factors.

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1 Introduction

The evidence for Irish poverty just before the Great Famine is both quantitative and qualitative. Data on housing quality and literacy in the 1841 population census point to Ireland’s laggard status in the United Kingdom; wage data imply that Irish agricultural workers were paid about half as much as their English peers; and reckoned that income per capita in Britain was over 2.5 times that of Ireland on the eve of the Famine. The near-complete dependence of the bottom third or so of the population on a single crop—the potato—corroborates, although the potato’s high nutritional content meant that the Irish poor were healthier and better fed than their low incomes would predict (Ó Gráda 1994 pp. 14–15, 86–90). Contemporary traveller accounts also confirm that poverty was more severe in Ireland compared to elsewhere in Western Europe; indeed in Hungarian Baron József Eötvös’s account (2015 p. 5) the condition of the Irish poor in 1837 compared unfavourably with the landless serfs of Hungary. Eötvös noted how “Everywhere people are in rags, and wearing traces of hunger and disease in their pale faces”. The bleak picture painted by Eötvös is supported in travellers’ accounts such as Inglin (1835), de Beaumont (1839), Kohl (1841) and numerous others. Irish poverty, in both relative and absolute terms, is not in doubt.

The conventional view amongst the British political establishment and commentators was that the proximate cause of Irish poverty was overpopulation (Gray 2006). While the

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establishment of a “Royal Commission of Inquiry into the Conditions of the Poorer Classes in Ireland” in 1833 represented a partial acknowledgement by the Westminster government that Irish poverty needed to be addressed, fears that a poor law similar along English lines might actually exacerbate Irish destitution were common. Still, in its broad outlines the Irish Poor Law Act of 1838 mirrored the English legislation of 1834 (see Black (1960, pp. 86–112) and Gray (2009)).

The historical consensus that overpopulation was the root cause of pre-famine Irish poverty was endorsed in Connell’s classic account (1950), which saw the introduction of the potato as a major catalyst for 18th and early 19th century Irish population growth. That growth, however, did not grind to a halt as the potato’s value as a means of enriching the pre-existing diet was exhausted; instead, underpinned by early marriage and high marital fertility, it culminated in a dependence on the potato unmatched anywhere else, with ultimately apocalyptic consequences. This view was famously challenged by Mokyr (1985), who made the very salient point that previous examinations of Irish overpopulation and poverty lacked hard empirical evidence. Mokyr’s analysis combined newly-constructed county-level data \((n = 32)\) in a linear regression model in which income per capita (or a suitable proxy measure) was modelled as a function of population density (rural population per cultivated acre) and other measures. Mokyr thus invoked cross-section data as proxies for points in time. Surprisingly, his results failed to support the overpopulation hypothesis: Irish counties with greater population pressure did not have lower income per capita. Mokyr’s result remained robust across a number of different modelling specifications, which led him to conclude that economic historians should put greater focus on alternative reasons for pre-famine Ireland’s endemic poverty.

Figure 1: Population Density Map

(a) Population per Acre

(b) Population per Land Value

There can be little doubt but that multiple causes of Irish poverty existed, but we believe that, more than three decades on, Mokyr’s approach to testing Malthus can be improved upon in several ways. In order to do this, like Mokyr we use the returns from the 1841 Census (BPP, 1843). However, instead of the county, our unit of analysis is the civil parish. Sample size is thereby increased from 32 to 2,372. The much higher resolution parish-level returns improve the accuracy of our estimates and allow for greater nuance between different specifications and model subsamples (compare Brown and Guinnane (2007)). Another important difference, highlighted in McGregor (1989), is that we use a measure of population pressure that takes account of differences in land quality. We adjust for quality by using population divided by poor law valuation instead of population
divided by acreage. The poor law valuation was a measure of the fertility of land and buildings, and formed the basis for the tax payable toward the support of the poor under the Irish Poor Law of 1838. Essentially a land value—it was assessed with an eye to what might be considered a fair rent—it is a more accurate representation of population pressure because it alleviates the concern that two parishes might have the same population and be of the same size, but the parish with better land should, by definition, have less population pressure on resources. Figure 1 highlights the importance of adjusting for land quality. In panel (a) much of the west of Ireland seems ‘under’-populated, but this outcome is reversed in panel (b) which adjusts for quality using the poor law valuation.

Measuring poverty is fraught with difficulty even in modern developed economies. This difficulty is compounded by data constraints in historical samples. We choose two measures of poverty in our analysis: the prevalence of low-quality (fourth class) housing and literacy. The 1841 census defined fourth class houses as ‘all mud cabins having only one room’; the percentage ranged from 24.2 in County Down to 64.7 in County Kerry (BPP, 1843 pp. lvi–lvii). The literacy data in the census, which are based on self-reporting and refer to the population aged five and above, also reflect the strong regional variation in living conditions: whereas less than one in four in County Antrim could neither read nor write, the proportion in County Mayo was four in five (BPP, 1843 p. lix). Figure 2 describe the variation in these variables at parish level, highlighting the desirability of higher resolution analysis. Unlike Mokyr, we do not use an income per capita measure because such data do not exist at the parish level.

