HOUSES AND TAXES

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We are now faced with important proposed changes to legislation in the UK; these concern council housing and local taxation. The old granny living in a decrepit house and paying the same local rates as the family of five earning adults who live next door is often put forward as an example of the unfairness of the present rating system. In the same way, the "invisible hand" philosophy, which takes it for granted that individuals who work for their own self-interest will, at the same time, promote general welfare can be seen to be at the basis of the proposal to allow council house estates to opt out of local authority control into the hands of some entrepreneur. There is no need, however, to concentrate on particular cases; the data exists to make a thorough analysis of the impact of the changes.

These legislative proposals are obviously based on a particular view of the current powers that local authorities have to raise revenue and to spend it, but this need not concern us here. There are two questions that we would like to address:

    a) what can we say about the likely impact of a tax based on individuals rather than dwellings?
    b) what can we say about privately rented as opposed to council rented properties?

We can, in the case of Southampton, give at least a partial answer to these questions. Our first step was to collect information about 54 social indicators for Southampton's 400 Enumeration Districts (EDs). These same indicators have been used in other studies such as Mar Molinero and Leyland (1986) and Modabber (1987); Modabber gives full methodological details. The indicators include measures of morbidity, age structure of the population, family size, housing tenure, quality of housing stock, intensity of occupation, traditional measures of need (such as proportion of single parent families and households with no car), employment status, and social class. We took care to define indicators in terms of proportions in order to control for the size of the ED. The full list is given in Table 1.

It can be argued, of course, that different indicators convey the same information; for example, if every time the proportion of employers and managers in an ED is high it is found that the proportion of the population that have a degree is also high, and vice versa, one can conclude that the two indicators are very similar. It is also possible to think of indicators that are very dissimilar: one would expect, for example, the proportion of married men unemployed to be low when the proportion of the active population of the ED employed in managerial jobs is high.

If one thinks of indicators in terms of being similar or dissimilar, the next thing that comes to mind is to represent this relationship in the form of a Multidimensional Scaling (MDS) map.

To construct the MDS map a measure of similarity had to be developed. This was simply Pearson's correlation coefficient. ED's were treated as observations and social indicators as variables, resulting in a 54x54 table of correlations. The correlations could not be used directly as dissimilarities because the package we were using did not accept negative numbers. We transformed the correlations into dissimilarities by adding one and dividing by two (this transformation preserves the ordering of the data although it changes the eigenvalues of the correlation matrix). We found that at least six dimensions were needed to represent the data, but that all the information that was relevant to explore policy issues was present in the first two dimensions. The projection of the six dimensional map in the first two dimensions can be seen in Figure 1.

It should come as no surprise to discover that, in Figure 1, the indicator "employers and managers" maps near the indicator "18+ with degrees", and far apart from the indicator "married men unemployed". At the top of the map one finds council housing while at the bottom of the map one finds private accommodation. High proportions of manual workers tend to concentrate at the top of the map and are associated with high proportions of council housing, while high proportions of non-manual workers concentrate at the bottom of the map and are associated with private accommodation. It is also to be noticed that the left hand side of the map contains owner occupied housing, middle aged married people, and households with exclusive use of all amenities, while the right hand side of the map contains ethnic minorities, young people, people who have moved houses during the past year, and houses with more than 1.5 people per room. We followed Modabber's suggestion and labelled the north-south direction of Figure 1 as social class, and the east-west direction as social stability; we found that the third dimension was associated with age structure; we spent a long time trying to understand the meaning of the remaining dimensions but we could not find any.

Since Figure 1 is only the projection in two dimensions of a six dimensional map, it is possible for points that are very far apart in the space to appear close together in the Figure. To gain further understanding of the data we used hierarchical cluster analysis. There is a rule of thumb that the number of clusters should be between one third and one half the number of points being clustered, we followed it and we settled for 18 clusters. Table 1 shows the clusters each one of the variables was allocated to (in brackets).

