

WORKING PAPER 545

Migration trends for the North: brief light before the gloom?

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February 1991

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Paper presented at the Institute of British Geographers' Annual Conference, University of Sheffield, 2-5 January 1991 in the Population Geography Study Group Session on "Migration in Britain" held on Thursday 2 January.

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Abstract

The pattern of population movement in the three northern-most regions in England - the North, Yorkshire and Humberside and the North West - is studied in this paper. The analysis draws on population estimates, vital statistics and the NHS Central Register migration data over the 1980s to paint a picture of migration patterns and shifts in those patterns at region, county, FPC and district scales.

There are persistent spatial contrasts between the regions: Yorkshire and Humberside achieves positive net inflows while the North West and North continue to experience net outflows. Within each region there are deep differences between the large industrial centres which lose population through most of the decade and the more rural counties (North Yorkshire, Northumberland, Cumbria, Cheshire) which experience gains of in-migrants. At the very end of the decade (1988-89) there were signs that even long standing industrial centres such as Calderdale, Wakefield, Bury, Bolton, Tameside, North Tyneside and South Tyneside moved into positive balance.

However, it is not possible, in the face of a looming recession in the early 1990's, to be confident that this upswing will persist. Gains from the South East will fall off dramatically as they did in the recession of 1979-83 and the pattern of migration will fall back to of North to South drift.

MIGRATION TRENDS FOR THE NORTH

Philip Rees, John Stillwell and Peter Boden

This paper is concerned with describing population redistribution in Northern England. Northern England is made up of the standard regions of the North, Yorkshire and Humberside and the North West. The paper focuses in particular on the role of migration in effecting that redistribution. Northern England houses one quarter of the United Kingdom's population, numbering 14.4 millions at mid-1989. The population of the area has been in slow decline (0.1% per annum) since the early 1970s: the population in 1971 was 14.7 millions, which constituted 26% of the UK population. However, as the paper reveals, there are very wide variations from this trend within Northern England: some parts of the region have experienced growth rates around 2% per annum in the 1980s (Richmondshire and Selby districts of North Yorkshire) while others have suffered declines of over 1% per annum (Hull, Scunthorpe, Knowsley, Liverpool and Burnley).

It is important to study trends in migration in a macro region such as Northern England for several reasons. Migration plays a crucial role in population redistribution. An empirical description is a crucial preliminary to formulating an explanation for the complex process of population redistribution. Because so little investigation has to date been carried out on the way migration patterns fluctuate over time, we are still at the stage of hypothesis generation. The ultimate aim of research into migration trends should be to help in the construction of integrated, predictive models of the population and economy at

fine spatial scales. The current description represents a small step towards that goal.

The organization of the paper is as follows. In the next section, the contribution of migration to population redistribution in Northern England is assessed via an analysis of net migration and natural increase at region and county scale. This is followed by a detailed investigation of the migration flows occurring at a middle scale, that of the metropolitan districts and shire counties which make up the Family Practitioner Committee (FPC) areas of the National Health Service, the Central Register (NHSCR) of which provides to date details of patient re-registrations that cross FPC boundaries for some 14 mid-year to mid-year periods.

In the final section, the description descends to the finer scale of metropolitan and non-metropolitan district, using official estimates of population change. New insights are revealed as we delve deeper into the spatial hierarchy.

THE ROLE OF MIGRATION IN POPULATION REDISTRIBUTION

It is usually taken for granted that the most important component of regional and local population change is net internal migration, but such an assumption must be checked. Table 1 sets out the components of change for the period 1981-89. At the national scale, net in-migration contributes 32% to the addition of just over three quarters of a million to the population of England and Wales. The net migration figure is just under 50% of the natural increase number. For Northern England the two components act in opposite directions (except in Yorkshire and Humberside in 1987-88) but the absolute value of the net migration component is just

TABLE 1. *Natural change and net migration, 1981 to 1988:
the regions of Northern England*

Region	1981-87			1987-88		
	Natural change (1)	Net migration total (2)	internal (3)	Natural change (4)	Net migration total (5)	internal (6)
<i>Numbers (1000s)</i>						
North	8.7	-49.4	-40.7	2.8	-8.5	-5.5
Yorks. & Humb.	25.3	-43.5	-44.3	10.0	2.6	2.7
North West	34.8	-123.8	-129.6	13.4	-19.9	-18.4
Northern England	68.8	-216.7	-214.6	26.2	-25.8	-21.2
England & Wales	394.9	213.6	85.5	119.7	30.7	26.0
<i>Annual rates (per 1000 population)</i>						
North	0.47	-2.66	-2.19	0.91	-2.77	-1.79
Yorks. & Humb.	0.86	-1.48	-1.50	2.04	0.53	0.55
North West	0.90	-3.22	-3.37	2.10	-3.13	-2.89
Northern England	0.80	-2.50	-2.48	1.83	-1.79	-1.48
England & Wales	1.32	0.71	0.29	2.38	0.61	0.52

Sources: columns (1), (2), (4) & (5) - OPCS(1990a), Table 3.1
columns (3) & (6) - NHSCR migration statistics.

