

Regional Development and Spatial Equity in Northern Ireland

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Précis: The paper examines Northern Ireland's "regional strategy" programme, assessing its successes and failures in reducing spatial inequalities in overall social well-being throughout the province. Social well-being is calculated using a widely modified version of Knox's "level of living" index. The present position and recent trends of spatial inequality are reviewed, both between rural and urban areas and within urban areas. The lack of a satisfactory system for monitoring Northern Ireland's regional strategy is also highlighted.

I INTRODUCTION

In a mixed economy such as Northern Ireland's, government cannot hope, and would not choose, to control every detail of economic and social development. Rather, by concentrating on the provision of a framework within which industrial growth can occur, government strategy rests on a belief in the ability of such growth to stimulate further related industrial expansion and to fire the general improvement of social conditions. It is hoped that the benefits to be gained from fostering individual enterprises in specific locations will flow, not only geographically, to diffuse economic development and promote spatial equity, but also sectorally, to encourage inter-related enterprises and to raise the level of social well-being in all its aspects.

The principal motive behind this paper is a conviction that successes or failures of regional strategy in eliminating spatial inequalities in overall social well-being need to be measured. As Murie (1974, p. 53) has said, "it is surprising that investment in development planning in Northern Ireland has not led to an equivalent investment in monitoring of progress and dissemination of information". In this paper we shall attempt to outline an approach to the monitoring of developments in the spatial pattern of overall social well-

being. The technique goes well beyond the uni-dimensionality of conventional methods relying solely on such indicators as the rate of unemployment (cf. Murie *et al.*, 1974, p. 20; Smith, 1968) and will be applied to illustrate the most salient features of the changing geography of social well-being in Northern Ireland in the decade 1961–1971.

It would be naive in the extreme to suggest that such a methodology can discriminate between the developments attributable to the regional policies of the period and those due to other factors. What we hope to do, therefore, is to sketch some recent re-orientations in regional policy in Northern Ireland, to suggest a holistic approach to the past measurement and future monitoring of spatial variations in economic and social conditions and, where possible, to link patterns of well-being with emphases to be found in regional development strategy.

II REGIONAL PHYSICAL DEVELOPMENT STRATEGY

The publication of the 1975-1995 Regional Physical Development Strategy (Northern Ireland Department of the Environment, 1977) – henceforth referred to as the Regional Strategy – represents a significant change of emphasis in regional planning in Northern Ireland. The 1960s and early 1970s were marked by attempts to expand employment, housing and services to meet the needs of a rapidly increasing population. In contrast, population projections for the period to 1995 envisage only a slight growth in numbers. A net gain on the 1975 figure of between 40,000 and 50,000 (approximately three per cent) has been suggested. Against this background, regional development strategy is henceforth to focus on improvements in the level of well-being of a relatively static population (*ibid.*, p. 8). Two particular aspects of well-being are to be given prominence: the problems of unemployment and the condition of the housing stock.

The persistence and the scale of disparities in levels of unemployment between Northern Ireland and the rest of the United Kingdom are well-documented (Salt and Johnson, 1975; Murie *et al.*, 1974, p. 21ff.). Recent figures show a rate of unemployment of 11.4 per cent in Northern Ireland and 5.7 per cent in Great Britain.¹ More serious still is the worsening of long-term unemployment with an increase of five percentage points in the proportion of the male unemployed who were out of work for more than 13 weeks during the year to March 1976.

The relative inferiority of the housing stock is less widely appreciated. In 1974 almost 90,000 dwellings, representing some 20 per cent of the stock, were found to be statutorily unfit and a further 17.5 per cent in urgent need

1. Carter (1978), from a speech by the Parliamentary Secretary of State during a Westminster adjournment debate on unemployment in West Belfast, 26 May, 1978.

of improvement or repair (Northern Ireland Housing Executive, 1974). Table 1 illustrates the gap between Northern Ireland and the rest of the United Kingdom in terms of the provision of the standard census household amenities.

Table 1: *Regional variations in standard household amenities, 1971*

| | Per cent households without | | | |
|------------------|-----------------------------|------------------|----------|---------------|
| | Fixed bath/shower | Internal w.c. | Any w.c. | Hot water tap |
| England | 8.5 | 11.9 | 1.0 | 6.7 |
| Wales | 13.0 | 18.8 | 2.8 | 8.8 |
| Scotland | 12.1 | 5.7 | 0.8 | 7.1 |
| Northern Ireland | 27.5 | 27.2 | 10.5 | 21.3 |

Source: Evason, 1976, p. 15.

However, the extent of these disparities is matched, if not exceeded, by geographical variations within Northern Ireland. Particularly high rates of unemployment and unfit housing are to be found in the rural districts, and equal, or higher, rates, combined with much larger absolute numbers, are to be found in the Areas of Special Social Need in Belfast (Regional Strategy, pp. 26-33; Project Team, 1977). Within the tight constraints of providing an amenable framework for the optimal economic development of the province as a whole, it is to the eradication of this pattern of rural and inner city deprivation that the regional physical development strategy is largely addressed.

The scale of this task should not be underestimated. In 1971 Birrell *et al.* concluded that 292,000 new dwellings would be required by 1985 to cope with unfit and obsolescent housing and population growth, but Evason (1976, pp. 12-13) has highlighted the shortfalls from Development Programme house-building targets during the period 1970-75. The government's more recent and more conservative estimate of 150,000 dwellings to be built by 1995 (Regional Strategy, p. 36) would appear to be more comfortably within the capabilities of the construction industry (permanent housing starts between 1967 and 1976 having averaged 11,583 per annum). However, the urgency of the need for new house-building, with 90,000 dwellings statutorily unfit now and 80,000 requiring prompt action to prevent them becoming unfit (*ibid.*, p. 32), should be contrasted with the 24 per cent decline in new dwellings started between the second half of 1976 and the second half of 1977 (Northern Ireland Department of Finance, 1978, Table 74).

