# Suburbanisation of poverty in British cities … – response to referees

We thank the three referees for their positive and constructive comments, and we are happy to take on board almost all of them. Below we list our responses to each of the points made in the feedback, followed by the relevant points from the referees highlighted in yellow.

### Theory and concepts

***Terminology***

There were a number of comments (R2, R3) on the use of key terms – notably, ‘suburbanisation’, ‘(de)centralisation, ‘(de)concentration’, ‘segregation’ – and how they were defined or related to each other. **We have double checked that we are being consistent in how we use the terms, that we explain clearly how we understand the relationships between them, and that we are providing clear definitions when introducing them.** To be clear, we use ‘suburbanisation’ as the broadest term to capture the changes, with decentralisation and deconcentration having more specific meanings, each capturing an aspect of the changes (see Introduction). R3 is correct to suppose that we use deconcentration measures to overcome the problems of polycentricity and we have made this more explicit. With segregation**, we have switched to using the term ‘spatial segregation’ and coupled this with the term ‘unevenness’ at several point to emphasise that it is this dimension of segregation that we are referring to. We are also more explicit on the measurement of density.**

R2: The **term 'segregation' is used too loosely in the paper**, especially in the introductory sections, which set out the paper's aims. On page 5 (para 2, starting "The relationship between suburbanisation and segregation…" a clear definition of what is meant by segregation - and segregation of whom - should be shared.

R2: **'Concentrated'** is sometimes used in relation to the results on **density**. This is a little confusing given that the paper also deals with segregation.

R2: **Centrality and density** are discussed in the section 'categorisation of urban regions', without full **definitions** of their meaning, calculation, etc. Please add earlier so that this discussion makes sense without skimming forwards.

R3: 5)      **Polycentricity is highlighted as a challenge** (especially in TTWAs), but as far as I understand it, this challenge is not taken up. Still, only one central point is calculated. Or is this covered by including density as well? Then that could be stated more explicitly

R3: 4)      In the conceptual and measurement challenges there is a bit on the difference between **suburbanization and deconcentration** of poverty. But it does not give a clear reason why the author(s) have ultimately opted for suburbanization as the term to use.

R2: Please be more **explicit about what you mean by density** under the measurement section.

***Displacement***

All three referees question the use of the term ‘displacement’ to describe the decline in the numbers of poor in inner urban areas. They point out (correctly) that we do not actually establish that it is this process which has led to suburbanisation and they note that the changes may reflect voluntary moves and the exercise of positive choice, not merely exclusion. (We have another paper which looks at precisely this topic but it is still in draft!) Following R1’s suggestion, **we have made a number of changes (especially in the findings section) to ensure that we keep the description of the changes more neutral, and that we keep the discussion in the conclusions more open, but still noting that the changes are certainly consistent with the theories in the literature about displacement even if alternative explanations are possible.**

R1: … in the abstract and elsewhere in the paper the processes are described as **displacement processes**. However, this has not been researched. Even an absolute loss of poor from the inner cities might be due to social mobility on site, people getting more affluent (individuals were not followed longitudinally over time), and/or to exclusionary displacement of the poor (they cannot access the city anymore and thus directly settle in the suburb). It may also be explained as a process of suburbanisation that can be ascribed to voluntary moves, perhaps driven by the still present image of the suburb as 'the place for the better off' (see the reference in the paper to Kneebone and Berube). Such a perception may result in decisions of the (relatively) poor (who still might experience some social upward mobility) to move to the suburban dream. In short, I believe that speculation about what the observed changes are actually driven by is fine, but formulations as if it is already very clear come a bit too early.

R2: A fundamental issue not well addressed in this paper is whether to take from the results that there have been in-place increases in poverty and/or in-migration of poor people. The author(s) use the term 'in-movement', but do not directly test migration and so this term might well be misleading. The distinction between dilution and displacement of poverty (relative versus absolute changes) only partly addresses this issue.

R3: 7)      In the paragraph below [Figures 3 and 4 about here] reference is made to "**direct displacement**". In the gentrification literature direct displacement implies evictions, rent increases forcing low income groups to move, etc. But this isn't really measured: their decreasing presence could also be due to exclusion, or other factors. I would suggest using a different term.

R3 makes a good point that the literature review could consider suburban changes in their own right, rather than merely focussing on changes in the core. **We have addressed this in an additional paragraph which draws on some of the (US and Australian) literature here.**

R3: 1)      The literature review is now mostly about what drives changes in inner city locations (e.g. gentrification). There is substantially less attention as to what may cause **suburban decline**, and the associated suburbanization of poverty. At the moment, the suburbanization of poverty is presented very much as a consequence of inner-city restructuring. This is a reasonable argument I guess, but it would be worthwhile to consider suburban / peripheral changes in their own right.

