RESIDENTIAL MOBILITY IN LONDON:
A MICRO-LEVEL TEST OF THE BEHAVIOURAL ASSUMPTIONS OF
THE TIEBOUT MODEL

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ABSTRACT
The Tiebout model, which theorises that residential choice can regulate the supply of local collective goods, has generated much criticism, but few empirical tests of its behavioural assumptions. The article presents the findings of the first British micro-level test of the effect of local taxes and services on geographical mobility, a postal survey of households' moving decisions in four London boroughs during the years of the poll tax. Taxes and services are found to be important factors in the moving decision corroborating the behavioural assumptions of the model. Respondents acted Tiebout-rationally as those moving into low tax/good service quality boroughs are more likely to cite low taxes and good services as a moving factor than those doing the reverse. The policy implications, however, remain contingent on political orientation.
Within urban political economy one model stands dominant: the Tiebout model of residential choice.¹ The model attempts to solve Samuelson's problem of suboptimal market provision of collective goods.² Tiebout contends that a mechanism exists which allows local or small-scale collective goods to be allocated efficiently in a manner analogous to the market. If there are a large number of local governments in a single metropolitan district, they may offer rival sets of collective goods and households can choose the tax-service package which best suit their needs. He argues 'There is no way in which the consumer can avoid revealing his preferences in a spatial economy. Spatial mobility provides the local-goods counterpart to the private market's shopping trip.'³ Mobility is the key factor: 'Moving or failing to move replaces the usual market test of willingness to buy a good and reveals the consumer-voter's demand for collective goods. Thus each locality has a revenue and expenditure pattern that reflects the desires of its residents.'⁴ If citizens vote with their feet by moving to communities which offer the most suitable mix of local public services their demand for local collective goods will be revealed.

The implication for local public finance theory and practice is that population movements will be intrinsically linked to local
public finance and expenditure decisions. Thus Tiebout has been used to explain population flight to the suburbs.\(^5\) The model suggests an alternative form of local accountability to the electoral process, a view which has influenced Conservative government thinking for over a decade. Thus ministers used the idea of voting with one's feet to justify the now discredited poll tax.\(^6\) In addition, many normative implications are thought to follow from Tiebout, such as prescriptions for structural and fiscal reform of the local public sector.\(^7\) In particular, the model has been used to justify small jurisdictions in the long-running 'city size' debate.\(^8\)

Tiebout has received many tests in the US, mainly because its fragmented local government structures, large numbers of geographically proximate jurisdictions and diverse ranges of tax-service package meet some of the conditions of the model. Political scientists, geographers and economists consider the degree to which implications derived from Tibout's model occur. We provide a full survey of the literature elsewhere under five headings depending which implication from Tiebout the researchers are trying to study.\(^9\) For example, the model predicts that those who depend upon welfare tend to move to jurisdictions with the highest payments, whilst those who do not are indifferent to those levels.\(^10\) Research quantitatively evaluates these implications and hypothesizes causal relations.
British academics generally consider the model is unrealistic.\textsuperscript{11} Sharpe and Newton argue it relies upon multiple competing jurisdictions within the same metropolitan area; it depends on a high degree of knowledge of services and tax levels; and it requires high levels of mobility.\textsuperscript{12} Britain has lower levels of geographical mobility than the USA and the rates system was complex, making inter-borough comparison difficult (though not impossible). Most importantly, Britain had large jurisdictions, particularly after the 1972 local government reforms created six large metropolitan areas, though there was a more heterogeneous structure before that time. Where the institutional structure does not resemble that of Tiebout's model, it may be inapplicable. Where it resembles that set out in Tiebout's model, then taxes and services could influence residential choice.

A more general criticism of Tiebout is that the model's assumptions – full mobility and knowledge, consumer-voters who live on dividend income and no external economies or diseconomies of scale – are either false or only partially true.\textsuperscript{13} However, these are no more unrealistic than those contained in models of perfect competition. In Tiebout the assumptions are incorporated as part of a formal model which generates an equilibrium solution entirely predicting optimal demand for collective goods which Samuelson argues is impossible. Even Tiebout refers to the model as 'extreme',\textsuperscript{14} and drops some of the assumptions as the argument is developed.
Once relaxed, the model ceases to be a self-contained 'world' and it is possible to introduce other factors, such as the strategic role of local government and local taxes,\(^{15}\) and the wide variety of factors determining mobility. Though intermingled with other forms of action, the underlying behavioural assumption - that tax-service levels in competing jurisdictions affect moving decisions - can thus be tested. Empirical research will not corroborate the pure model,\(^{16}\) but can identify how Tiebout factors fit into a complex pattern of behaviour. As Teske et al. write, 'through the progressive relaxation of the highly restrictive assumptions ... models are made more complex, and more congruent with empirical realities.'\(^{17}\)