In relation to employment, the creation of the 54,000-61,000 new jobs

necessary to reduce unemployment to five per cent by mid-1980 (Regional Strategy, p. 22) must be seen in the context of an unemployment rate which has risen from 6.7 per cent in February 1975, through 9.8 per cent in February 1976 and 10.3 per cent in February 1977, to 11.4 per cent in February 1978 (Northern Ireland Department of Finance, 1978, Table 10).²

However, unemployment and poor housing in the rural districts and in Belfast cannot be tackled in a uniform fashion. In Belfast, preservation of the Matthew "Stopline", apart from the overspill development of Poleglass, will require the replacement of 30,000 unfit dwellings almost *in situ*. Despite the anticipated decline in the city's population, this is likely to prove an almost intractable problem, especially given the unwillingness of the Catholic inhabitants of over-populated West Belfast to take up the surplus housing which could be available in the largely Protestant north of the city (Singleton, 1978; Compton *et al.*, 1977, p. 9ff.). The provision of employment will depend largely on the ability of the government to direct investment into a revitalisation of the near-derelict residential and commercial areas of the inner city (Regional Strategy, p. 71ff.).

In contrast, in the rural areas this approximation to *in situ* reconstruction is not seen as feasible. First, the attraction of new employment is held to be partially dependent on the availability of geographically concentrated labour pools. Secondly, the on-site replacement of unfit housing, and especially the up-grading of services in widely scattered isolated locations, is claimed to be prohibitively expensive.

To provide a coherent framework for the creation of new employment and the improvement of the housing stock, six policy options were submitted in February 1975 for public discussion (Northern Ireland Department of Housing, Local Government and Planning, 1975; see also, e.g., Common, 1976). These options varied chiefly in the degree to which resource allocation was to be geographically concentrated and, by December 1975, "Option 4", the government's preferred strategy, had been selected. Under "Option 4", resources, other than those committed to the revitalisation of Belfast, are to be channelled towards the principal town of each of the new Local Government District Council Areas. New house-building is to be concentrated in these District Towns to replace the unfit dwellings in their rural hinterlands, and any new industry which can be attracted will be encouraged to locate within the District Towns. It is envisaged that between 1975 and 1995

2. Note that the successes of the Government in creating new employment are not always reflected by falling unemployment rates; new employment may serve only to reduce emigration and hasten the decline of employment in agriculture and the traditional industries (Murie *et al.*, 1974, p. 30; Salt and Johnson, 1975, p. 232). However, a recent report by the Department of Commerce's Industrial Development Organisation reveals a net loss to the province during the year March 1976-March 1977 of 1,600 jobs.

the proportion of the population living in the District Towns will increase from 29 per cent to 36 per cent, largely by migration from the surrounding rural areas (Regional Strategy, p. 16).

Clearly, the mere direction of resources, the unemployed and the badly housed away from the rural areas and into the District Towns will not, in itself, eradicate spatial inequalities in well-being. Indeed, an abandonment of the rural areas in conjunction with a failure to develop new employment and stimulate new building in the District Towns would have catastrophic repercussions. Moreover, there exists a very definite conflict between the desire of a substantial proportion of the population to live and work in the countryside and the Strategy's objective of creating a "spatial pattern of population distribution and investment . . . thought to be the most likely to give the best results for the economic development and social well-being of Northern Ireland as a whole" (Regional Strategy, p. 3; see also Cockcroft, 1978).

For these reasons, we feel it is essential that a detailed and comprehensive monitoring of the patterns of spatial inequality in Northern Ireland should be undertaken. This would allow, among other valuable purposes, the assessment of the efficacy of the Regional Development Strategy in promoting spatial equity and the estimation of the cost of the economic development of the province as a whole, in terms of fluctuations in internal spatial inequality.

III MEASURING AND MONITORING SOCIAL WELL-BEING

The reduction of unemployment and the improvement of housing conditions are clearly very important goals for social and economic development. However, it is also clear that they represent only a small part of total living conditions. A satisfactory monitoring system must look well beyond these two chief concerns of the Regional Development Strategy and attempt to incorporate as many aspects of overall social well-being as possible (Klages, 1973; Kamrany and Christakis, 1970).

Drawing on the work of the US Department of Agriculture (Hagood and Bowles, 1957), the UN Economic and Social Council (Drewnowski and Scott, 1968), and the British Urban Planning Directorate (Ministry of Housing and Local Government, 1970), the following definition of "level-of-living" has been developed by Knox (1975, p. 31) as the basis for a system of social indicators with which to explore spatial variations in social well-being in England and Wales:

The level of living of persons resident within a given geographical area is constituted by the over-all composition of housing, health, education,

social status, employment, affluence, leisure, social security and social stability aggregately exhibited in that area, together with those aspects of demographic structure, general physical environment, and demographic participation which may determine the extent to which needs and desires relating to the foregoing constituents of level of living can be, or are, met.

In his analysis of 1961 level of living data, Knox operationalised this definition in terms of a battery of 53 indicator variables, although the battery was pared down to 29 in his subsequent investigation of 1971 patterns (Coates, Johnston and Knox, 1977, p. 69). However, in order to translate Knox's definition into a measure which could be used to map overall social well-being in Northern Ireland and to compromise between Knox's conceptualisation of "level of living" and the limitations imposed by the relative scarcity of appropriate data in Northern Ireland, two data sets were collected for the 26 District Council Areas created in the recent reorganisation of Local Government (see Table 2). The smaller set (i.e., the 26 indicator variables asterisked in Table 2), was collected under fairly rigid temporal constraints, limiting the information as closely as possible to the base year 1971. The collation of the more comprehensive set (42 variables) was facilitated by loosening these temporal constraints, so that data available during the period 1970-1974 could be used.