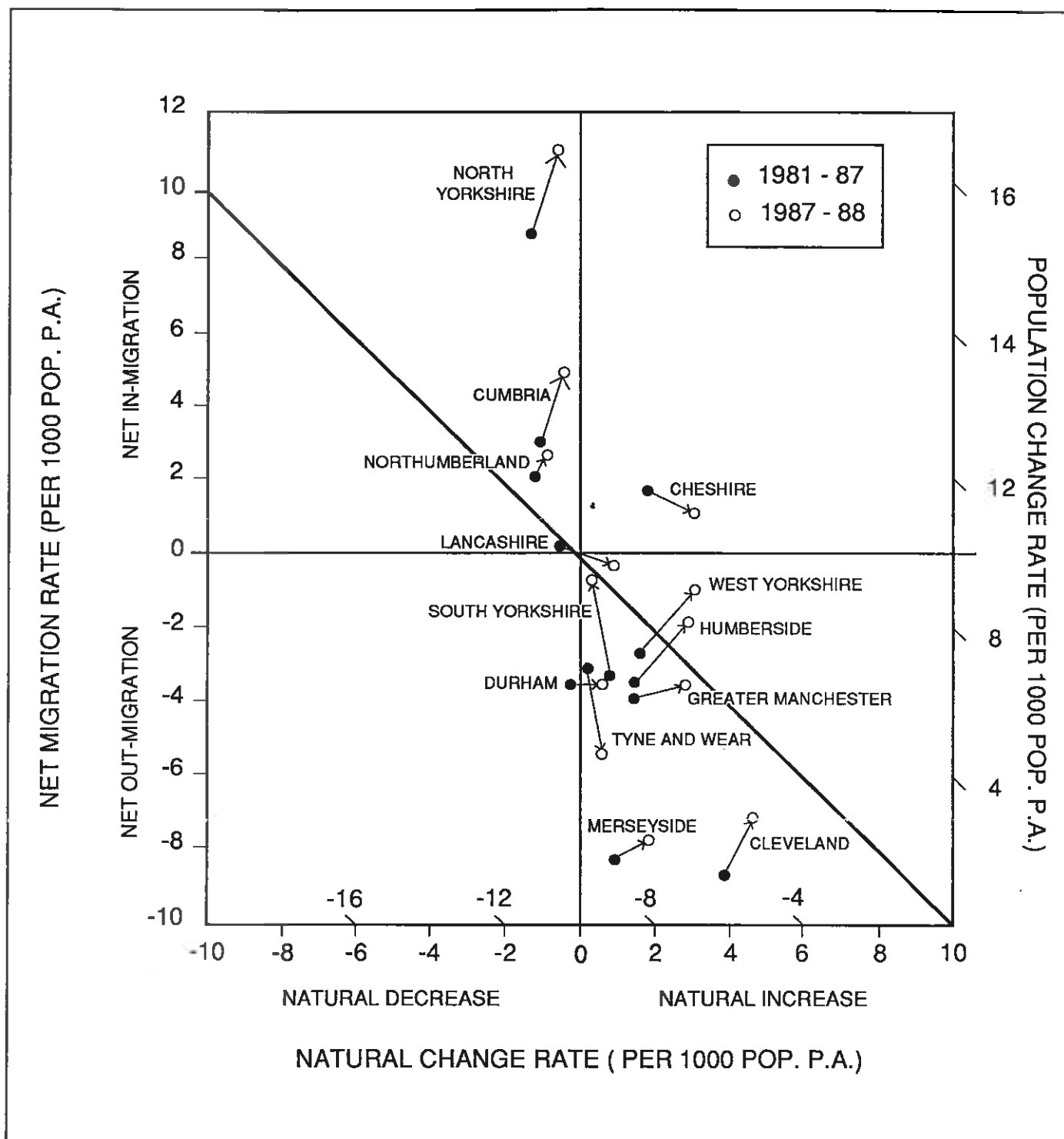
over 250% of the natural increase component.