The relationship between the different clusters can be established using Figure 1. It is interesting to notice that larger numbers of individuals living under a roof are more common in council housing than in owner-occupied households. Council housing is also associated, in Southampton, with lone parents, permanently sick, manual workers, no car ownership and unemployed married men. Cluster 11 tells us that single, divorced and widowed pensioners in Southampton tend to live in under-occupied housing which is often privately rented unfurnished. Figure 1 also tells us that

privately rented unfurnished accommodation,when used as a social indicator, captures many of the characteristics that are associated with privately owned housing. However, privately rented furnished accommodation is associated with high proportion of single young people, small households that are not self-contained, ethnic minorities, unemployed, and overcrowding. There appears, on the basis of this data set, to be a qualitative difference between council rented housing and privately rented housing; council housing can be seen to provide a social service for some of the groups that are most in need; privately rented furnished housing is used by those groups who have not had the opportunity to qualify for a council house or to acquire a place of their own: the young, students, and the single unemployed.

A recent report by the Audit Commission (1986) describes the problems that underspending in Council Housing has been creating. Councils have not had the resources to repair and improve properties and, as a result of it, a backlog of repairs has been accumulating since 1981 (page 6); yet, the report also states that "public sector levels of unfitness, disrepair, and lack of amenities are lower than in the private sector"; this is significant since no restrictions have been imposed on the way in which private landlords spend their money. Under these circumstances transfer of management responsibilities from the council to a private landlord is likely to result in a general drop in standards. The outlook is, however, bleak for council properties; the proposed changes to the local taxation system are unlikely to result in more funds being available to local authorities for expenditure such as housing.

Legislation aimed at privatising council properties has not helped to generate funds to improve the properties still under council control since there have been severe restrictions on the use of the money that the sales have generated.

We are not aware of any published data source, other than the 1991 Population Census, which could be used to establish the characteristics of the council properties that have been sold—about one third of all council properties have been sold in Southampton— but one can conjecture that they are the most desirable ones, the ones in best condition, and that they have been bought by the tenants who are least in need of council support. The audit commission recommends that council rents should be set at a level which is high enough to keep the housing stock in good repair, but it also recommends that "the practice of financing expenditure on repairs from either debt or capital receipts should cease" (page 3). This, of course, means that rents should set at a level that takes into account efficient management, without taking into account social need. This would be fair enough if an enlightened social security system was to come to the rescue of those who cannot afford the extra rent, but we must remember that the system of social security benefits is also going to change. Councils may, at the risk of being rate-capped, ignore government directives and audit commission recommendations but private business is about covering the cost of providing a service and making a profit, social considerations are not relevant.

The above discussion has been based on the results of a Statistical model; we did, however, also produce some data in order to have a more concrete appreciation of the differences that exist between council housing ED's and non-council ED's. We calculated the average value of our 54 indicators for ED's with more than 90% council housing (excluding all others), for ED's with more than 50% council housing, and for ED's with less than 10% council housing. This was an attempt to produce a profile of council versus non-council areas while, at the same time, trying not to limit the validity of the conclusions on the grounds that the data base was too small.

We did not find any surprises: council housing ED's tended to contain, in 1981, relatively large families of manual workers in relatively small accommodation. Social problems were found to be accentuated in council housing ED's: there were more permanently sick people, more lone parents, more unemployed people than in non-council housing ED's. Education indicators were strongly biased against council housing: the proportion of 16+ in full time education was 1.32% in council housing and 4.21% in non-council; the proportion of the total population that had a degree was nine times higher in non-council than in council housing. By comparing the three sets of average values for the indicators we were able to see clearly that council housing makes a contribution to the welfare of the individuals concerned.

We do not have information on the average rates paid by a household in an ED that contains less than 10% council houses, as opposed to the rates paid by an average family in a council property, but we can safely assume that the rates will be higher in the first case than in the second case. We do not have data on the average income of a council house household as opposed to an owner-occupier household but, given the obvious differences in socio-economic status that we have identified we can, again, safely assume that average incomes will be lower in council houses. It follows that we cannot say whether the rates are a regressive or progressive tax on income.