Aggregate-data studies commit an error frequent in the social sciences: 'to "test" a hypothesis by checking whether the results are "consistent" with it without exploring whether they are also consistent with other, conflicting hypotheses.'\(^{18}\) Micro level tests can serve to provide evidence for the causal link hypothesized in the aggregate-data studies. If tax-service considerations do not enter in the calculations of movers then this falsifies Tiebout and undermines aggregate data results. Even small numbers of 'Tiebout movers' could generate a market analogue. The number required is moot. Teske et al. suggest that about 10 per cent of consumers is required to generate a market, though this figure will vary according to the price of the good, the abilities of government to price-discriminate and
the number of suppliers. What percentage of movers is required depends the rate of geographical mobility and the sensitivity of local councils to changing needs and wealth of their constituents. Though only aggregate data results can suggest that a market is actually operating, it is the micro-level study which tests for the existence of the hypothesized behavioural reasons.

Micro-level tests explicitly link local fiscal differentials with actual moving decisions rather than fit individual level assumptions to aggregate data. Tiebout recognized this as an important approach, 'Consumer-voters do not have perfect knowledge and set preferences, nor are they perfectly mobile. The question is how do people actually react in choosing a community. There has been very little empirical study of motivations of people in choosing a community.' Moreover, when applying his model to the location of firms, Tiebout argued the only way of discovering whether optimal location occurred through rational decision-making or through a natural selection process was from survey data of the decision-makers.

We test the following modified Tiebout model by (1) discovering the number of households which claim that tax-service consideration entered into their decision to move; (2) developing a push-pull model of moving decisions, arguing that for cost-benefit reasons Tiebout factors should emerge more strongly on the pull side; (3) finding out if Tiebout factors
are less important the further the distance households move; (4) assessing a possible distinction between intra and inter moves as used in micro-level tests of the 'Exit, Voice and Loyalty' model; and (5) ascertaining 'Tiebout-rationality' by examining whether those who claim to move for tax-service reasons move into low tax, better quality service areas.

1. RESEARCH METHODS
The micro-level test of Tiebout's behavioural assumptions was a random postal questionnaire survey of 860 households which had moved during the period of the poll tax in four London boroughs. The questionnaire sought households' reasons for moving and their attitudes to local services. The method of the timing and selection of the sample is Popperian in that negative results would falsify the model under the best conditions for its success (that is when its 'empirical content' is highest). Positive results would underpin Tiebout-consistent British aggregate data studies.

1.1 The choice of London
The abolition of the upper tier of local government in metropolitan authorities in 1986 created jurisdictions which may be in competition for citizens. As the largest UK urban area with the greatest number of jurisdictions, London is the most appropriate place to test the behavioural assumptions of the model, and it was used before 1986 for two aggregate data tests.
of Tiebout. Both studies find that geographical mobility is sensitive to local government factors.\footnote{26}

1.2 The timing of the survey
The period of the poll tax provided an ideal opportunity since it was a high profile tax, easily understandable and paid (at least in theory) by most people. There were higher profile discussions of local services with privatization, contracting out and the new managerialist culture ensuring local government received far greater press attention than normal. Thus it can be assumed households would have greater sensitivity to tax-service packages than otherwise. This is not to argue the voters are not responsive to property taxes as surveys have shown they trade off local taxes and expenditures,\footnote{27} but the poll tax potentially increased their salience.

1.3 The selection of the boroughs
The four London boroughs share borders, but have significantly different local tax levels and mixed reputations for service delivery and quality: Camden and Lambeth had high poll taxes and generally a poor reputation for services; Wandsworth and Westminster had low poll taxes and a better reputation for many services.\footnote{28} By choosing authorities with contrasting tax-service packages the model is again given its best opportunity to function because (a) households can easily perceive the difference between the councils; (b) the differences in taxes and (to a degree) services is large enough to confer benefits or
impose costs on the moving decision; and (c) the cost of moving is lower than had the areas been further apart. These boroughs are atypical as there is no positive correlation between tax levels and service quality. Though it might be thought a disparity in level of local taxes contradicts the assumptions of perfect competition, variations can feature in the model - and in the poll tax design itself - as voters can punish councils with high taxes and inefficient services by migrating to areas with low taxes and efficiently run services.

2. THE TWO STAGE DECISION PROCESS
A household resolution to relocate can be modelled as a two-stage decision with a 'push' factor: the decision to move from the existing location; and a 'pull' factor: the decision to move to a new location, an approach common amongst migration models. An alternative approach is to use simple cost-benefit analysis which can capture all the elements of the moving decision. However, the psychology of the two-stage decision-process discriminates elements of locational decision-making cost-benefit methods miss. Numerous studies demonstrate that, whilst survey respondents indicate close proximity to shopping centres, schools and places of employment tend to attract households to one location rather than another, the absence of such factors does not generate enough concern to provoke a moving decision.

Analogously, though the colour may lead an individual to prefer one car to another of the same model, a person is unlikely to decide to dispose of a car on that basis. The two-stage model
is particularly appropriate to residential location because of the high material and psychological transaction costs.