Table 2: *Social indicator variables used*

| <i>Variable number</i> | <i>Description</i> | |
|-----------------------------|---|---|
| <i>HOUSING</i> | | |
| <i>(a) Density</i> | | |
| 9 | Average number of persons per room | |
| 10 | Per cent households with more than 1.5 persons per room | * |
| 11 | Per cent one-person households | * |
| 12 | Per cent households with six or more persons | |
| 13 | Per cent households sharing a dwelling | * |
| 32 | Per cent dwellings with one or two rooms | * |
| <i>(b) Amenities</i> | | |
| 20 | Per cent households with no sink | |
| 21 | Per cent households with no hot water | |
| 22 | Per cent households with no w.c. | * |
| 23 | Per cent households with no fixed bath or shower | |
| <i>(c) Renewal of Stock</i> | | |
| 18 | New houses built per 1000 population | * |
| 19 | Per cent of new houses built by the Housing Executive | |

| <i>Variable number</i> | <i>Description</i> | |
|--------------------------------------|---|---|
| | (d) <i>Tenure</i> | |
| 14 | Per cent dwellings vacant | |
| 15 | Per cent dwellings owner-occupied | * |
| 16 | Per cent dwellings rented privately, unfurnished | * |
| 17 | Per cent dwellings publicly rented | |
| <i>AFFLUENCE</i> | | |
| 1 | Per cent persons receiving Supplementary Benefit | |
| 2 | Per cent families receiving Family Income Supplement | |
| 24 | Cars per household | * |
| 34 | Total rates per head | * |
| <i>SOCIAL STATUS</i> | | |
| 25 | Per cent of professional and managerial workers | * |
| 26 | Per cent of manual workers | |
| <i>EMPLOYMENT</i> | | |
| 28 | Per cent of the economically active out of employment | * |
| 29 | Per cent females economically active | * |
| 42 | Per cent aged 15 or more economically active | |
| <i>HEALTH</i> | | |
| 33 | Infant mortality rate | * |
| 40 | Northern Ireland Hospitals Authority beds per 1000 population | * |
| 41 | Average list size of General Practitioners | * |
| <i>EDUCATION</i> | | |
| 36 | Primary school pupil/teacher ratio | * |
| 27 | Per cent aged 15-19 years still at school | * |
| <i>SOCIAL STABILITY AND SECURITY</i> | | |
| 5 | Crime detection rate | * |
| 27 | Female divorce rate | * |
| 35 | Illegitimate birth rate | * |
| 39 | Index of terrorist activity | |
| <i>LEISURE</i> | | |
| 3 | Cinemas per 1000 population | * |
| 4 | Libraries per 1000 population | * |
| <i>DEMOGRAPHY</i> | | |
| 6 | Per cent aged 0 to 14 | * |
| 7 | Per cent aged 14 to 44 | * |
| 8 | Per cent aged 60 or over | * |
| 31 | Per cent Roman Catholic | |
| 30 | Persons per hectare | |
| 38 | Net emigration rate | * |

Principal components analysis was used to identify the major dimensions of social well-being present in the two data sets (Gorsuch, 1974; Smith, 1973). In each case, eight significant dimensions, represented by components with eigenvalues in excess of one, were extracted, and the similarity between the two component structures was judged to be close enough to warrant the use of the first set (of 26 variables) since each of the dimensions of social well-being discovered in the 42-variable set was adequately represented in the smaller, but more rigorously defined, battery.³

A unitary index of overall well-being needs to take into account the multi-dimensionality of the structure of relationships between the aspects of well-being measured by the indicator variables. To represent the eight significant dimensions revealed in the unrotated principal components solution, eight diagnostic variables were selected.⁴

For each of the components in turn, the variable which was most closely related to it (that is, which had the highest loading on the corresponding component) was selected. This did not prove possible for component three since the first three variables loading on it were not felt to be unambiguous correlates of social well-being. However, the fourth variable proved to have a sufficiently high loading and consequently it was adopted (cf. Knox, 1974, pp. 13-15). The eight diagnostic variables are as follows:

| Dimension | Variable | |
|-----------|----------|---|
| 1 | 22 | Per cent households with no w.c. |
| 2 | 33 | Infant mortality rate |
| 3 | 24 | Cars per household |
| 4 | 04 | Libraries per 1000 population |
| 5 | 37 | Per cent aged 15-19 years, still at school |
| 6 | 28 | Per cent of economically active out of employment |
| 7 | 18 | New houses built per 1000 population |
| 8 | 40 | NIHA beds per 1000 population |

For each of these diagnostic variables the raw scores for each area were standardised to give them a mean of zero and a standard deviation of one. The standard scores were weighted by the eigenvalue of the relevant component and the eight weighted, standardised scores for each area summed to yield a unitary measure of overall social well-being. The scores were re-

3. Full details of the methods and results of the principal components analysis may be obtained from the authors.

4. Although the orthogonality constraint ensures that the principal components are uncorrelated, this is not true of the diagnostic variables since their individual correlations with their respective components (their loadings) are less than perfect. Their general level of independence is high, however, with a mean inter-variable R^2 of only 0.05.

standardised and multiplied by 100 (for ease of presentation), giving final S (Social Well-Being) values for each of the 26 District Council Areas in 1971 and for each of the 83 Local Authority Areas in both 1961 and 1971.

