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Economic Factors and Internal Migration

The Case of Nineteenth-Century England

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Internal migration plays an important role in the redistribution of the population which normally accompanies industrialization. This was clearly the case in nineteenth-century England, where a major redistribution of the population occurred during the Industrial Revolution. Despite its potential theoretical importance, however, relatively little attention has been paid to the dynamics of internal migration in this classic example of industrialization.

That work which has been done can be divided into two groups. First, there is the work of demographers and statisticians which has described the major streams of migration in this period. Ravenstein (1885) was, of course, the first to give serious attention to the topic, emphasizing the importance of short-distance movement in the overall pattern of migration, while, more recently, Friedlander and Roshier (1966) have identified the major sources and destinations of internal migrants.

A second body of work on the subject has been produced by historians. In a series of descriptive and often small-scale studies, they have identified the characteristics of certain groups of migrants and suggested hypotheses to account for various types

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of internal migration (Redford, 1964; Schofield, 1970; Anderson, 1971; Collins, 1976). While this work has added significantly to our knowledge of the topic, serious gaps still remain. Perhaps most importantly, no attempt has yet been made to look at the determinants of internal migration on the national level. The reason for this omission is not surprising: the available data do not allow for a rigorous study of the correlates of migration. However, while the shortcomings of the data cannot be ignored, we should not refrain from making use of what material is available to conduct an exploratory study of this central problem in English demographic history.

THE IMPORTANCE OF ECONOMIC FACTORS

Although a wide range of social and economic factors have been shown to have an impact on migration patterns, we will focus on the role of certain economic variables in this essay. Both Marxist and classical economic theorists, drawing, in large measure, upon an analysis of the English case, have pointed to the importance of economic factors as determinants of migration. Marx himself argued that capital accumulation creates a relative surplus population to which every laborer, at some point, belongs. Hence, the movement of labor is responsive to the initiatives of capital (Marx, 1906: 689-703).

Classical economic theory approaches the problem from a different perspective, setting up a "competitive model of factor mobility" (Ritchey, 1976: 364). Here, workers are viewed as being responsive to variations in labor conditions among areas within a country, ready to abandon areas where conditions are poor to move to more affluent regions. The approach of classical economic theory has received a great deal of attention from contemporary students of migration and has led to the development of more sophisticated models. This paper will attempt to apply some of these ideas to the case of nineteenth-century

England, focusing specifically on the influence of two economic variables—level of per capita income and the extent of pauperism—on the rate of outmigration from the English counties.

CLASSICAL AND NEOCLASSICAL THEORY

In developing the classical economic approach, economists have devoted considerable attention to the effects of variations in income levels (Courchene, 1970; Gormley, 1971; Greenwood, 1975). While the basic model implies a negative relationship between the level of income in a given area and the rate of outmigration, research into this relationship has produced mixed results. The reasons suggested for these results include the difficulties involved with the use of average wage or income levels. Such measures, it is argued, may well mask the effects of differentials in key sectors of the economy which are primarily responsible for promoting migration (Ritchey, 1976: 366). A second reason for the ambivalent relationship between income and migration involves cost: the act of moving involves both financial and psychological expenditures. Small differences between areas in income or wage rates may not be sufficient to offset such costs, making a significant transfer of population improbable. Adam Smith himself believed that an expected wage increase of as much as 20% might be necessary to induce individuals, especially those in rural areas, to move (Spengler and Myers, 1977: 13).

The research which has led to these qualifications of the relationship has been conducted primarily on contemporary industrialized countries and, to a lesser extent, on currently developing societies. However, the relevance of such work for the study of nineteenth-century England is questionable. Given the lower level of differentiation of the occupational structure, the use of average income levels may be less problematic than would be the case if one were studying a mature industrial economy. In addition, the problem of costs may be of less im-

portance. Many of the costs associated with moving in modern industrialized nations may have had less impact on nineteenth-century migrants. Large investments in property, hindrances due to other family members, such as the career of a spouse or a child's education, and pension plans or other benefits of seniority factors which could tie a worker to even a low-paying job, were probably less salient for nineteenth-century workers. The simple relationship first suggested by the classical economic theorists, then, may well find its highest level of support in the setting in which it was first developed.