The two stage model is not made inapplicable by the difficulty of separating the decisions. Although they may be made simultaneously or knowledge about alternatives may influence the initial decision to move, the relative weight of a factor on each decision will differ. Nor is it damaging that many decisions to relocate can be seen as involuntary, that is, households are forced to move due to changes in family structure or job. In this case, the researcher identifies the second stage as a voluntary decision. Tiebout tax-service reasons should be more salient for 'pull' than 'push' factors because in most cases the value of local goods and services and the local tax differentials would outweigh the costs of moving. In addition, as Teske et al. point out, once forced to move the marginal costs of gathering information are low.

The two-stage model may be viewed as a modification of Tiebout, though Percy argues it is part-and-parcel of the original model which recognizes relocation decisions are made on a relative basis. The distinction also allows a test of the hypothesis that Tiebout reasons are likely to be more influential as pull factors. Most micro-level studies only test for one type of factor, though taxes/services may act on both aspects of the relocation decision.
3. ANALYSIS OF RESULTS

3.1 Push factors

Many studies of why people move have been criticised for focusing on too narrow a set of influencing factors. In particular, the failure to test for the influence of local government-related factors has been almost universal. The survey thus asked respondents to indicate the degree of importance they placed on a wide range of factors both when deciding to move and deciding where to move to. This included many of the commonly accepted influences on moving decisions together with several Tiebout-related factors in order to establish a more detailed understanding of their relative importance at different stages of the moving process. The responses are presented in Chart A.

[Insert Chart A about here]

The results demonstrate the importance of family and job factors. The relevance of dwelling and community characteristics and family life-cycle changes to residential mobility is generally supported by the findings. As expected, Tiebout reasons appear to be among the less important factors affecting households' initial decisions to move. It is striking, however, that 18.5 per cent of movers consider services to be an important factor while 19 per cent think taxes important. However, since Tiebout movers can include any respondent citing either taxes or services or both as being
important, then the figures given above are values for two subsets of all Tiebout movers. Cross-tabulation of the tax and service factors demonstrates that 23 per cent of respondents cite either taxes or services or both as influences on their initial decision to move.

3.2 Pull factors
Chart B summarises the pull factors.

[Insert chart B about here]

As hypothesized, Tiebout reasons seem more important as pull factors. Nearly 41 per cent consider low poll tax to be an important consideration compared to about 19 per cent as a push factor. Furthermore, almost 43 per cent consider good services to be important as opposed to 18.5 per cent as a push factor. Combining the Tiebout factors reveals that 49 per cent of respondents cite either taxes or services or both as important influences on the choice of new location.

3.3 Push and pull factors compared
In order to compare push and pull factors directly the analysis combined some of the push factors (Chart C).

[Chart C about here]
As predicted, Chart C demonstrates on average more households cite factors as pull than push categories. The rise in citations is greatest for household and location factors, less so for job and family variables. Again this is as expected for job-related and family-related reasons cross the push-pull divide since moving from one location for one factor is similar to moving to it. The pull side of the model activates factors which were not important on the pull side. Tiebout factors demonstrate the greatest difference, supporting the push-pull hypothesis.

3.4 Collective and Private Goods
Rotated factor discriminant analysis was used to explore relationships between the pull factors. Table 1 shows two clear factors with eigenvalues greater than one explaining 58 per cent of the variance. The two factors are based on different types of variables: the first factor is linked to general reasons for moving - price, job and family and neighbourhood; the second is related to Tiebout reasons - low poll tax and good services. This supports a division of reasons for moving into job/family/house related and Tiebout factors. The former are private goods; the latter are collective.

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Private (1)</th>
<th>Collective (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>House price</td>
<td>.64873</td>
<td>.04299</td>
</tr>
<tr>
<td>Job and Family</td>
<td>.62429</td>
<td>.04491</td>
</tr>
<tr>
<td>Good Location</td>
<td>.73669</td>
<td>.16440</td>
</tr>
<tr>
<td>Neighbourhood</td>
<td>.68248</td>
<td>.27219</td>
</tr>
</tbody>
</table>
The clustering is very marked and highly suggestive of an important relationship even though categories 'collective good' and 'private good' are broad. There is also a difference between the pure Tiebout model and the reality of tax-service provision in Britain. Tiebout explicitly discounts redistribution; local taxation is a benefit tax which households pay in order to enjoy the collective good. In reality the tax service components are separable, since households differentially enjoy the goods on offer and many councils attempt redistributational policies. Hence a household not interested in local collective goods may still be interested in the level of local taxation. Factor analysis cannot reveal such households. Nevertheless, the strong clustering of collective good reasons demonstrates Tiebout considerations are highly pertinent in moving decisions in these four London boroughs as pull factors. This provides strong support for the behavioural foundations of the model in the sample area.