This technique avoids the loss of information inherent in Knox's (1974) ranking method while allowing the normative status of the original variables to be fully determined *a posteriori*. Smith's (1973) additive standard score technique, which incorporates *all* variables in the index, rules out the inclusion in the battery of any variables whose normative status cannot be determined *a priori*. (See Knox (1974 and 1975) for further discussion.) It is assumed that the diagnostic variables are as valid for the 83 Local Authority Areas as they are for the 26 District Council Areas. Since data sources are even more restricted at this level, a full replication of the factor analysis was not possible (cf. Knox, 1975, p. 45).

The pattern of S-values is summarised in Tables 3 and 4 and in Figures 1, 2 and 3. Looking first at the 26 District Council Areas (Figure 1), there is a very apparent clustering around Belfast of the least deprived areas. Although Belfast itself falls into the bottom third of scores, all areas achieving positive scores can be seen to be located within 25 miles of it (measuring from city centre to district centre), and the four areas with S-values greater than 100 (Lisburn, Castlereagh, Ards, and North Down) are to be found within a fifteen-mile radius of the city. These areas have very clearly benefited from their locational advantages in the competition for industrial investment and development (cf. Hoare, 1976), from the curtailment of the expansion of Belfast brought about, in part, by the "Stopline", and from the pursuit of the spatially concentrating "Growth Centre" policy which was the cornerstone of regional development strategy in the late 'sixties (Matthew, 1963; Regional Strategy, p. 64ff.).⁵

In contrast to this ring of high levels of social well-being, Belfast exhibits clear symptoms of *malaise*. Over-dependence on the declining industries of ship-building and textiles has combined with wholesale neglect of the housing stock, particularly during the inter-war years, to create a level of social well-being comparable with such areas of the agricultural periphery as Fermanagh and Moyle. There are indisputable parallels here with the deprived industrial county boroughs of Northern England described by Knox

5. It should also be realised that between 1945 and 1963, 41 per cent of all government-sponsored industry went to seven towns located within 30 miles of Belfast (Common, 1971, p. 177). The Matthew Report (1963) introduced the notion of "Growth and Key Centres" to Northern Ireland's regional development policy. The "Growth Centres" were towns in the Belfast Region regarded as having the greatest potential for growth: Antrim, Ballymena, Newtownards, Larne, Downpatrick, Carrickfergus and Bangor. The "Key Centres" were towns in the remainder of the province which were viewed as suitable locations for new industry: Coleraine, Omagh, Dungannon, Newry, Enniskillen and Londonderry. The "Growth and Key Centre" strategy provided the backbone of regional planning throughout the period 1963-1975.

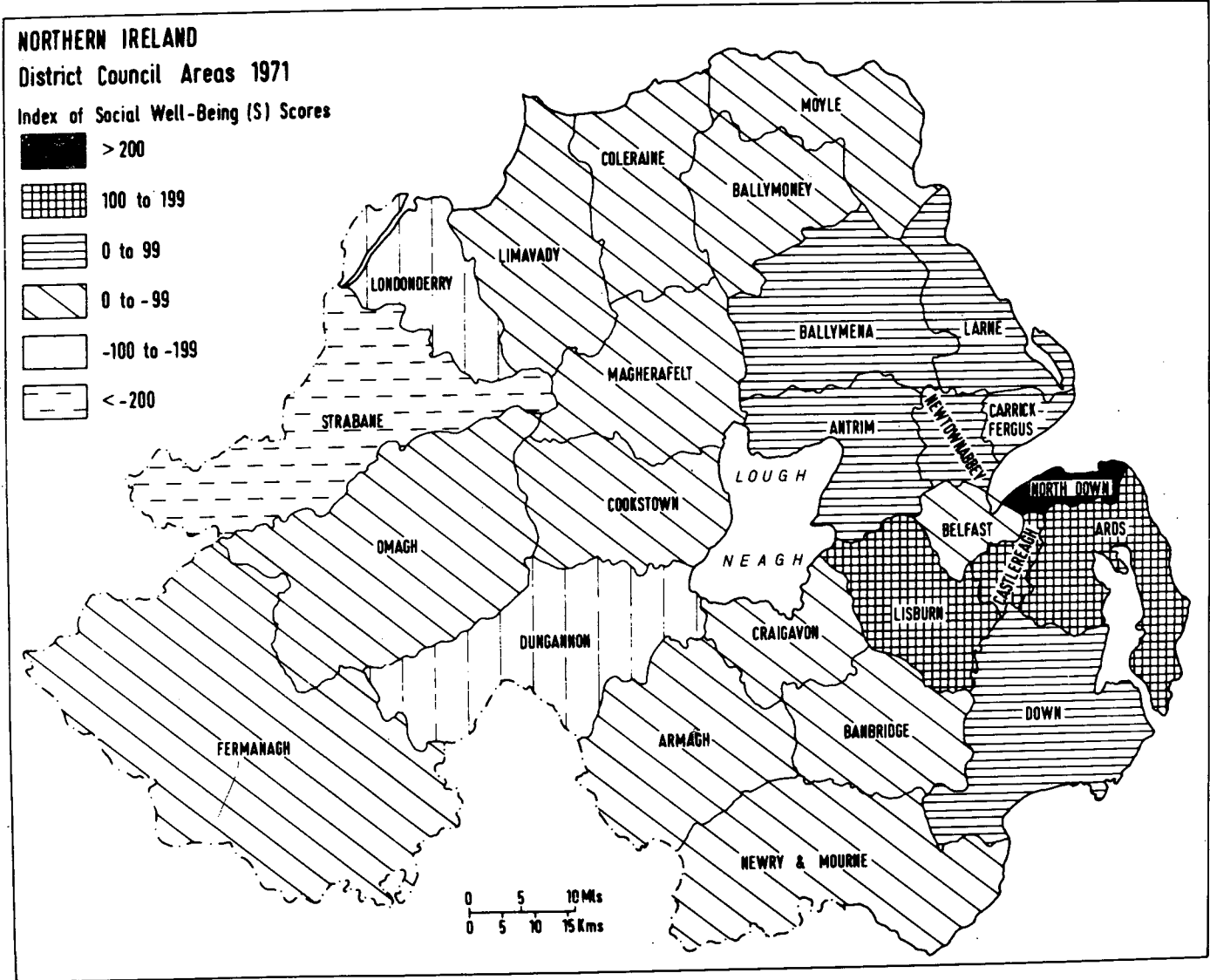


Fig. 1

(1974, p. 15) and with the patterns of inner city blight so widely reported in Britain (e.g. Coates *et al.*, 1977, p. 71ff.; Holtermann, 1975) and in the United States (e.g., Smith, 1973).