The expectation that lower levels of income will be associated with higher levels of outmigration is derived from economic models which assume full employment and perfect competition (Ritchey, 1976: 364). For our purposes, the first assumption is particularly problematic, because the availability of employment may be a far more fundamental concern of workers than are the variations in income levels. If this is true, areas in which opportunities are few and unemployment high are likely to be fertile sources of emigrants. Therefore, we would expect to find a positive relationship between the level of unemployment and the rate of outmigration.

As was the case with income, empirical results have provided only mixed support for this hypothesis (Greenwood, 1975: 403-404; Shaw, 1975: 72-74; Ritchey, 1976: 369). Part of the reason for this ambivalence may involve problems with the concept and measurement of unemployment. However, recent refinements in measurements such as prospective unemployment in an area have been introduced, allowing more precise classification and, presumably, more consistent prediction (Blanco, 1964; Ritchey, 1976: 368).

Unfortunately, such options are not available in this case. Indeed, we do not even possess information on the extent of unemployment in England in the last half of the nineteenth century. Data are available, however, on the number of people receiving poor relief in each of the English counties, though such

information can only be considered a proxy for data on unemployment. In the absence of more precise data, we have used this information to measure the shortage of economic opportunities in an area and expect to find a positive association between this variable and the rate of outmigration.

DATA AND METHODS

To test our hypotheses, a multiple regression analysis was performed for each of the census years from 1851 to 1901, with 37 of the 40 English counties included in the analysis.[1] The counties of Middlesex, Surrey, and Kent were excluded from the analysis because their proximity to London radically altered the migration patterns of these counties, making them, as a group, a special case and unsuitable for purposes of this study.

We have also excluded from consideration the movement of English natives out of the country. The period under study saw large-scale emigration to America and to overseas nations within the Empire (Ferenczi and Willcox, 1929; Thomas, 1973). Moreover, the ratio of internal migrants to international migrants varied from county to county. Redford (1964) suggests that agricultural laborers were more commonly drawn to overseas destinations, while industrial workers preferred to move within the country. Clearly, then, the determinants of these two types of migration may vary considerably, and it is therefore important to keep in mind that the findings of this study refer only to the determinants of migration to destinations within England.

A variety of methods are available for obtaining estimates of outmigration from census data which record only the place of birth and the place of current residence. In this study, we use a simple indicator which constitutes a lifetime migration rate. The rate was computed by dividing the number of natives of a county living outside the county at the time of the census by the

total number of natives of the county enumerated anywhere in England and Wales. A rate of outmigration was computed for each county for each of the six census years from 1851 to 1901.

Several shortcomings which result from the use of this method should be acknowledged (Zachariah, 1977). First, it is impossible to specify the timing of migration, because lifetime measures of migration cannot be assumed to result from a constant flow of migrants over time. Second, we have no knowledge concerning the extent of return migration because individuals who leave but then return to their place of birth are counted as nonmigrants. Finally, we cannot control for the period of time a population is subject to risk of migration. That is, an older population will have been at risk for a longer period of time, and this may, ceteris paribus, have the effect of inflating the rate of outmigration.

A more general methodological problem is also noteworthy. Attempting to relate characteristics of an area to migration is difficult because the act of migration changes the very characteristics employed to account for migration. For example, if an area where unemployment is high has a high rate of outmigration, the original impetus to migrate, namely the high level of unemployment, may itself be reduced if the unemployed constitute a disproportionate share of the outmigrants. This is a difficult conceptual and methodological problem that must be kept in mind when interpreting the results of the analysis.