3.5 Tiebout movers and distance

It can be hypothesised that Tiebout factors are inversely related to distance. Two simple observations support this assumption. First, the financial and social cost of moving
house is likely to increase the greater the geographical distance involved. It is thus unlikely a household would move, say, from Manchester to London simply to enjoy a better tax-service package. Such a move is much more likely to be the result of a change in job, for example. Second, Tiebout's behavioural assumptions rest on the premise that individuals are aware of the alternative tax-service packages on offer. Such knowledge is likely to be greater the closer the destination area to the origin, so Tiebout moves are likely to be more common the shorter the distance moved.

The hypothesis can be tested by comparing the importance of Tiebout factors over distance. Chart D shows the results for taxes and services.

[CHART D About Here]

Chart D clearly demonstrates Tiebout factors decrease in importance on households' moving decisions as the distance moved grows (though moving within the four borough is less salient than moving into them from other areas in London).

4. TIEBOUT MOVERS - CROSS BOROUGH HOPPING

4.1 Inter and intra borough movers
An extension of Tiebout's model suggests the importance of tax-service components as push factors would increase between intra-
and inter-borough movers. This hypothesis derives from the use of Hirschman's Exit, Voice and Loyalty (EVL) model of alternative responses to dissatisfaction within private organisations. The EVL model (sometimes with the added category of Neglect (EVLN)) is used to test alternative responses to dissatisfaction with local government services. The model views exiting as a potential response to dissatisfaction. Thus more inter-borough movers than intra-borough movers should cite Tiebout factors as important as they are more likely to be dissatisfied with local services of the borough they have moved from.

We find a clear significant relationship between poll tax as a push factor and intra and inter borough moves. Low poll tax is cited as an important factor in their decision to move by 36 per cent of inter borough movers as opposed to 20 per cent of intra borough movers. However, no significant relationship is found between services as a push factor and inter borough moves. There is no difference between intra- and inter-borough movers with service-satisfaction. Overall the results show distance affects borough moves, and jurisdictional moves could be determined by the level of the poll tax: there was some cross border hopping as a result of divergent poll taxes within London.

4.2 Movement within and between boroughs
We have demonstrated movers to and within four London boroughs take Tiebout factors into account when moving home. However, corroboration of Tiebout's behavioural assumptions also requires moves are **Tiebout-rational**. Do households who cite tax-service reasons actually move to areas with better tax-service packages? The citing of Tiebout factors is not informative if the moves are not Tiebout-rational.

The largely aggregated analysis undertaken so far fails to distinguish between the different possible moves. Existing micro-level studies tend to disaggregate movers only in terms of intra and inter borough moves. There are two explanations for this approach. First, Tiebout's pure model of consumer-voters choosing to move to that community which best satisfies their local service preferences implicitly implies an inter-community move (otherwise they would not bother to move). Moreover, Tiebout's efficiency argument concerning the optimal allocation of local collective goods requires inter-jurisdictional movers. Second, the majority of the individual level tests of Tiebout utilize the EVL model. Mobility or exit is thus seen as a response to **dissatisfaction** with a particular community's services and necessarily involves an inter-borough move. These studies only analyze those movers who intend to move inter-jurisdictionally. It is true a test of behavioural assumption of Tiebout must be concerned with interjurisdictional moves as these motivate his efficiency argument. Households, however, move for a variety of reasons in which Tiebout reasons are only
one factor. There are many households which do not move across jurisdictions, but they may still be interested in tax-service considerations but find they are already in the jurisdiction with the best deal. The individual level tests are explicitly concerned with testing the individual behavioural assumptions underlying the model and for these reasons intra-jurisdictional moves are of equal importance. A failing of the EVL approach is to ignore intra-jurisdictional moves made for non-Tiebout reasons but encouraged by satisfaction with local services and taxes. Hence a realistic example of an intra-jurisdictional move would be a growing household who finds its present house too small (push factor) but does not wish to leave Wandsworth because of its zero poll tax. It is motivated to look for properties within Wandsworth (pull factor). By limiting analysis to inter-jurisdictional movers the EVL approach ignores Tiebout-consistent intra-jurisdictional movers. In sum, disaggregation into inter and intra borough movers is not the most useful way of testing for Tiebout's behavioural assumptions.

4.3 Tax Factors
Tiebout's notion of a consumer-voter implies movers should be concerned with achieving the lowest possible cost for their preferred bundle of services. Hence more households moving into and within low poll tax boroughs should cite tax reasons than those moving into high tax boroughs. This acts as a test of whether households citing taxes as a reason for moving to and
within a particular area are rational. Chart E shows the results (using pull factors).

[Chart E About Here]

Households moving into and within the low tax boroughs of Wandsworth and Westminster are more likely to cite tax as an important factor in their moving decision, clearly demonstrating rational moving behaviour of the sort hypothesized above. The other way of examining the relationship is through households' perception of the impact of local taxes. Thus Table 2 shows the tabulation of low poll tax with the degree to which households think their new poll tax is higher or lower. Again respondents appear to be behaving rationally.