If the total net migration column is compared with that for internal (within UK) migration, for Northern England and for its constituent regions, net internal migration is seen to be almost completely dominant. Net external migration subtracts small numbers from the North and North West regional populations but adds people to Yorkshire and Humberside.

The bottom panel of Table 1 provides rates of natural and migrational change. These point to a contrast between Yorkshire and Humberside on the one hand and the North and North West on the other. Net migration rates in the former region are less negative in both 1981-87 and 1987-88 than in the latter pair. In 1987-88 and 1988-89 Yorkshire and Humberside experiences positive net inflows.

The regional averages of natural change and net migration rates conceal interesting variation at the county scale. Figure 1 plots such rates for both 1981-87 and 1987-88 on a graph, the diagonal lines of which represent lines of equal total population change. It is clear that there is a moderately strong negative association between the natural change and net migration rates: the correlation coefficient is -0.72 for 1981-87 and -0.53 for 1987-88. This is not a chance association: it says something about the nature of the populations of places from which people are migrating and to which they move, on balance. Those areas of high in-migration (North Yorkshire, Cumbria, Northumberland) contain places favoured by the elderly for retirement. The result is a more elderly population and consequently these areas have lower crude birth rates and higher crude death rates. The

FIGURE 1. *Growth regimes for Northern counties, 1981-87 and 1987-88*



areas of higher out-migration (Cleveland, Merseyside) have high concentrations of younger working class and unemployed populations and thus have higher than average crude birth rates and lower than average crude death rates.

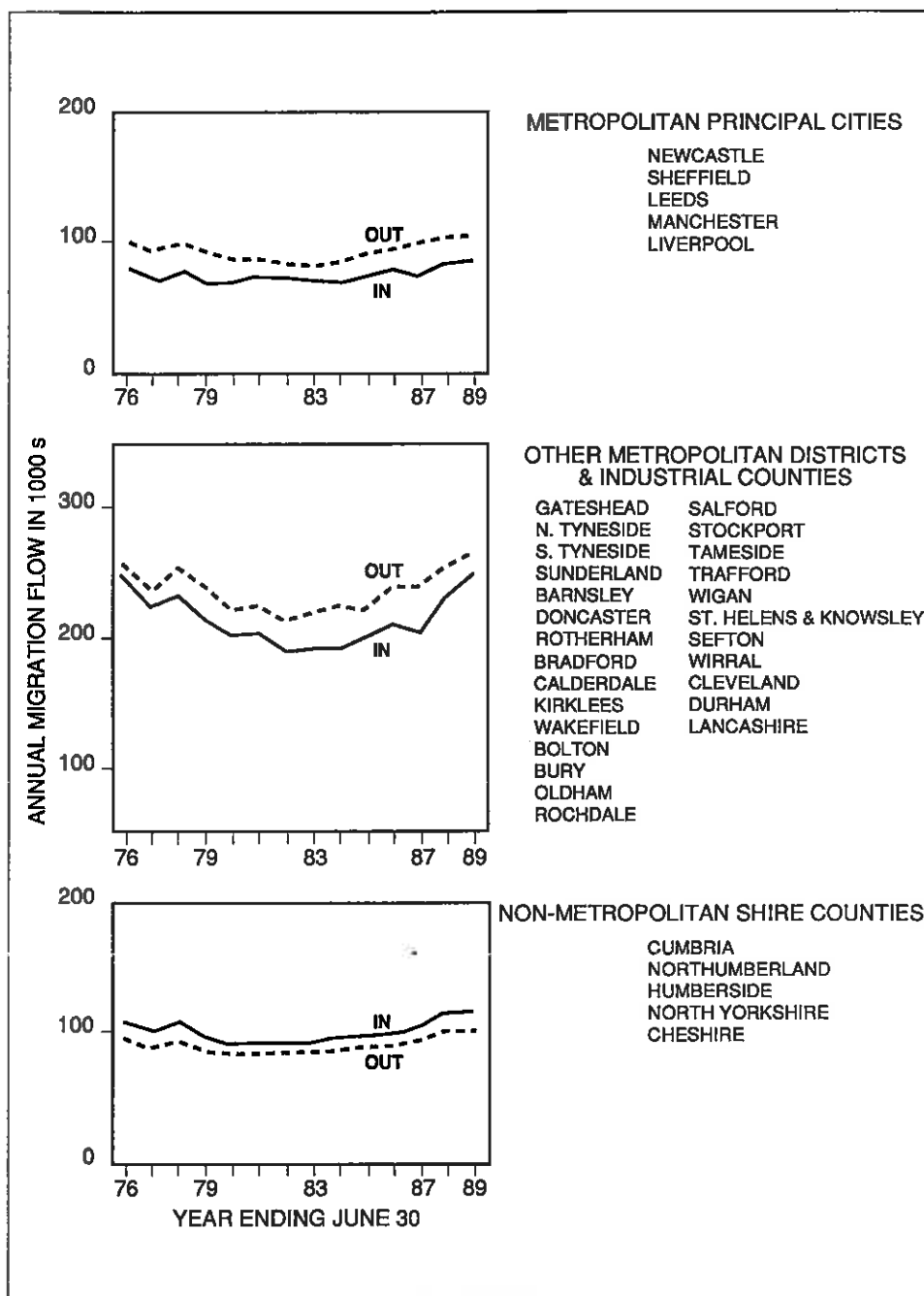
Only one county, Cheshire, falls in the net in-migration and natural increase quadrant of Figure 1. Cheshire contains both the southern dormitory suburbs and towns of Greater Manchester and Merseyside but also the new towns of Runcorn and Warrington, all with greater than average population in the family building ages.