The segments of the population to which the migration rates refer vary over time. For the year 1851, rates were computed separately for persons less than 20 years of age and for those 20 and more. For 1861 and 1871, the rates were computed for these same age groups separately by sex. For the last 3 censuses, the rates were computed separately by sex, but without an age break-down. All data were drawn directly from the 6 censuses of England and Wales conducted between 1851 and 1901.

Our independent variables are the level of per capita income and the rate of pauperism. Although much attention has been paid to changes in the standard of living (Hobsbawm, 1957;

Hartwell, 1961; Flinn, 1974) and to the growth of national income (Feinstein, 1961; Deane and Cole, 1969), relatively little work has been done on regional variations in income at the county level. An exception is the recent work of Michael Hechter (1975), who has used tax records to construct estimates of per capita income for the counties of England, Wales, Scotland, and Ireland. While the tax records of this period suffer from a number of deficiencies (Hechter, 1975: 162), they can give us a good indication of variations in the regional distribution of income. We have used his estimates for the counties of England as our measure of per capita income.[2]

The second independent variable, the rate of pauperism, refers to the proportion of a county's population receiving some form of relief. While the original intention of the Poor Law Amendment Act of 1834 was to distribute relief to the able-bodied only if they and their families entered the workhouse (Blaug, 1964; Rose, 1966, 1972), in practice, a majority of those receiving relief continued to live outside the workhouse. Thus, the measure of pauperism that has been employed is the proportion of the total county population receiving either institution-oriented or home-oriented relief. The data were drawn from the annual reports of the Poor Law Board or Local Government Board for the census years from 1851 to 1901.

In addition to these two independent variables, we have included two other factors in the analysis as control variables. The first is the area of the county. Whether or not a move of a given distance is counted as an intercounty move depends on the size of the county and thus, other things being equal, smaller counties are likely to have higher rates of outmigration. Because the English counties vary considerably in size, it seemed appropriate to include the area of the county as a control variable.

The second control variable to be considered is the proportion of the population involved in agriculture. The last half of the nineteenth century saw major changes in the occupational distribution of the English labor force as the proportion of workers

Table 1 Mean Rates of Outmigration for the English Counties, 1851-1901

	1851	1861	1871	1881	1891	1901
Persons Under 20	.162					
Persons 20 and Over	.339					
Males Under 20		.139	.147			
Females Under 20		.138	.154			
Males 20 and Over		.332	.364			
Females 20 and Over		.351	.381			
Males (all ages)				.299	.316	.330
Females (all ages)				.320	.337	.350
Total Population	.262	.253	.277	.309	.326	.340
N = 37						

Source: Decennial census of England and Wales, 1851-1901, House of Commons, Accounts and Papers, various years.

employed in agriculture fell from 21.7% in 1851 to 8.7% in 1901 (Deane and Cole, 1969: 142). This flow of people out of the agricultural sector probably increased the volume of mobility within English society and bolstered the rate of urbanization. We would thus expect agricultural areas to constitute important sources of outmigrants. To examine the influence of income and pauperism, it seemed essential to control for the differences in the occupational structure of the counties. The data on the proportion of the population in agriculture were drawn from the English censuses from 1851 to 1901.

RESULTS

Before examining the relationships between the independent variables and the rate of outmigration, we must closely examine the dependent variable. Table 1 presents the mean rates of out-

migration for the 37 English counties in our study. Looking first at the rate of outmigration for the total population, we see a general increase in mobility over the 50-year period. The mean rate for the counties appears relatively stable during the first 20 years of the period, but then rises steadily. By 1901, 34% of English natives still resident in the country were living outside their county of birth. This steady growth in the rate of internal mobility was supplemented by a continuing high level of international migration.

The structure of the data makes it difficult to examine the behavior of subgroups in the population over time. However, several points are noteworthy. The rates for those 20 years of age and more are generally more than double the rates for children and adolescents. This may simply reflect the fact that older people have had more time in which to move, or it may indicate that parents of nonadult children are less likely to be mobile. Unfortunately, we do not possess the information on migration by marital status which would enable us to evaluate this conjecture.