<table>
<thead>
<tr>
<th>Table 2: Lower poll tax (pull) by whether the poll tax has changed+</th>
</tr>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Important</td>
</tr>
<tr>
<td>Unimportant</td>
</tr>
<tr>
<td>Total</td>
</tr>
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<td></td>
</tr>
</tbody>
</table>

+ Significant at p < .001

Given the comparatively large poll tax differentials between the sample boroughs, it is possible to develop a general typology of movers in the survey. There are those moving from/to the 'high' tax boroughs (Camden and Lambeth) and those moving from/to the 'low' tax boroughs (Wandsworth and Westminster), and others moving into the sample boroughs from other London boroughs and
from outside London. After movers from other London boroughs and outside of London, households moving within boroughs are the most common. Table 3 shows movers' sensitivity to Tiebout tax effects.

| Table 3: Tiebout tax (pull) by moves between boroughs+ |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                   | Hi-Hi             | Hi-Low            | Lo-Low            | Low-Hi            | In Lond           | Out               | Total             |
| Important         | 32.8              | 76.2              | 72.3              | 16.0              | 52.8             | 41.5              | 1                 |
| Unimportant       | 67.2              | 23.8              | 27.7              | 84.0              | 47.2             | 58.5              | 5                 |
| Total             | 100.0             | 100.0             | 100.0             | 100.0             | 100.0            | 100.0             | 100.0             |
|                   | (128)             | (42)              | (159)             | (25)              | (218)            | (94)              | (66)              |

+ Significant at p < .001

The table complements the general picture. Those moving within the high poll tax areas more often cite tax as unimportant; those moving within low poll tax areas do the reverse. Those moving from high to low poll tax areas more often cite poll tax as important as vice versa.

4.4 Service Factors

Constructing a typology for services is more problematic. It is far harder to measure comparative service quality. Moreover, the considerable tax differentials among the sample boroughs made the tax typology far easier. The survey shows respondents moving to Wandsworth and Westminster are more likely to suggest services had improved than those moving to Camden and Lambeth and general satisfaction levels are significantly greater in Wandsworth and Westminster. Given these findings, Table 4
categorizes moves from/to 'good' boroughs (Wandsworth and Westminster) and from/to 'poor' boroughs (Camden and Lambeth).  

<table>
<thead>
<tr>
<th></th>
<th>Important</th>
<th>Unimportant</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Within Pr</td>
<td>Pr to Gd</td>
<td>Within Gd</td>
</tr>
<tr>
<td>Important</td>
<td>42.2</td>
<td>67.7</td>
<td>70.3</td>
</tr>
<tr>
<td>Unimportant</td>
<td>55.8</td>
<td>33.3</td>
<td>29.7</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>(129)</td>
<td>(42)</td>
<td>(155)</td>
</tr>
</tbody>
</table>

Table 4: good services (pull) by borough moves+

The results corroborate the hypothesis. Households which cite services and taxes as important influences on their moving decision tend to move to areas with better tax-service packages. This is also the case for those moving specifically because of taxes or services.

5 CONCLUSION

The results demonstrate a range of influences affect both the decision to move (push) and the choice among alternatives (pull). Like previous studies, the findings show dwelling characteristics, change in job and buying a first home are the most important influences on moving decisions. However, this is not inconsistent with Tiebout as long as tax-services are also motivationally efficacious. Tax-service levels are important, especially as pull factors, as just under half of the respondents consider taxes and/or services an important
influence on their choice of new area. This result provides strong support for the assumption that taxes and services influence residential mobility in inner London. Also taxes and services' importance decrease the further the distance moved. In term of the Tiebout model the numbers are more than sufficient to generate a market for local collective goods. If the Teske et al. figure of 10% of consumers taking into account tax-service levels is accurate, 40% of movers taking into account tax-service considerations will give 10% of the population as Tiebout-rational over a five year period with a geographical mobility rate of just over 5%. The annual household mobility rate for inner London is 11%, more than sufficient for the market analogue.\(^{48}\) Comparing the results to similar micro-level studies in the USA, those using the EVL framework tend to find cross-jurisdictional movers are not less satisfied with services than households which do not move cross-jurisdictionally. But this is consistent with the behavioural assumptions of Tiebout's model given households may move for non-Tiebout reasons, yet still be interested in tax-service levels. If they are satisfied with their current tax-service levels then they may Tiebout-rationally choose to remain in their current borough. The survey shows strong evidence that movers citing tax-service reasons are Tiebout rational for both inter and intra-borough moves. This finding throws considerable doubt upon the EVL model as a test of the behavioural assumptions of Tiebout and
may explain why such tests have tended to falsify them out-of-line with other micro-tests.