Table 3: *District Council Area scores on the index of social well-being (S), 1971*

| <i>District Council Area</i> | <i>Index of well-being (S)</i> | <i>District Council Area</i> | <i>Index of well-being (S)</i> |
|------------------------------|--------------------------------|------------------------------|--------------------------------|
| North Down | 205 | Armagh | -15 |
| Castlereagh | 162 | Craigavon | -16 |
| Lisburn | 110 | Ballymoney | -25 |
| Ards | 101 | Moyle | -37 |
| Newtownabbey | 98 | Belfast | -54 |
| Antrim | 92 | Fermanagh | -59 |
| Ballymena | 91 | Magherafelt | -76 |
| Carrickfergus | 65 | Newry and Mourne | -90 |
| Down | 62 | Limavady | -93 |
| Larne | 13 | Dungannon | -124 |
| Banbridge | -2 | Londonderry | -141 |
| Coleraine | -4 | Strabane | -242 |
| Omagh | -10 | | |
| Cookstown | -11 | | |

Moving outwards from the Belfast region, S values can be seen to fall fairly steadily with increasing distance from the capital. The influence of the Antrim and Ballymena "Growth Centres" is sufficient to extend the area of above-average values further to the north west than to the south west of the relatively affluent core. Despite this the decline is so steady that if S values for the 25 District Council Areas outside Belfast are correlated with the logarithms of their distances from the capital (Goodyear and Eastwood, 1978), a Pearson coefficient of -0.853 is discovered. This is to say, more than 72 per cent of the variance in the S values is "explicable" purely in terms of distance from Belfast; the greater the distance from Belfast, the lower the level of social well-being.⁶ However, while the degree of deprivation experienced in the most western District Council Areas of Strabane and Londonderry is undeniably severe, the absolute numbers of people living in the deprived areas must not be ignored. When it is realised that the 416,700 people living in the Belfast District Council Area in 1971 represented 27.3

6. Cf. Robinson (1970, p. 210) whose normal, as opposed to logarithmic, regression model explained 67.2 per cent of the variance in unemployment rates in terms of distance from Belfast.