A second point worth mentioning is the small but consistent difference in migration patterns related to gender, with females, almost without exception, having a slightly higher rate of outmigration. This does not necessarily indicate that males were less mobile. It may instead reflect the fact that male migrants to *international* destinations consistently outnumbered female migrants throughout this period (Ferenczi and Willcox, 1929: 633-634), and thus the higher rates of female outmigration shown in Table 1 may result from the preference of female migrants for internal destinations. The availability of domestic employment, particularly in the urban areas, is likely to have been responsible, in part, for the higher rates of internal migration shown by females (McBride, 1976).

Before looking at the relationships between the independent variables and migration, let us first examine the interrelationships among the independent and control variables, as shown in Table 2. The findings indicate that the agricultural counties

Table 2 Zero-order Correlations among the Independent Variables, 1851-1901

	INCOME/AGRICULTURE	INCOME/PAUPERISM	AGRICULTURE/PAUPERISM
1851	+0.64	+0.40	+0.71
1861	+0.63	+0.34	+0.73
1871	+0.56	+0.23	+0.70
1881	+0.55	+0.03	+0.49
1891	+0.31	-0.06	+0.60
1901	+0.24	-0.08	+0.59

Sources: Agriculture: Censuses of England and Wales, 1851-1901.
Income: Michael Hechter, *Internal Colonialism Study*, Ann Arbor: ICPSR, 1978.
Pauperism: Reports of the Poor Law Board and the Local Government Board, House of Commons, Accounts and Papers, various years.

were characterized by high levels of both pauperism and per capita income, though the association with income declines in strength over time. The positive association with income contradicts our intuitive notion that industrialization serves to boost incomes. However, in his analysis of regional inequality in the British Isles, Hechter (1975: 154) listed such major industrial counties as Lancashire, Yorkshire, Durham, and Staffordshire as being relatively disadvantaged in terms of per capita income, given their level of industrialization. It may be that the large number of low-income workers in the industrial areas served to reduce the average income of residents.

The positive association between pauperism and per capita income is also noteworthy. As local bureaucracies were responsible for the distribution of poor relief, it is possible that wealthier areas may have been less restrictive in their distribution. Confirmation of this view would require a thorough analysis of variations in the distribution of poor relief.

The preliminary results of the analysis of outmigration are presented in Tables 3 and 4. Both the zero-order correlations

Table 3 Zero-order Correlations between the Independent Variables and Outmigration by Age and Sex, 1851-1901

	Independent Variables	
Rates of Out-Migration	Per Capita Income	Rates of Pauperism
1851		
Persons Under 20	+0.59	+0.08
Persons 20 and Over	+0.62	+0.31
1861		
Males Under 20	+0.48	+0.29
Females Under 20	+0.45	+0.31
Males 20 and Over	+0.53	+0.38
Females 20 and Over	+0.59	+0.43
1871		
Males Under 20	+0.37	+0.23
Females Under 20	+0.41	+0.32
Males 20 and Over	+0.42	+0.44
Females 20 and Over	+0.46	+0.48
1881		
Males (all ages)	+0.46	+0.41
Females (all ages)	+0.46	+0.41
1891		
Males (all ages)	+0.30	+0.49
Females (all ages)	+0.29	+0.50
1901		
Males (all ages)	+0.20	+0.50
Females (all ages)	+0.17	+0.50

Source: See Tables 1 and 2.

and the regression results indicate that, as expected, there is a strong negative relationship between the area of a county and its rate of outmigration. Also as expected, we find that pauperism is positively associated with outmigration for almost all subgroups of the population, although the strength of the association varies over time.