Simply citing Tiebout factors as an important influence is not enough to corroborate the behavioural assumptions of the model as applied to London; the research needs to demonstrate that those citing taxes and services are moving Tiebout-rationally, that is, to boroughs with improved taxes or services or both. Respondents who cite Tiebout factors as important are also more likely to move to areas with an improved tax and/or service provision. This result suggests the Tiebout model's behavioural assumptions are corroborated for the sample area.

We have demonstrated that when the institutional conditions in the Tiebout model are satisfied, that is there are boroughs with competing tax-service levels within the same metropolitan area, enough households do seem to move for Tiebout-rational reasons to sustain the conclusions of earlier aggregate data studies in London. This does not mean that Tiebout applies to areas of Britain such as the west of Scotland which do not have competing jurisdictions in metropolitan areas. The model can be generalized to Britain conditionally, but lawlike generalizations only apply of course, when the condition in the conditional statement obtains. Whether other large metropolitan areas support Tiebout-rational movers, or there is any evidence of tax-service moving in rural areas requires further research. New research is also required to see if the council tax is as
easily perceived by taxpayers and is as important in locational
decisions. Nevertheless the findings demonstrate to a sceptical
British urban studies community that public choice is not to be
lightly dismissed with a critique of its unrealistic
assumptions, simplistic modelling or by reference to its
supposed justification of the poll tax.\textsuperscript{49}

This study has important, though ambiguous policy implications.
The numbers of movers who take into account tax (especially)
and services in their locational decisions means wide tax and
service differentials will affect the mix of population in
London boroughs. This may reflect 'consumer-voters' exercising
local choice by moving to attain their desired local tax-service
package. To the extent local services are paid for by a benefit
tax this may seem efficient. Supporters of Tiebout, aware of
its empirical corroboration, would thus recommend fragmented
government to encourage Tiebout effects. This seems to be the
preferred view of the UK Conservative government which is
encouraging non-electoral and consumer forms of local
accountability and is reforming local government structure
(outside metropolitan areas) with the intention of having a
smaller average size single jurisdiction.\textsuperscript{50} This viewpoint,
however, is normatively driven - it assumes benefit taxes are
the preferred form of taxation. Once benefit taxes are ruled
out the simple Tiebout model fails to work in the manner
hypothesised.
Those who are more concerned with welfare or egalitarian objectives, believing in the efficacy of redistributional taxes, may take an opposed policy stance. To the extent fragmented government leads households towards jurisdictions with the lowest tax burden, and this drives local governments to provide lower taxes in order to attract households, the result is cheaper and fewer services. This does not entail Pareto-efficiency, merely different levels and types of services which confuses the ability of citizens to compare local governments and makes the idea of increasing choice problematic. Our results suggest the consequence would be fewer services since lower taxes rather than better services seem to motivate more movers. In the absence of full needs and resources central grant equalisation, fiscal migration would lead to large inequalities between jurisdictions and impose heavy tax burdens on citizens who live in poorer areas. Thus, whilst our findings have important policy implications, the lessons to be drawn will be normatively driven by prior political commitments. Contrary to what most supporters and opponents of Tiebout seem to believe, the truth of the Tiebout model does not, on its own, offer lessons for the organisation of local government.

APPENDIX - SURVEY DETAILS

From the sample of households which had relocated in the last three years we randomly selected the names and addresses of 2000, selecting five hundred from each of the four boroughs. These were obtained by a random selection of names from the
1991/92 electoral registers and 1993/94 draft electoral registers. There is the danger some were not selected because they had chosen not to register to avoid paying poll tax. However, these respondents, had they been identified, would not have been able to respond to the tax part of the questionnaire or would have been indifferent to their borough location.

By cross-referencing the appropriate sections of the old and new registers we were able to identify the first address where a new household(s) had moved during the target years. This process was repeated until the sample target was reached. When the random sampling method identified a change in occupancy which involved multiple new entries on the register we made every attempt to ascertain the relationship between the names. If this was not successful then we addressed the questionnaire to the first name on the register. The fieldwork was carried out between February and April 1993. The overall response rate was 50.2 per cent which yielded a useable response of 43.2 per cent, high for inner London. The tenure and social class of respondents were comparable with Census and General Household Survey figures for inner London. The response from each of the boroughs was also reasonably even with Wandsworth, Westminster and Camden all producing responses of over 50 per cent, with Lambeth just under.
Footnotes


3... Tiebout 'Pure Theory', 422.

4... Tiebout 'Pure Theory', 420.


Dowding, John and Biggs, 'Tiebout: A Survey'. The five headings are: homogeneity or sorting interpretations, city size arguments, capitalization studies, fiscal migration and micro-level tests.


Sharpe and Newton, Does Politics Matter?.

For example, M. Keating, Comparative Urban Politics, (London, Edward Elgar, 1991), 110.

Tiebout, 'Pure Theory', 419.
Equilibrium models are not easily empirically tested, though together with auxiliary hypotheses testable implications may be drawn from them. A good discussion of the testability problem of optimal equilibrium solutions and how they are overcome in biology appears in Elliot Sober, *The Philosophy of Biology* (Oxford: Oxford University Press, 1993), chs 3-5.