Figure 2: Poverty Measures from the Census of Ireland 1841

(a) Fourth Class Houses (%)    (b) Total Literacy (%)

The results from our regression analysis confirm that population pressure (defined as our population to poor law land value variable) is positively associated with the proportion of the worst quality housing and negatively associated with literacy. To put the regression model results into perspective we conduct a back-of-the-envelope calculation that compares our estimates against a counterfactual population of 5 million, reached c. 1800 (Daultrey et al. 1982). This exercise suggests that in the absence of the post-1800 population growth, there would have been 7 percentage points less poor housing. Given that the average proportion of fourth class houses in a parish was 0.36, this estimate indicates that poor housing would have been decreased by as much as 20% had population remained at the 1800 level. An equivalent exercise for literacy, where on average 27 per cent of those aged five and over were deemed literate, suggests a counterfactual literacy rate of 31.4 percentage points. Clearly we cannot say for certain that our counterfactual scenarios would have
manifested themselves had the condition of no population growth been met. However, they do underline the economic significance of our estimates.

As mentioned, one advantage with having a larger number of observations is that it is possible to explore nuances in these data. Interestingly, the aforementioned baseline estimates are unaffected by the inclusion or exclusion of control variables. Similarly, we still find a large, if somewhat diminished, population pressure effect when county-level fixed effects are included. This suggests that a substantial part of the poverty-population pressure relationship occurs at a local, sub-county level. Separating male and female literacy fails to indicate the presence of heterogeneous literacy effects. Similarly, our results are robust to whether we focus on the total parish population, the parish population living outside areas defined as “towns or villages”, or parishes wherein there is no town/village settlements.

The potential for the population pressure variable to exhibit endogeneity is of concern, which we alleviate as follows. Whilst migration was a key demographic feature of the famine and post-famine periods, it was also reasonably common in pre-famine Ireland. Indeed, Malthus himself proclaimed before a parliamentary inquiry that migration caused by Irish population growth would be ‘most fatal to the happiness of the labouring classes in England’ (BPP, 1827, p. 312). If economic conditions were a significant push factor, then the resultant emigration could have acted to alleviate Irish poverty and thus bias our population pressure estimates towards the null. On the other hand, the cost migration, especially to the New World, would have deterred the very poorest. If this mechanism was in play, this simultaneity would bias would exaggerate the population pressure effect. We address this issue by splitting our data sample in two and running separate regressions, one on the sample consisting of parishes with high migration and the other of the remaining low migration parishes. This exercise points to the absence of simultaneity bias.

Another potential threat to our identification of population pressure effects is the possible endogeneity of poor law values. While the main focus of the valuation was land value, the valuation also included some buildings such as first-class houses, which might distort our estimates. We assess the potential impact of endogenous poor law values by performing an instrumental variables analysis, wherein exogenous variation in terrain ruggedness is used as an instrument for poor law values. The results of this analysis are very much in line with our main results, supporting our assumption that the poor law value variable is a suitable proxy for land quality.

Our parish-level analysis produced results in keeping with the more traditional Malthusian view of the pre-famine economy, i.e. Ireland’s low land-labour ratio accounted for its poverty. Thus far, however, we have allowed no room for institutional factors or agency. The use of lower resolution baronial-level data, consisting of 291 observations, permits us to include variables linked to land tenure and the role of the Malthusian preventive check. The first variable measures the proportion of land auctioned by the Incumbered Estates Court between 1850 and 1855 (Eiríksson and Gráda 1995). The Incumbered Estates Court was created in 1849 to enable creditors to force insolvent landowners to repay debts by selling part or all of their properties. Since the debts of most of such landlords amounted to a multiple of annual rents due, this variable serves as a proxy for poor landlord management and improvidence. Furthermore, we link baronies in 1821 and 1841 to include population growth between those dates. This can tell us whether a Malthusian equilibrating mechanism—perhaps through lower marriage rates—constrained population growth in the pre-famine period.

The final part of our analysis replicates our previous regression models but with the two additional covariates. These results from this analysis confirm the importance population pressure but also suggest that weaker land tenure institutions were also associated with a greater incidence of poverty. A comparison of the coefficients’ magnitudes places greater weight on population pressure as a proximate cause for poverty, however. Finally, areas where population grew most between 1821 and 1841 were also the poorest in 1841, a finding that suggests that the Malthusian preventive check was weakest where it was needed most.
References