Contrary to our expectations, however, the results indicate that per capita income is positively related to outmigration for both age groups and sexes. This finding contradicts our prediction of a negative association between the two variables and

Table 4 Standardized Regression Coefficients: Regression of Outmigration on Area, Pauperism, and Per Capita Income by Age and Sex, 1851-1901

	Area	Pauperism	Income	R^2
1851				
Persons Under 20	-.50	-.22	+.58	.60
Persons 20 and Over	-.52	+.02	+.52	.65
1861				
Males Under 20	-.58	+.02	+.39	.56
Females Under 20	-.57	+.06	+.35	.53
Males 20 and Over	-.52	+.11	+.42	.57
Females 20 and Over	-.48	+.15	+.48	.63
1871				
Males Under 20	-.68	-.01	+.35	.58
Females Under 20	-.64	+.08	+.37	.61
Males 20 and Over	-.56	+.22	+.36	.60
Females 20 and Over	-.53	+.27	+.38	.62
1881				
Males (all ages)	-.53	+.32	+.41	.64
Females (all ages)	-.51	+.32	+.42	.62
1891				
Males (all ages	-.51	+.34	+.43	.61
Females (all ages)	-.50	+.33	+.44	.60
1901				
Males (all ages)	-.50	+.33	+.46	.57
Females (all ages)	-.49	+.30	+.45	.55

Source: See Tables 1 and 2.

clearly requires further examination. Why should the more affluent areas produce a higher proportion of outmigrants? One possibility is that more affluent areas may have higher rates of population turnover; that is, they may have high rates of both inmigration and outmigration. A second possibility is that the previously noted association between income and the proportion of the population in agriculture may account for the unexpected positive relationship between income and outmigration. We will look at these two possibilities in turn.

Table 5 Zero-order Correlations between Rates of Inmigration and Outmigration by Age and Sex, 1851-1901

	1851	1861	1871	1881	1891	1901
Persons Under 20	+0.41					
Persons 20 and Over	0.00					
Males Under 20		+0.58	+0.59			
Females Under 20		+0.66	+0.57			
Males Over 20		-0.17	-0.25			
Females Over 20		-0.05	-0.03			
Males (all ages)				-0.11	-0.10	-0.01
Females (all ages)				+0.09	+0.07	+0.09

Source: See Tables 1 and 2.

Table 5 presents the zero-order correlations between the rates of inmigration and outmigration for the various subgroups of the population for the 6 census years. With the exception of the younger age groups, where short-term mobility usually plays a more important role, we find no association between inmigration and outmigration. Thus, the data do not support the hypothesis that the positive association between income and outmigration is the result of a strong underlying relationship between inmigration and outmigration.

To investigate the second possibility, that the strong relationship between income and the proportion in agriculture may account for the unexpected link between income and outmigration, we reanalyzed the data using multiple regression analysis with area, proportion in agriculture, income, and pauperism as the independent variables. The results, presented in Table 6, demonstrate the overwhelming importance of differences in labor force structure. The proportion in agriculture almost uniformly emerges as the best predictor of outmigration. The

Table 6 Standardized Regression Coefficients: Regression of Outmigration on Area, Proportion in Agriculture, Pauperism, and Income by Age and Sex, 1851-1901

	Area	Agriculture	Pauperism	Income	R^2
1851					
Persons Under 20	-.51	-.07	-.18	+.61	.60
Persons 20 and Over	-.50	+.20	-.08	+.44	.66
1861					
Males Under 20	-.57	+.12	-.05	+.34	.57
Females Under 20	-.57	+.09	---	+.31	.53
Males Over 20	-.49	+.53	-.19	+.19	.66
Females Over 20	-.45	+.49	-.13	+.27	.70
1871					
Males Under 20	-.65	+.24	-.15	+.24	.60
Females Under 20	-.62	+.20	-.04	+.29	.62
Males Over 20	-.52	+.45	-.04	+.16	.67
Females Over 20	-.48	+.45	---	+.19	.68
1881					
Males (all ages)	-.43	+.56	+.06	+.11	.78
Females (all ages)	-.40	+.58	+.06	+.11	.77
1891					
Males (all ages)	-.42	+.60	+.07	+.13	.78
Females (all ages)	-.40	+.63	+.06	+.11	.79
1901					
Males (all ages)	-.40	+.66	+.04	+.09	.80
Females (all ages)	-.39	+.68	+.03	+.05	.78