Teske et al. 'Establishing the Micro-Level Foundations', 709-10.

Tiebout, 'A Pure Theory', 423.


The questions were adapted from the pilot reported in Keith Dowding, Peter John and Philip Cowley, *Population Movements in Response to Local Taxes and Services: The Results of a Pilot Study*, Department of Government Working Paper, 19, Brunel University. The pilot drew reasons for moving from previous mobility literature and pre-pilot trials of the questionnaire.

Respondents were given a list of push and pull factors and asked to indicate to how important they thought they were in the household's moving decision. There was space for respondents to add further factors. See Appendix for details about sampling and methods.


6... Cuthbertson, Foreman-Peck and Griapos, 'The Effects of Local Authority Fiscal Decisions'; Davies, 'Fiscal Migration'.

7... C. Game, 'Budget making by opinion poll - must services always suffer?', Local Government Studies, 8 (1982), 11-18.

8... Camden's poll taxes were £500, £300 and £374; Lambeth's were £497, £402 and £425; and Westminster's were £195, £36 and £36 (1990/1 to 1992/3 respectively). Wandsworth's poll taxes were set at £149 in 1990/91 and at zero in the two following financial years. Service comparisons are difficult, but analysis by Cipfa 'Local Government Comparative Statistics' for the relevant years, and responses to service satisfaction from our own questionnaire is suggestive of this relationship.


0... Albert Hirschman, Shifting Involvements: Private Interest and Public Action (Oxford, Martin Robertson, 1982).


3... Rossi, Why Families Move.

4... Teske et al., 703.


Teske et al., 'Establishing the Micro Foundations' study for push, Percy 'Revisiting Tiebout' measures for both push and pull factors.

Where not stated associations are significant at p < .001; because of rounding not all column per cents = 100.


Dowding, John and Biggs, 'Tiebout: A Survey'.

Rossi, Why Families Move; Speare, Goldstein and Frey, Residential Mobility.

The factor analysis of the push factors did not yield generalisable results.


Significant at p < .01.

Results from other factors such as class and tenure are given in Keith Dowding, Peter John and Stephen Biggs, 'Population Movements in Response to Local Taxes and Services: Results from Four London Boroughs', LSE Public Policy Paper, 8, (London: LSE, 1994).

Lowery and Lyons, 'Citizen Response to Dissatisfaction'; Lyons, Lowery and DeHoog, Politics of Dissatisfaction; Sharp.

7... This picture is complicated by the fact that anecdotal evidence suggests that some services - such as refuse collection and education - can vary enormously across boroughs. Our sample was not large enough to attempt to test for this in terms of respondents' satisfaction answers.

8... General Household Survey: Introductory Report (London, HMSO, 1973), 150. Though recent household surveys do not now breakdown the figures by region, the current national figure of 9%, General Household Survey, (London, HMSO, 1994), 136, is slightly higher than the 8% national figure in the 1973 report and fulfils the market analogue.

9... For example Midwinter and Monaghan, From Rates to Poll Tax, 32-5. See further Keith Dowding 'Public Choice and Local Governance' in Gerry Stoker and Desmond S. King (eds) Rethinking Normative Theories of Local Government and Democracy, (London, Macmillan, 1995).

0... Though without much success, see Jim Chandler, 'Public Choice and Local Government Reform: Contrasts Between Britain and the United States', in Patrick Dunleavy and Jeffrey Stanyer (eds), Contemporary Political Studies 1994, vol 2, (Belfast: The Political Studies Association of the UK), 686-99, and Dowding 'Public Choice and Local Governance'.


3... The covering letter sent out with the questionnaire clearly stated that if the questionnaire had been addressed to someone who had not taken part in the decision to move then it should be passed on to someone who did.

4... Dowding, John and Biggs, 'Population Movements in Response', 16-17.
1. Approximately how long have you been living at your current address? ________ Years

2. Do you
   
   a. Rent your house from a private landlord
   b. Rent your house from the Council
   c. Rent your house from a Housing Association/Co-op
   d. Own or part own your house

3. What is the name of your local council? ______________________________________

4. And what local Council area did you live in before moving? ________________________
   "If you merely moved within the borough just write 'Same'

5. What factors led to your decision to move from your previous address?
   *Please mark each of the following as being very important, fairly important or unimportant.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very Important</th>
<th>Fairly Important</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>A change in job</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be near family or friends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To move to a larger home</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>To move to a smaller home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dislike of old house</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To move to a 'better' area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To move to a cheaper area or house</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To move to a lower poll tax area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To move to better council services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To get away from neighbours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To move near to shops or other facilities</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To be in a different education catchment area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other (please specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you want to expand on your answers then please add any comments

6. Having made the decision to move from your old address, what factors entered into your decision to move to this particular address?
   *Again please specify how important each of the following factors were

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very Important</th>
<th>Fairly Important</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right house at the right price</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximity to job or family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good location (eg near shops)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. "Continued

<table>
<thead>
<tr>
<th>Very Important</th>
<th>Fairly Important</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low poll tax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good council services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Any other (please specify) ________________________________

If you want to expand on your answers then please add any comments

_____________________________________________________________________

7. If you have moved since the introduction of the poll tax, is your poll tax here lower or higher than in your old council?