MIGRATION TRENDS BETWEEN AREA TYPES

Extensive detailed information on the migration flows between areas is now available. For example, the NHSCR provides tables of migration classified by age and gender between 97 origins and 97 destinations for England and Wales for 14 annual periods between mid-1975 and mid-1989. The general features of this dataset have been discussed in Chapters 1 and 2. Here the focus is on the 36 FPC areas falling within Northern England.

To aid the analysis, the FPC areas have been classified into three simple types (based loosely on OPCS's equivalent classification of districts used later in the chapter): (1) principal cities within former metropolitan counties; (2) other districts within former metropolitan counties together with non-metropolitan counties of a mainly industrial character; and (3) non-metropolitan counties containing a mixture of medium sized and small towns together with low density rural areas. Figure 2 lists the members of each type and plots the volume of inflows and outflows over 14 annual intervals (mid-year to mid-year) from

FIGURE 2. Trends in migration for area types, Northern England 1975-89



1975-76 to 1988-89. Net migration levels can be deduced by comparing the in- and out-migration lines.

The graphs in Figure 2 show a clear distinction in migration levels and pattern between four periods: (1) 1975-79, (2) 1979-83, (3) 1983-87 and (4) 1987-89. In the 1975-79 period, migration levels are falling; during 1979-83 they reach a nadir; from 1983 to 1987 there is a moderate recovery; in 1987-89 sharp increases occur in inflows to Other Metropolitan Districts and Industrial Counties. These periods correspond to the stagflation of the later 1970s, the sharp recession of the early 1980s, the recovery period from recession during 1983-87 and the Lawson boom years of 1987-89. Migration is intimately linked to developments in labour markets (job losses and gains) and in the housing market (increasingly linked to the prevailing interest rate).

Since 1989 the economy has reentered a period of falling growth in many respects similar to that of 1979-83. Migration inflows to Northern England have fallen and outflows have risen (Table 2), resulting in a reversal of the net gains of 1988-89 (mid-year to mid-year) in the second half of 1989.

Figure 2's graphs also reveal distinctive spatial patterns in migration over the 1975-89 period. Throughout these years the Principal Cities saw greater outflows than inflows, with a total net loss between 1975 and 1989 of 235 thousand people, constituting 9% of their 1975 population. The Other Metropolitan Districts and Industrial Counties sustained net losses for all but the last interval (1988-89). These losses totalled 278 thousands but made up only 3% of the 1975 populations of the districts and counties. By contrast the five other Non-metropolitan Counties

TABLE 2. *Migration inflows and outflows for Northern England and constituent regions, second halves of 1988 and 1989*

Region	Period	
	September and December Quarters 1988	September and December Quarters 1989
NORTH		
Inflow	30.6	29.1
Outflow	30.4	29.5
Balance	0.2	-0.4
YORKSHIRE & HUMBERSIDE		
Inflow	57.8	53.0
Outflow	48.6	49.2
Balance	9.2	3.8
NORTH WEST		
Inflow	59.5	53.0
Outflow	57.6	58.5
Balance	1.9	-5.5
NORTHERN ENGLAND		
Inflow	147.9	135.1
Outflow	136.6	137.2
Balance	11.3	-2.1

Source: OPCS(1990b), Table 20, p59.

experienced net inflows throughout the period, totalling 135 thousand and representing a gain of 4% on their 1975 populations.