Source: See Tables 1 and 2.

importance of the two economic variables, income and pauperism, decreases markedly when we control for the proportion in agriculture. Only in the year 1851 and for the younger age group in 1861 and 1871 does income continue to play a significant role. Interestingly, it was in these cases that we found a strong positive association between the rates of inmigration and out-

Table 7 Standardized Regression Coefficients: Regression of Outmigration on Area, Pauperism, and Income (nonindustrial counties only)

	Area	Pauperism	Income	R^2
1851				
Persons Under 20	-.60	-.20	+.50	.69
Persons Over 20	-.66	-.02	+.46	.72
1861				
Males Under 20	-.64	-.06	+.34	.54
Females Under 20	-.63	.00	+.30	.50
Males Over 20	-.60	-.05	+.30	.46
Females Over 20	-.57	+.03	+.43	.54
1871				
Males Under 20	-.65	-.23	+.40	.63
Females Under 20	-.60	-.07	+.44	.60
Males Over 20	-.63	-.06	+.43	.62
Females Over 20	-.56	+.05	+.47	.61
1881				
Males (all ages)	-.62	+.12	+.48	.70
Females (all ages)	-.56	+.10	+.50	.64
1891				
Males (all ages)	-.60	+.19	+.54	.72
Females (all ages)	-.57	+.21	+.50	.65
1901				
Males (all ages)	-.60	+.35	+.34	.62
Females (all ages)	-.58	+.34	+.30	.57

Source; See Tables 1 and 2.

migration, a fact which may account for the continued importance of income in these instances. Pauperism, despite its strong zero-order relationship with outmigration, ceases to exert an independent effect when the proportion in agriculture is held constant.

While these results go a long way toward accounting for the puzzling role of income, one further line of investigation suggests itself. As major industrial development in nineteenth-century England was concentrated in a few regions of one country, it is possible that the inclusion of these areas in the study could distort the relationships between the independent variables and outmigration. To investigate this possibility, we eliminated the largely industrial counties from the analysis and again examined the impact of income and pauperism on outmigration, using multiple regression.[3] The results, which are presented in Table 7, indicate that eliminating the major industrial counties has only a slight effect on the pattern of relationships. The strength of the association between pauperism and outmigration declines somewhat in the middle years of the period under study, but otherwise the results are very similar. It therefore appears that there was no radical disparity in the strength or direction of the relationships between the industrial and nonindustrial counties.

DISCUSSION

The broad pattern of the results is quite easy to interpret. In the last fifty years of the nineteenth century, England was characterized by a considerable outflow of population from its rural, agricultural counties. Regardless of how they may have differed on other dimensions, agricultural areas exhibited almost uniformly high rates of outmigration. Therefore, the data lead to a simple yet powerful model of outmigration which puts primary emphasis on the structure of the labor force.

But what of the original hypotheses we set out to test? How important are the other economic variables that were included in the analysis? In this case, their importance is both secondary and difficult to interpret. However, one thing that is clear is that there is no support for the hypothesis that per capita income is negatively related to outmigration. If anything, the results point

in the opposite direction, with per capita income positively related to outmigration throughout the period. Even after controlling for the proportion in agriculture, there remains a moderate positive association between income and outmigration for both age groups in 1851 and for the younger age group in 1861 and 1871.

It is possible, of course, that increases in income lead to greater knowledge of opportunities elsewhere and the development of more marketable skills, and that both of these factors lead to a greater propensity to migrate (Margolis, 1977). However, an alternative explanation should be considered. Our implicit assumption about the causal direction of the relationship may have been mistaken. A large volume of outmigration, especially from the heavily agricultural areas, might indicate increasing efficiency of production and a consequent rise in per capita income. Moreover, if the poorest groups of the population constitute a disproportionate share of the outmigrants, a rise in the per capita income of the remaining population would result. Unfortunately, the data do not allow us to test this conjecture.