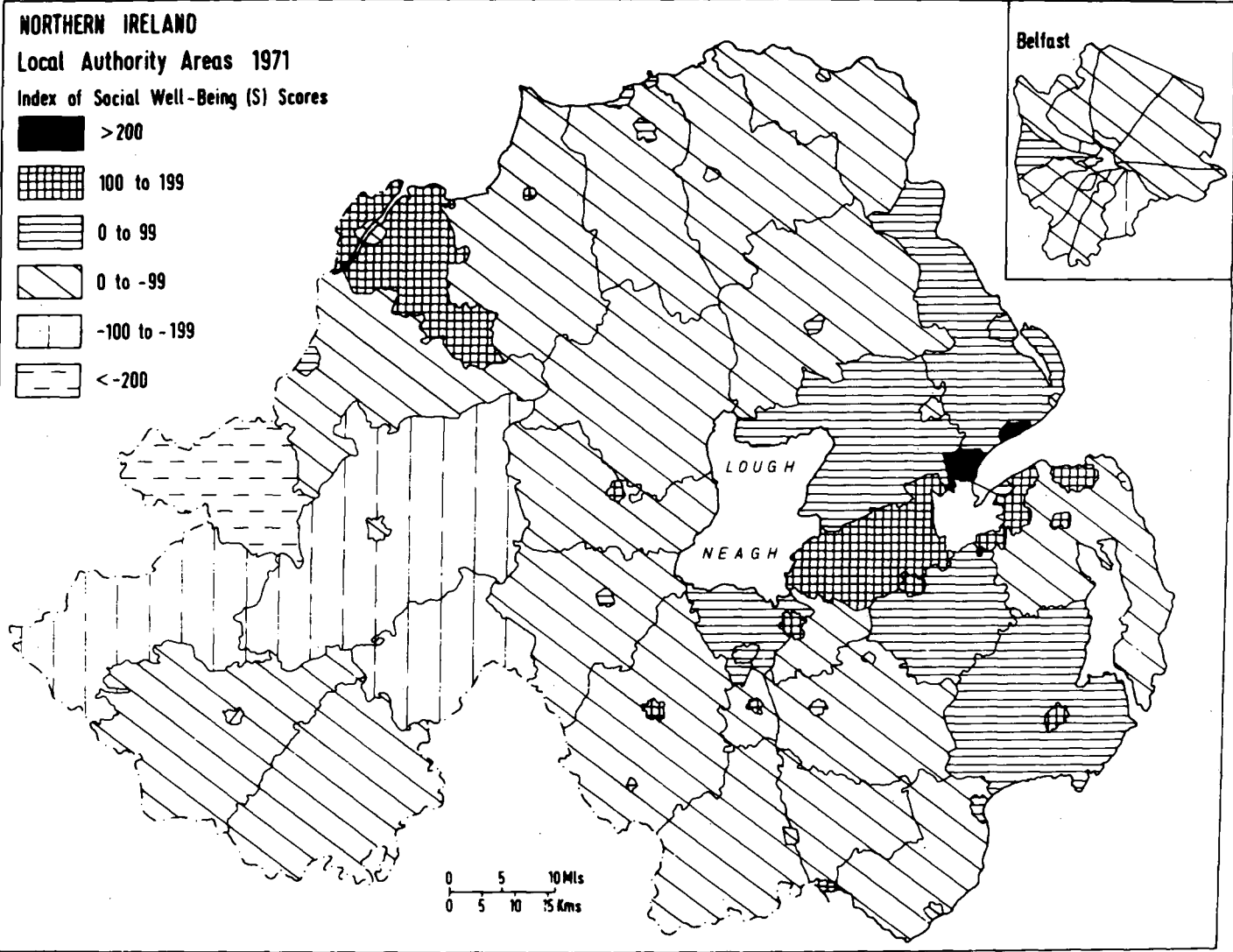


Fig. 2

per cent of the total population of the province, but 39.8 per cent of the population of District Council Areas with negative S scores and 55 per cent of the population of District Council Areas with S scores lower than -50 , then the true scale of the Belfast problem and the true balance of the pattern of deprivation can begin to be appreciated (cf. Project Team, 1977, p. 65; Boal *et al.*, 1974, p. 11).

To assess the extent of rural deprivation, we need to look at the pattern of S values at a finer level of resolution. The re-organisation of local government in 1973 allows this to be achieved in a way which will rarely prove possible again. In anticipation of the re-organisation, data for the 1971 census were published for both the 26 new District Councils and the then existing 83 Local Authorities. Table 4 lists S scores for these latter areas in 1971 and the spatial distribution of scores is illustrated in Figure 2. The pattern of low levels of social well-being in the rural districts, relative to the urban districts and municipal boroughs, is well evident. In fact, 22 of the 29 rural districts have negative S values compared with only eight out of 18 urban districts and one of the nine municipal boroughs. It might be hypothesised that the tendency for the rural districts to be found in the poorer West of the province at least partially accounts for this imbalance in levels of well-being. However, if the "distance from Belfast" regression model is applied to the S values for the Local Authority Areas, it is found that 26 of the 29 rural districts do, in fact, have lower values than would be predicted solely from their distance from the capital.

Examining S values at this finer scale again highlights the plight of Belfast. Only one of the 15 wards achieves a positive score and areas such as Ormeau ($S = -127$) and St. George's ($S = -171$) endure conditions as poor as any in the province. The spatial patterning of deprived areas within Belfast closely approximates the "Inner City" and "West Sector" distributions of indicators of malaise reported by Boal *et al.* (1974) and, more recently, by the study on Areas of Special Social Need (Project Team, 1977).

Finally, the poor conditions to be found in the wards of Londonderry County Borough should not be ignored. All three wards have sizeable negative S values. Yet, despite the size of the city (51,850 in 1971), surprisingly little mention of its specific problem is made in the Regional Strategy.

V THE PATTERN OF CHANGE: 1961-1971

Pictures of social conditions obtaining at one single point in time are rarely satisfactory and prove a difficult starting point for any attempt to isolate the processes underlying the spatial patterns which are observed (Blaut, 1972; Thrift, 1977). Table 4 and Figure 3 summarise the distribution of S

scores for the 83 Local Authority Areas in 1961. (N.B. — although there were 3 minor boundary changes during the period 1961-1971, these should have a negligible effect on comparability.) The overall pattern is very similar to that revealed in 1971. The extent of rural deprivation relative to the urban districts and municipal boroughs is, if anything, slightly more marked in the 1961 data. Only four of the 31 rural districts achieved positive scores, compared with seven out of 29 a decade later. Belfast itself has undergone a decline in the ten-year period, as also have the three wards of Londonderry County Borough. Especially striking is the decline of Londonderry's South Ward, with its disproportionately large Catholic population.⁷

The beneficial effects of the Matthew "Growth Centre" strategy (and indeed the earlier government incentive schemes) on the municipal boroughs closest to Belfast, working in conjunction with their inherent locational advantages, are clearly revealed in Table 4. Drawing on the distance-decay regression model once more, it can be shown that whereas social well-being scores for the municipal boroughs in 1961 were but slightly (and, in fact, positively) correlated with distance from the capital, by 1971 a marked negative relationship existed ($r_{1961} = 0.316$; $r_{1971} = -0.82$). In fact, of the seven growth centres selected by Matthew, all but Antrim substantially improved its S score over the ten-year period.

This relative improvement of conditions in the larger urban centres surrounding Belfast is mirrored by a steepening of the distance-decay gradient away from the city among the rural districts ($r_{1961} = -0.77$; $r_{1971} = -0.85$) — that is to say, by a relative worsening of the levels of social well-being in the rural areas furthest from Belfast. It is noteworthy, however, that five of the six "Key Centres" designated by Matthew and located outside the Belfast region reveal increased S scores. The sixth "Key Centre", Londonderry, was promoted to "Growth Centre" status after the Wilson Report of 1965.

Finally, can it be said that the overall pattern of social well-being has moved in an egalitarian or an inegalitarian direction in the period 1961-1971? Has the province moved closer to, or further from, a state of spatial equity? It must be remembered, not least when interpreting the decennial changes outlined above, that the S values presented in Table 4 are strictly relative (see Davidson, 1976, for a treatment of absolute changes). An increase, such as that from 110 to 135 experienced in Armagh U.D., does not imply an absolute improvement in the aspects of well-being represented by the diag-

7. Between 1945 and 1970 only 14 per cent of government-sponsored or advance factory industry located in areas more than 30 miles from Belfast. Robinson (1970, p. 211) contrasts Lurgan which, with a population of 18,000 and located 21 miles from Belfast, gained 13 such factories during this period with Londonderry which, with a population of 55,000, but located more than 70 miles from Belfast, gained only seven.