Figure 2 establishes that spatial redistribution of the population from the densely populated metropolitan cores to surrounding areas of lower population is occurring but does not enable us to identify the processes at work. Three processes suggest themselves as candidates: (1) suburbanization, (2) counterurbanization and (3) inter-regional exchanges.

By suburbanization is meant the decanting of population from densely settled urban cores into the immediately surrounding areas, where housing is built. Some workers in suburbanizing households continue to be employed in the urban core, but over time other activities (and associated employment) also move out into the suburban hinterland. Increasing car ownership and improved road networks stimulate the process in Northern England as elsewhere, and planning policies have attempted in the past to restrain such decentralization.

Counterurbanization can be defined as the shift of population from larger, more densely inhabited cities to smaller, less crowded cities and towns and to the countryside. The workers in migrating households move their job locations as well as their residence locations. Counterurbanization is driven by employment shifts to smaller places, which, with improved communications and infrastructure, are able to compete in economic markets. However, one important stream of counterurban migrants are the more affluent retired, released from the constraint of an urban core workplace and able to satisfy their residential aspirations by choosing smaller, quieter, safer places to spend their post-retirement

years.

By inter-regional exchange is meant the flows into and out of the North of England, which on balance involved net losses in all except the last year in the time series. Inter-regional exchange may be combined with either of the first two processes.

Table 3 is an attempt to show how the 97 by 97 matrix of migration flows available in the NHSCR dataset can be reduced to 6 by 6 matrix in which each cell can be interpreted, albeit roughly, as contributing to the processes discussed above. Migration from Metropolitan Principal Cities to Other Metropolitan Districts and Industrial Counties is interpreted as contributing to suburbanization. The reverse stream contributes to urban centralization. Similarly, the migration streams from both Metropolitan Principal Cities and Other Metropolitan Districts or Industrial Counties to Non-metropolitan Counties (Urban/Rural mix) can be interpreted as linked to counterurbanization. The reverse flows contribute to urbanization. The diagonal cells labelled exchange migration involve migration flows between FPC areas of a similar type (not including intra-FPC migration which is not recorded in the NHSCR).

The top left and bottom right quadrants of Table 3 classify these flows for migration within the North of England and within the Rest of the UK respectively. The top right and bottom left quadrants identify the same set of flows which are involved in inter-regional exchanges. The top right quadrant contains out-flows from the North of England while the bottom left quadrant contains inflows to the North of England.

TABLE 3. *A schema for analyzing inter-area flows, Northern England*

NORTH OF ENGLAND				REST OF THE UK		
	Principal Cities	Other Metro Districts	Non-metro Shire Counties	Principal Cities	Other Metro Districts	Non-metro Shire Counties
NORTH OF ENGLAND						
Principal cities	Exchange migration	Suburban- ization	Counter- urban- ization	Outflow exchange migration	Outflow suburban- ization	Outflow counter- urban- ization
Other Metro Districts	Central- ization	Exchange migration	Counter- urban- ization	Outflow central- ization	Outflow exchange	Outflow counter- urban- ization
Non-metro Shire Counties	Urban- ization	Urban- ization	Exchange migration	Outflow urban- ization	Outflow urban- ization	Outflow exchange migration
REST OF THE UK						
Principal cities	Inflow exchange	Inflow Suburban-	Inflow Counter- urban- ization	Exchange migration	Suburban- ization	Counter- urban- ization
Other Metro Districts	Inflow Central- ization	Inflow Exchange	Inflow Counter- urban- ization	Central- ization	Exchange migration	Counter- urban- ization
Non-metro Shire Counties	Inflow urban- ization	Inflow urban- ization	Inflow exchange migration	Urban- ization	Urban- ization	Exchange migration

Table 4 assembles the migration statistics in this framework for the four periods identified from the graphs in Figure 2, while Table 5 reports the net balances from the migration streams and counterstreams that contribute to the migration accounts for area types in Northern England.

The *Principal Cities* of Northern England suffer migration losses through suburbanization and counterurbanization within the region and through inter-regional exchange for all periods. These inner cores of metropolitan regions are experiencing decentralization of all kinds, although we can anticipate from the lower than average losses in 1979-83 that 1989-93 will also see reductions from the 1987-89 tempo.