*Please tick correct box

- Higher
- Same
- Lower

8. Do you consider the services here to be better or worse than from your old council?

*Please tick correct box

- Better
- Same
- Worse

9. If your move was within the same borough, what do you think of your poll tax and the services that the borough provides?

_____________________________________________________________________

10. What had you heard about the council that you would be paying your poll tax to? (eg the level of poll tax/rates or the quality of services)

_____________________________________________________________________

_____________________________________________________________________

11. And did this have any effect on your decision to move to your current address?

*Please tick correct box

- Yes
- No

The following two questions are merely to help us ensure that we have a representative sample of the population

12. What is your occupation?

*(If retired, please write 'retired' and then your last main occupation. If unemployed, please write 'unemployed' and then your last main occupation)

13. Do you have any children under sixteen living with you?

_____________________________________________________________________

ALL REPLIES ARE TREATED IN THE UTMOST CONFIDENCE.
THANK YOU VERY MUCH FOR TAKING THE TIME TO ANSWER OUR QUESTIONS.
ECONOMIC AND SOCIAL RESEARCH COUNCIL MOBILITY STUDY

1. Approximately how long have you been living at your current address? ________ Years

2. Do you
   *Please tick correct box
   a. Rent your house from a private landlord
   b. Rent your house from the Council
   c. Rent your house from a Housing Association/Co-op
   d. Own or part own your house

3. What factors led to your decision to move from your previous address?
   *Please mark each of the following as being very important, fairly important or unimportant

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<th>Fairly Important</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>A change in job</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To get married or to co-habit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be near family or friends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To buy first home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To move to a larger home</td>
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<tr>
<td>To move to a smaller home</td>
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<td></td>
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<tr>
<td>Dislike of old house</td>
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<tr>
<td>To move to a 'better' area</td>
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</tr>
<tr>
<td>To get away from neighbours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To move near to shops or other facilities</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>To be near a good school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other (please specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

   If you want to expand on your answers then please add any comments

4. Having made the decision to move from your old address, what factors entered into your decision to move to this particular address?
   *Again please specify how important each of the following factors were

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</thead>
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<tr>
<td>Proximity to job or family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good location (eg near shops)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nice neighbourhood</td>
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<td></td>
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</table>
4. "Continued

<table>
<thead>
<tr>
<th></th>
<th>Very Important</th>
<th>Fairly Important</th>
<th>Unimportant</th>
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</thead>
<tbody>
<tr>
<td>Low poll tax</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
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<tr>
<td>Good council services</td>
<td>![ ]</td>
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<td>![ ]</td>
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<tr>
<td>Any other (please specify):</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

If you want to expand on your answers then please add any comments:

__________________________________________________________________________

5. What is the name of your local council?

__________________________________________________________________________

6. And what local council area did you live in before moving?

"If you merely moved within the borough just write 'same'

__________________________________________________________________________

7. If you have moved during the period of the poll tax, was your poll tax here lower or higher than in your old council?

*Please tick correct box

<table>
<thead>
<tr>
<th></th>
<th>Higher</th>
<th>Same</th>
<th>Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
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</tbody>
</table>

8. Do you consider the services here to be better or worse than from your old council?

*Please tick correct box

<table>
<thead>
<tr>
<th></th>
<th>Better</th>
<th>Same</th>
<th>Worse</th>
</tr>
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<tr>
<td></td>
<td>![ ]</td>
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</tbody>
</table>

9. Do you consider your poll tax to be:

*Please tick correct box

<table>
<thead>
<tr>
<th></th>
<th>Too High</th>
<th>About Right</th>
<th>Too Low</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
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</tbody>
</table>

10. Do you consider the services provided by your local council to be:

*Please tick correct box

<table>
<thead>
<tr>
<th></th>
<th>Very</th>
<th>Satisfactory</th>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
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<tbody>
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<td>![ ]</td>
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<td>![ ]</td>
</tr>
</tbody>
</table>

11. Did the level of poll tax and the quality of services have any effect on your decision to move?

*Please tick correct box

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>![ ]</td>
<td>![ ]</td>
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</tbody>
</table>

The following two questions are merely to help us ensure that we have a representative sample of the population.

12. What are the occupation(s) of the household?

__________________________________________________________________________

*(If retired, please write 'retired' and then your last main occupation. If unemployed, please write 'unemployed' and then your last main occupation)*

13. Do you have any children under sixteen living with you?

__________________________________________________________________________

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