Table 4: Local Authority Area 'S' scores, 1961 and 1971

| | 1961 | 1971 | | 1961 | 1971 |
|--------------------------------|------|------|-------------------------|------|------|
| <i>CO. ARMAGH</i> | | | <i>CO. DOWN</i> | | |
| Armagh U.D. | 110 | 135 | Banbridge U.D. | -32 | 1 |
| Craigavon U.D. | | 27 | Bangor M.B. | 34 | 122 |
| Keady U.D. | 25 | 10 | Donaghadee U.D. | -62 | -281 |
| Lurgan M.B. | 72 | 137 | Downpatrick U.D. | 14 | 160 |
| Portadown M.B. | 75 | 65 | Dromore U.D. | 29 | -4 |
| Tandragee U.D. | -86 | 112 | Holywood U.D. | 137 | 88 |
| Armagh R.D. | -161 | -77 | Kilkeel U.D. | 81 | -9 |
| Newry 2 R.D. | -128 | -23 | Newcastle U.D. | -4 | 7 |
| Tandragee R.D. | -178 | 7 | Newry U.D. | 40 | -39 |
| Lurgan R.D. | -221 | | Newtownards M.B. | 61 | 139 |
| <i>CO. TYRONE</i> | | | Warrenpoint U.D. | 60 | 101 |
| Cookstown U.D. | 144 | 146 | Banbridge R.D. | -119 | -64 |
| Dungannon U.D. | 76 | 20 | Castlereagh R.D. | 282 | 178 |
| Omagh U.D. | 126 | -17 | East Down R.D. | -61 | 16 |
| Strabane U.D. | 124 | 57 | Hillsborough R.D. | 5 | 73 |
| Castledearg R.D. | -105 | -273 | Moira R.D. | -159 | -61 |
| Clogher R.D. | -150 | -169 | Newry 1 R.D. | -106 | -8 |
| Cookstown R.D. | -141 | -52 | North Down R.D. | -33 | -17 |
| Dungannon R.D. | -58 | -24 | South Down R.D. | | -33 |
| Omagh R.D. | -151 | -171 | Kilkeel R.D. | -45 | |
| Strabane R.D. | -124 | -96 | <i>CO. ANTRIM</i> | | |
| <i>CO. FERMANAGH</i> | | | Ballycastle U.D. | 69 | 99 |
| Enniskillen M.B. | 149 | -105 | Ballyclare U.D. | 155 | -81 |
| Enniskillen R.D. | -197 | -93 | Ballymena M.B. | 79 | 41 |
| Irvinestown R.D. | -207 | -110 | Ballymoney U.D. | 54 | -23 |
| Lisnaskea R.D. | -134 | -94 | Carrickfergus M.B. | 92 | 273 |
| <i>BELFAST CO. BOROUGH</i> | | | Larne M.B. | 61 | 82 |
| Clifton | 25 | -17 | Lisburn M.B. | 67 | 184 |
| Court | -15 | -58 | Newtownabbey U.D. | 245 | 211 |
| Cromac | -17 | -38 | Portrush U.D. | 110 | 43 |
| Dock | -24 | -74 | Whitehead U.D. | 5 | -25 |
| Duncairn | 50 | -15 | Antrim R.D. | -44 | 98 |
| Falls | 31 | -26 | Ballycastle R.D. | -73 | -35 |
| Ormeau | -5 | -127 | Ballymena R.D. | -70 | -5 |
| Pottinger | 19 | -58 | Ballymoney R.D. | -54 | -35 |
| St. Anne's | -5 | -75 | Larne R.D. | -16 | 44 |
| St. George's | -44 | -171 | Lisburn R.D. | 152 | 108 |
| Shankill | 50 | -20 | <i>CO. LONDONDERRY</i> | | |
| Smithfield | -28 | -95 | Coleraine M.B. | 25 | 99 |
| Victoria | 38 | -27 | Limavady U.D. | 122 | 152 |
| Windsor | -20 | -62 | Londonderry (U.D./R.D.) | 2 | 102 |
| Woodvale | 67 | 30 | Portstewart U.D. | 13 | 58 |
| <i>LONDONDERRY CO. BOROUGH</i> | | | Coleraine R.D. | -75 | -63 |
| North | 12 | -52 | Limavady R.D. | -85 | -86 |
| South | 61 | -61 | Magherafelt R.D. | -66 | -30 |
| Waterside | 46 | -44 | | | |