The *Other Metropolitan Districts and Industrial Counties* of Northern England also experienced large migration losses within the region and with the Rest of the UK, although they gained consistently through suburbanization from the Principal Cities. Note that the losses to Principal Cities in the Rest of the UK represent net urbanization and are mainly made up of flows to Greater London, particularly in the 1983-87 recovery period. For these areas the two years 1987-89 stand out as very different from prior periods, with net migration loss virtually wiped out both within the North of England and with the rest of the country. These areas were the main beneficiaries of the employment growth of the boom period through counterurbanization within the region through all four periods, though these gains are lower in the final period. This shift is counteracted by a shift from a position of net loss to the Rest of the UK between 1975 and 1987

TABLE 4. *Inter-area flows for Northern England and the Rest of the UK, 1975-89*

REGION	Area type		NORTH			REST OF UK		
			PC	OM	SC	PC	OM	SC
1975-79								
NORTH	Principal Cities	PC	13.7	173.6	57.7	32.1	44.4	69.8
	Other Metro	OM	133.4	352.8	135.1	59.0	101.6	201.9
	Shire Counties	SC	38.9	98.7	33.8	23.5	49.8	117.9
REST OF UK	Principal Cities	PC	24.2	49.6	23.8	729.7	144.0	817.5
	Other Metro	OM	39.4	95.3	53.4	137.5	252.9	431.3
	Shire Counties	SC	61.3	155.1	105.9	469.3	362.5	1,669.2
1979-83								
NORTH	Principal Cities	PC	13.8	147.9	48.8	32.0	40.2	65.7
	Other Metro	OM	121.9	298.9	121.3	62.2	94.6	188.0
	Shire Counties	SC	37.3	89.6	30.3	25.4	48.1	107.5
REST OF UK	Principal Cities	PC	23.9	42.5	19.5	629.3	123.4	675.7
	Other Metro	OM	38.5	82.6	48.4	133.5	218.7	386.8
	Shire Counties	SC	59.3	132.5	91.3	445.3	330.5	1,521.5
1983-87								
NORTH	Principal Cities	PC	14.6	153.4	50.5	37.7	40.1	75.1
	Other Metro	OM	132.1	305.1	129.3	69.1	92.4	208.7
	Shire Counties	SC	37.2	90.8	33.2	27.5	48.2	119.0
REST OF UK	Principal Cities	PC	23.8	44.1	22.0	682.0	129.9	736.2
	Other Metro	OM	38.1	81.0	53.5	145.5	241.8	425.8
	Shire Counties	SC	60.4	138.3	102.8	452.5	348.5	1,718.3
1987-89								
NORTH	Principal Cities	PC	8.1	91.2	26.2	21.6	21.6	39.6
	Other Metro	OM	70.6	173.6	68.1	37.5	47.7	107.7
	Shire Counties	SC	21.0	55.7	19.6	14.7	26.7	62.3
REST	Principal Cities	PC	14.9	30.9	14.9	363.6	78.6	415.3
	Other Metro	OM	21.5	49.1	30.5	80.0	139.0	228.0
	Shire Counties	SC	37.1	101.9	72.4	230.5	215.7	959.2

Source: computed from NHSCR datasets supplied by OPCS.

Notes: the migration flows are in 1000's of the country.

TABLE 5. *Migration balances for Northern England areas, 1975-89*

TYPE OF BALANCE	PERIOD			
	1975-79	1979-83	1983-87	1987-89
<i>Principal Cities</i>				
Total balance	-80.4	-53.7	-65.2	-35.1
Balance within region	-59.0	-37.5	-34.6	-25.8
Due to suburbanization	-40.2	-26.0	-21.3	-20.6
Due to counterurbanization	-18.8	-11.5	-13.3	-5.2
Balance between regions	-21.4	-16.2	-30.6	-9.3
Due to exchange flows	-7.9	-8.1	-13.9	-6.7
Due to suburbanization	-5.0	-1.7	-2.0	-0.1
Due to counterurbanization	-8.5	-6.4	-14.7	-2.5
<i>Other Metro Districts</i>				
Total balance	-58.7	-92.9	-124.0	-2.8
Balance within region	3.8	-5.7	-17.2	8.2
Due to suburbanization	40.2	26.0	21.3	20.6
Due to counterurbanization	-36.4	-31.7	-38.5	-12.4
Balance between regions	-62.5	-87.2	-106.8	-11.0
Due to urbanization	-9.4	-19.7	-25.0	-6.6
Due to exchange flows	-6.3	-12.0	-11.4	1.4
Due to counterurbanization	-46.8	-55.5	-70.4	-5.8
<i>Shire Counties</i>				
Total balance	47.1	21.4	35.4	31.7
Balance within region	55.2	43.2	51.8	17.6
Due to counterurbanization (PC)	18.8	11.5	13.3	5.2
Due to counterurbanization (OM)	36.4	31.7	38.5	12.4
Balance between regions	-8.1	-21.8	-16.4	14.1
Due to counterurbanization (PC)	0.3	-5.9	-5.5	0.2
Due to counterurbanization (OM)	3.6	0.3	5.3	3.8
Due to exchange flows	-12.0	-16.2	-16.2	10.1

Source: computed from Table 4.