The impact of pauperism can be dealt with in a more straightforward fashion. Pauperism is strongly related to the proportion in agriculture throughout the entire period. Not surprisingly, then, the zero-order relationship that we observed between pauperism and outmigration is erased when we control for the labor force measure. Accordingly, our findings hold only limited support for the hypothesized relationship between pauperism and outmigration. It would be unfair, however, to discount the hypothesis entirely on the basis of the evidence presented here. Pauperism may constitute an essential intervening link. Changes in the structure of the labor force and the dislocation which results may lead to an increase in the rate of pauperism and a consequent increase in the flow of outmigrants. Such a relationship need not imply that it is those receiving relief who are leaving. A high level of pauperism may signal a deteriorating economic situation which all groups of the population, and perhaps especially the young,

might wish to abandon. Moreover, a reversal in the direction of causation must again be considered. A disproportionately large outflow of the more affluent groups would serve to inflate the rate of pauperism at home.

The real impact of these two variables can only be understood in relation to the major changes which were occurring in English society in the last half of the nineteenth century. English agriculture went through turbulent times during this period as the age of High Farming gave way to the Great Depression, which stretched from the early 1870s until the beginning of World War I (Fletcher, 1973; Perry, 1974). Falling prices for almost all crops led to declining revenues for both landowners and tenants. This deteriorating situation in agriculture may help to account for the changing relationship between the proportion of the population in agriculture and per capita income and the relationship of both to outmigration. The strength of the relationship between proportion in agriculture and income decreases steadily over time, probably reflecting the difficulties experienced by the agricultural sector. Further, from 1881 (the first census year after the start of the Great Depression) through 1901, the relationship between income and outmigration disappears after controlling for the proportion in agriculture. Previous to this, per capita income had exerted a significant independent effect despite its stronger correlation with the proportion in agriculture. Agricultural areas, regardless of variations in per capita income, were the chief sources of outmigrants during the depression years.

The general outline of the problem, then, is clear. The broad transformation of the English economy which occurred during this period clearly overshadowed the importance of such variables as pauperism and per capita income—variables which, in a different context, may have been better predictors of outmigration. Further research into this problem should center on the mechanisms through which changes in the agricultural sector affected migration.

One possibility, however, may be suggested here. Rather than focusing on the proportion of the population in agriculture,

attention might be directed to the changes that were occurring over time in this measure. A rapid decline in the size of the agricultural sector of the labor force might well indicate increasing productivity by remaining agricultural workers, leading to a rise in per capita income. Further, a rapid decline in the size of the agricultural labor force might have produced at least a temporary increase in the number of paupers as both agricultural laborers and farmers began to leave the land. One consequence of this process might have been an increase in the rate of outmigration. A proper test of this approach, however, would require the use of time-specific measures of outmigration.

NOTES

1. It is important to note that some of the data employed refer to the registration counties, while other data refer to the counties proper or the ancient counties. The differences between the two types of counties are normally not large and should not greatly affect the results of the analysis. For a fuller discussion, see Baines (1972).

2. These data were made available by the Inter-University Consortium for Political and Social Research and were originally collected by Michael Hechter. Neither the original collector nor the Consortium bears any responsibility for the analysis or interpretations presented here. Due to an apparent error in the income figure for the County of Northamptonshire for the year 1901, that county has been deleted from the analysis for that year.

3. Counties with less than 25% of the population in agriculture in 1851 and 1861, less than 20% in 1871 and 1881, less than 15% in 1891, and less than 10% in 1901 were eliminated from the analysis. Our determination of which counties should be classified as industrial fits in quite well with the categorization presented by Deane and Cole (1969: 108-109).

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