NORTHERN IRELAND


Local Authority Areas 1961

Index of Social Well-Being (S) Scores


 > 200

 100 to 199

 0 to 99

 0 to -99

 -100 to -199

 < -200

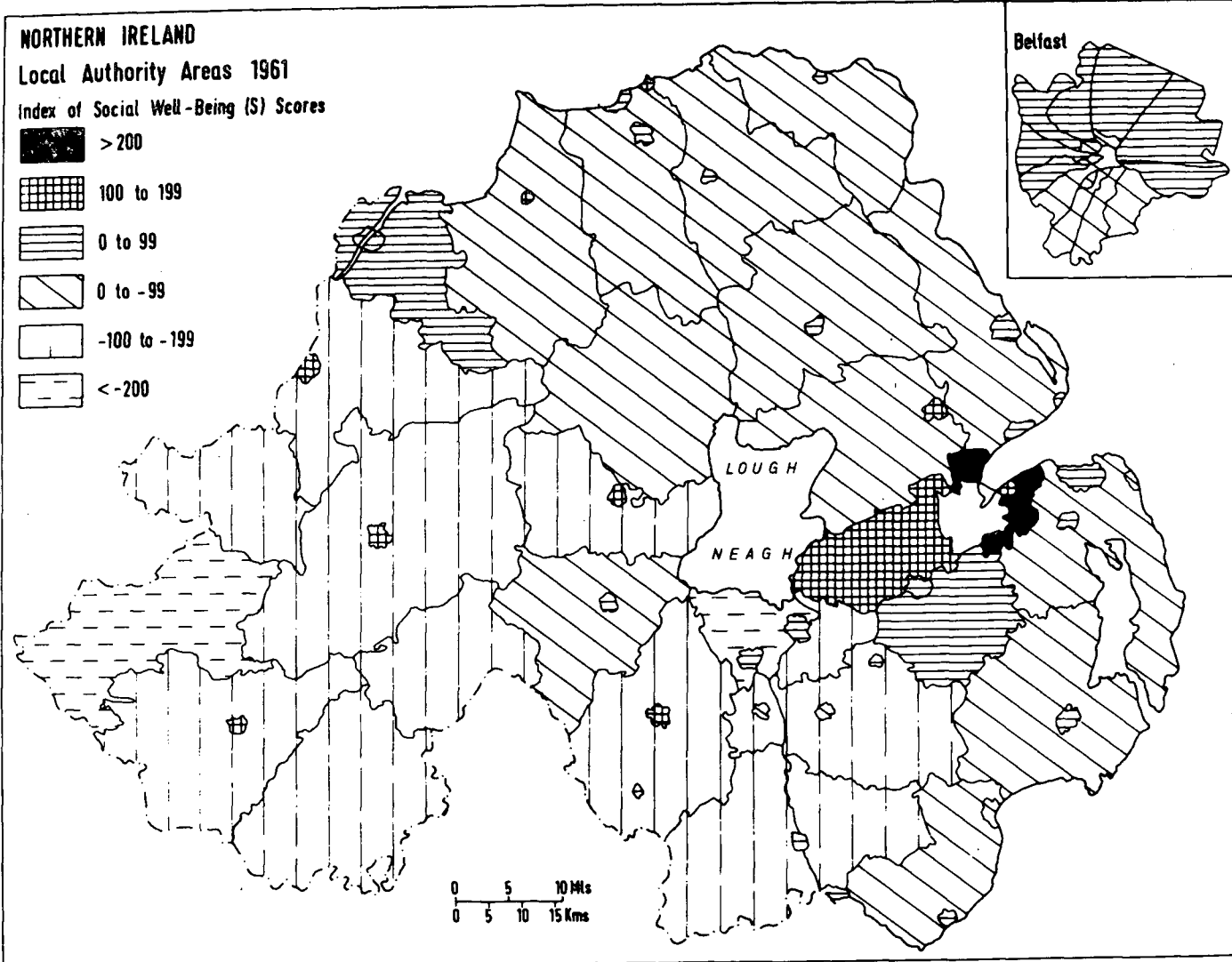


Fig. 3

nostic variables, though this may, of course, be the case. Rather, it implies that Armagh U.D. has increased its level of social well-being, relative to the whole set of Local Authority Areas, by 0.25 of a standard deviation. Since the index scores are standardised, their variances, being equal, give no guide to increases or decreases in inequality. However, if the Local Authority Areas are sub-divided according to their 1961 S scores, it can be seen that only 16 of the 44 areas with positive scores and only 13 of the 39 with negative scores moved further from the mean. The tendency of the 54 which moved towards the mean represents, therefore, an aggregate decrease in inequality over the complete set of Local Authority Areas.

This should not, however, be allowed to distract attention from the universal relative decline of the 18 wards of Belfast and Londonderry in which live more than one-quarter of the province's population.

VI CONCLUSION

The variations in the geography of social well-being outlined above would suggest that the regional strategies of the 'sixties (and the less well-integrated government initiatives of the late 'forties and 'fifties) achieved, at best, a partial success. It is clear that the large majority of the selected "Key" and "Growth" centres did substantially improve their levels of relative well-being. While the bulk of the relatively deprived rural areas also shared in this tendency between 1961 and 1971, their comparative deprivation was by no means eliminated. Furthermore, the problems of the two largest centres of population were, if anything, intensified.

Future monitoring of the spatial pattern of social well-being will be needed to assess the degree to which development in the selected District Towns of the Regional Strategy diffuses its benefits geographically. This becomes especially critical in the light of Steed's findings on the rudimentary local linkage networks and British or international orientation of much Northern Irish manufacturing industry (Steed, 1968).

This monitoring will require a sharpening of analytical tools. At the most basic level, data for a broad range of territorial social indicators must be made readily available for smaller spatial units than the 26 District Council Areas. The use of these larger areas as data presentation units in the future will, of course, obscure rural-urban disparities in levels of well-being. Attempts must be made to replace our pragmatic definition of social well-being, perhaps by exploring the possibilities of the "Delphi" technique (Dalkey *et al.*, 1972; Koelle, 1974; Molnar and Kammerud, 1975). Survey methods might be employed to derive weightings for the diagnostic variables (Stagner, 1970; Smith, 1973, pp. 90-91) and also to elicit parallel information about subjective satisfactions (Campbell *et al.*, 1976; Andrews and Withey, 1976). Such

fundamental improvements would doubtless prove expensive and Murie's previously quoted remarks on the scarcity of resources devoted to assessing the efficacy of regional policy seem even more appropriate here.

Finally, the warnings of Sheldon and Land (1972, p. 142) should be borne in mind. As development progresses, so also should the monitoring system. If development moves towards the social goals implicit in the monitoring system, then those goals steadily become obsolete. It is essential that whatever system of measurement is contrived, it must be flexible enough to embrace emerging social goals and remain responsive to the dynamism of evolving social priorities.

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