Within the *Rest of the UK* (dominated by the Southern and Midland regions), the dominant net flow is from Principal Cities to Shire Counties in all periods. This net flow dwarfs all those in Table 5, but is analysed in detail in another Chapter in this volume.

POPULATION REDISTRIBUTION ACROSS THE DISTRICTS OF NORTHERN ENGLAND

The FPC areas provide a rather crude spatial framework for the analysis of spatial trends in migration, but inter-district migration data for 1990-91 should become available with the publication of the Special Migration Statistics of the 1991 Census in 1992 or early 1993. In the meantime, it is useful to examine the population changes estimated by OPCS for the 92 districts of Northern England.

Figure 3 plots the average annual rate of change in population for the districts of Northern England between mid-year 1981 and mid-year 1988. Cross hatched shading indicates areas of loss while diagonal line shading picks out areas of gain. The bottom panel of Figure 3 depicts the classification of districts adopted in OPCS (1990a), which captures their degree of urbanization. Table 6 provides the average rates of growth in eight district types and for a related classification of districts by density.

The highest rates of loss (more than 0.5% per annum) characterize selected principal cities (Liverpool, Manchester, Sheffield though not Leeds or Newcastle), and selected metropolitan districts and other cities in the North West (Burnley, Salford, Blackburn, Knowsley), in Yorkshire and Humberside (Scunthorpe, Hull, Greater Grimsby) and the North East (Wansbeck, South Tyne

FIGURE 3. *Annual percentage change in population, districts of Northern England, 1981-88*

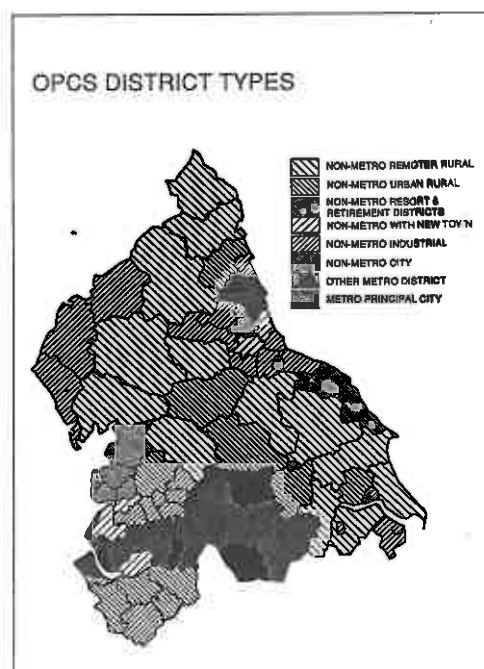
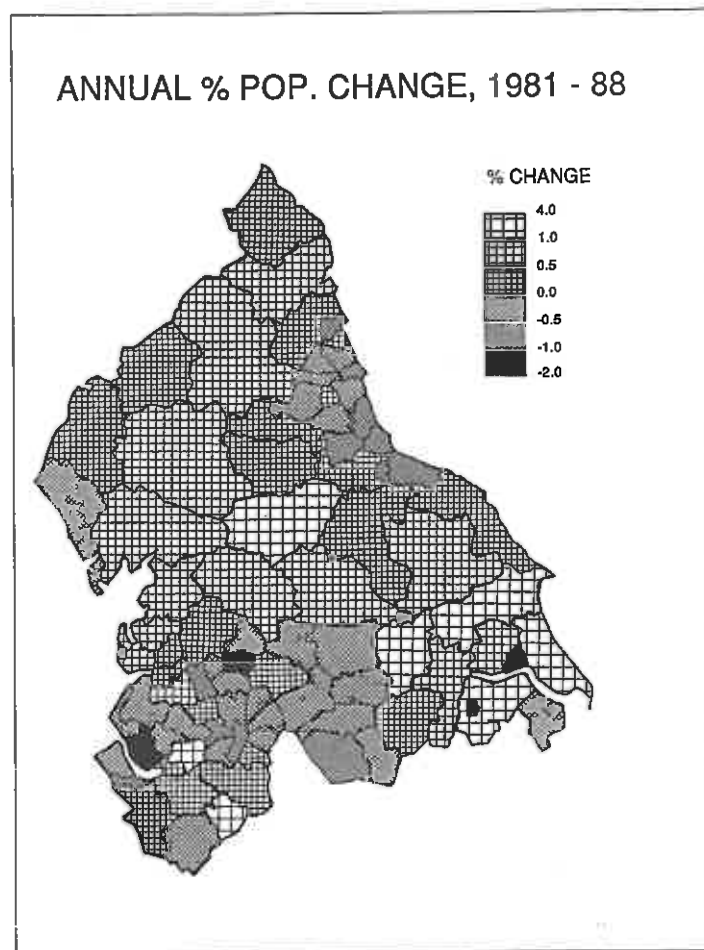