We attempted to find the average number of 16+ individuals per household in council and non-council housing but this was no easy task; when most of the houses are council owned the calculations are straightforward, but ED's with less than 10% council housing contain owner-occupied housing and privately owned rented housing; if all privately owned housing is treated as being equivalent, one finds that the average number of adults per household is about the same as the average number of adults per council rented household. We suspect that the number of people in privately rented furnished housing is on the high side while the number of individuals in owner-occupied housing and privately rented unfurnished is on the low side, but we did not do any further data manipulations to explore this issue. If the number of adults per household is about the same independently of the type of house tenure and council house rates are lower, a flat rate tax on individuals, or community charge, would result in the average council rented household paying the same tax as the average privately owned household; thus the tax paid by the average family

in a council house would increase while the tax paid by the average household in owner occupied housing would decrease for the total amount of revenue raised to remain constant. This in itself would be regressive, but one must also take into account that council houses have, on average, more occupants since the average council house has more children, and that owner-occupiers see the value of their property increase all the time: they are paying a negative rent (unless the cost of any repairs that they have to undertake is higher than the appreciation of their property).

The situation of those in council houses will deteriorate if a poll tax is introduced, but the real losers will be those who are in privately rented accommodation; they suffer the worst housing conditions, and have to pay a rent. This rent is now controlled by a series of Rent Acts that protect the tenant; it is proposed that these Rent Acts should be replaced by new legislation that would let landlords charge what the market will bear. Furthermore, they will have to pay the same poll tax as their landlords, while their relative housing conditions are very different.

To conclude, we must point out that nothing of what we have said here is a great discovery. Many of the points made have been made many times before, and one suspects that analyses have been made by civil servants and others and that the same conclusions were arrived at. What can a radical statistician do to have an influence on policy?

C. Mar Molinero and A. Leyland (1986) A multidimensional scaling analysis of the city of Southampton. Research paper. Department of Accounting and Management Science. University of Southampton.

S. Modabber (1987) An analysis of electoral wards in Hampshire. Unpublished M. Phil Thesis. Department of Accounting and Management Science. University of Southampton.

Audit Commission for Local Authorities in England and Wales (1986). Improving council house maintenance. HMSO. London.

TABLE 1

Households with more than 1.5 persons per room (1)
Households with more than 6 people in less than 5 rooms (1)
Children < 4 years old divided by married women 16-34 (1)
Children up to 15 divided by married women 30-44 (1)
Households with 6 or more people in 5 or more rooms (2)
Ethnic minorities (2)
Married men unemployed (2)
Single, widowed, and divorced men unemployed (2)
Single, widowed, and divorced women unemployed (2)
Married women 16-24 (3)
Semi-skilled manual workers (3)
Permanently sick people (3)
Households with no car (3)
Council rented housing (3)
Lone parents with one or more children (3)
Unskilled manual workers (3)
Total population in the ED (4)
Households with exclusive use of all amenities (4)
Married women aged 35-44 (4)
Children up to 15 divided by women 16-29 (4)
Married women 25-34 (5)
Children up to 15 divided by total population (5)
Children up to 15 divided by married women 45-59 (5)
Skilled manual workers (5)
Personal service workers (6)
People in the armed forces (7)
Owner occupied housing (8)
Households with less than 0.5 people per room (8)
Employers and managers (8)
18+ with degrees (9)
Professional workers (9)
Ancillary non-manual workers and artists (9)
Lower non-manual workers (10)
Single, widowed, and divorced pensioners (11)
High average age of population (11)
Privately rented unfurnished accommodation (11)
Households with one person in 3+ rooms (11)
Own account workers (12)
Single, widowed, and divorced men 35-44 (13)
Single, widowed, and divorced men 25-34 (13)
Privately rented furnished accommodation (13)
Non-self contained accommodation (13)
Households with one person in < 3 rooms (13)
Single, widowed, and divorced women 25-34 (14)
People who moved address within the last year (14)
Single, widowed, and divorced women aged 16-24 (14)
Married women unemployed (14)
Single, widowed, and divorced men 16-24 (15)
16+ in full time education (15)
Households with 3+ cars (15)
Single, widowed, and divorced women 35-44 (16)
Households with no inside WC (16)
Households in non-permanent accommodation (17)
Agricultural workers (18)

FIGURE 1