TABLE 6. *Population change rates, districts of
of Northern England, 1981-88*

Classification	1981-88	1981-87	1987-88
<i>District type (after OPCS)</i>			
Metro Principal City	-0.56	-0.53	-0.70
Other Metro District	-0.18	-0.22	0.02
Non-metro City	-0.72	-0.71	-0.80
Non-metro Industrial	-0.28	-0.28	-0.28
Non-metro with New Town	0.12	0.08	0.34
Non-metro Resort & Retirement	0.30	0.27	0.52
Non-metro Urban, Rural	0.67	0.64	0.80
Non-metro Remoter Rural	0.84	0.66	1.92
<i>Density class (quartile)</i>			
1550 per sq.km. and over	-0.46	-0.46	-0.46
700-1549 per sq.km	-0.16	-0.19	-0.01
200-699 per sq.km.	0.04	0.02	0.20
less than 200 per sq.km.	0.68	0.58	1.25

Source: computed from data in OPCS (1990a), Table 4.2

side, Easington, Sedgefield, Hartlepool, Langbaugh and Middlesbrough). All these areas have local economies struggling to combat the decline of their principal traditional industry. The other districts exhibiting rates of population loss cover much of South East Lancashire and Merseyside, West Cumbria and the North East conurbation.

Outside of these areas districts gain in population. The highest gainers are to be found in Yorkshire and Humberside in a broad swath from the Craven district in the Yorkshire Dales round to Glanford district in southern Humberside, and in the interstices between the major cities in the North West. Part of the population gain in these areas, accessible to nearby major urban centres, must be due to migration of the suburbanizing variety (e.g. Bradford or Leeds workers moving residence to Upper Wharfedale) but part is probably attributable to the growth of successful enterprises in these regions. The remoter rural districts do also gain population but less strongly, along with the resort and retirement areas, where elderly mortality makes for natural decrease and where competition from foreign resorts has dampened employment growth in the areas' principal activity. Some districts with new towns are gainers (Halton containing Runcorn, Warrington containing the new town of the same name, West Lancashire containing Skelmersdale) but others are losers (Easington which houses Peterlee, Sedgefield which contains Newton Aycliffe). The concentration of employment in new towns in the manufacturing sector can mean job losses in times of economic downturn.

INTERPRETATION

At the start of the paper we saw the role of investigation of historical trends in population redistribution to be as input to the design of predictive models of future population change. So what has been learnt from the analyses of this paper that might be useful to a model builder?

It is clear that population redistribution is the outcome of complex processes occurring at the interface of the region's demographic and economic systems. Any predictive population and development model must incorporate (1) a model of the shifts in employment within and between areas, (2) a decomposition of migration streams into those associated with continued commuting to current workplace and those associated with workplace relocation and (3) predictions of non-economic migration (to places of higher education or training, military establishments or to areas attractive to retirees). The detailed information about migration behaviour required to incorporate such processes cannot be provided by a simple time series such as the NHSCR inter-FPC migration dataset; reinvestigation of population redistribution using the 1991 Census is strongly indicated.

However, the time series perspective adopted in the paper points up the need to embed any model of a regional economic-demographic system in a national context and to avoid using the immediate past as a guide to the near term future. Migration is an activity strongly influenced by economic cycles in both labour and housing markets. These economic cycles exhibit time lags between regions. Thus, the turnaround in net migration flows in Northern England is probably the dying outwash of a Southern led

boom in economic activity and house buying and selling which was already over in the quarter following the end of the migration time series (to mid-year 1989) used in this volume.

Improving on the descriptive analyses of this paper and building an integrated model of the population and economy of Northern England provide a fruitful agenda for the 1990s.

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