### Data and methods

***Data sources and definitions***

**In the methods section, we have made changes to the discussion of data and methods to ensure the paper is accessible to an international readership** (R2 comments on ‘means tested benefits’ and ‘tax credits’; R3 comments on IMD, DWP definition of poverty). **We have added the Index of Dissimilarity formula (R2)**. **We have responded to R2’s queries on the data which make up the IMD, the role of students and the point about poor neighbourhoods/poor groups.** We keep the terms ‘welfare benefits’ and ‘tax credits’ since these are non-specific and widely used, referring readers to appropriate sources for the UK-specific details of the benefits, and clarifying the situation for students (in brief, these measures exclude full-time students since they would not be eligible for the benefits/credits). To be clear, our data are for neighbourhoods but directly measure the proportion ‘poor’ in each: there is no risk of an ecological fallacy as we not drawing on data for one scale to make inferences at another.

R2: Terms like **'means-tested benefit' and 'tax credits'** are probably not easily translatable outside the UK context; for the sake of an international readership provide a broad explanation of what these are indicators of (no need for in-depth discussions of these schemes).

R3: 2)      As a non-British reader not very familiar with British data, I would like to read a bit more about the characteristics and structure of the data used. How is the **IMD** composed, is this on the basis of register data, or surveys? From the discussion section I understand it must be the former, but it would be good to cover this in more detail in the methods section. Then, I would also like to know some background info about **which variables feed into the IMD**. Relatedly, I was also wondering what the role of **students** is. Can they also be among the poor, or are they excluded?

R2: A potentially troubling limitation becomes apparent in the section on measurement; up until now you discuss **'poor neighbourhoods', which then shifts to 'poor groups'**. My understanding is that you are using an area-based measure of poverty, not individual level. On that, please also discuss the potential problems of the ecological fallacy which may affect your results (in some cases quite markedly).

R2: In this same paragraph, please provide a **definition of poverty as per the DWP** report cited.

R2: The **Index of Dissimilarity** may well be familiar to some, but would nonetheless need to be defined as explicitly as the RCI is.

***Spatial units***

R2 asks us to expand on the decision-making around spatial zones and how we dealt with the boundary changes. They are concerned about the use of the 2001 geography in Scotland and whether this has implications for the pooling of results. The latter point is a misunderstanding due to lack of clarity in our original text which we have addressed; only when measuring segregation (D) does the boundary change appear to matter so in that case only, we restrict our analysis to the data for which we have consistent boundaries. This does not have any impact on the relevance of the results. We are quite certain that we would have obtained the same results if we had had consistent data for the new boundaries. It was just the process of re-aggregation from one set to the other which was problematic. This has no implications for ‘pooling’ of results. We have also been clearer how we justify the claim of ‘minimal impact’ of reaggregation on centralisation and concentration measures.

R2: Please expand further on your decision-making behind the issue of **boundary changes for the England and Scottish zones**. Firstly, explain further the "**minimal impact**" zonal change has on the measures of centralisation or concentration. Secondly, what are the implications of using a **2001 geography in Scotland**? This is surely a shame when the paper is concerned with changing patterns of poverty up to (roughly) the present day, and it would have been more useful to see the spatiality of poverty for current zones. Also, this means that considerably different zones (in terms of the contemporary relevance of their boundaries) are used between England and Scotland. Does this have implications for the 'pooled' results/interpretations around changing patterns of suburbanisation across England and Scotland?

***City centres***

R2 seeks more detail on the choice of the mid-point between city hall and central rail stations to identify the central point of the city, and **we have added a couple of sentences to deal with this**.

R2: Please provide a more solid justification for why (the mid-point between) the city hall and central railway station are used as markers for the **central point of the city**. Is there a tried and tested method you can point to? Or at least tell the reader about variation in these distances between cities - did this approach work equally well everywhere? In large cities the city hall and central railway station's location may once have been central, but this may have changed given urban expansion, especially in the case of polycentric urban forms.

I don’t understand this point and am tempted just to delete it.

R2: To what extent may there be **several suburban areas** for the most polycentric of urban forms included in the analysis? (eg I imagine that Luton, Southend and Cambridge do not share a common suburban area, both physically and culturally).

### Findings

Missed this before – but need to address in conclusions

R1: I miss some discussion or some speculation on the fact that **poorer households in the suburb seem to land in not-so-poor neighbourhoods**, resulting in reduction of the level of segregation. How can that be interpreted? Is it my explanation that poorer households who experience some social mobility anticipate more wealth and realize their aspiration to belong to the (lower) middle class by selecting a less poor neighbourhood?

***The set of cities***

R2 asks us to justify why we include cities where poverty is not centralised at the start while R1 has a related query about Edinburgh. While it is true that poverty was not relatively centralised in some cities to start with, it was not decentralised in these places either – rather, it was quite neutrally distributed (with respect to the non-poor). It is therefore quite possible for centralisation of poverty to fall in these cases, and that is what we see. We have tried to avoid picking our cities as much as possible to avoid the accusation of selecting cases to fit the theory. That is why we focus on the largest 25, despite their differences in starting position and (mono/polycentric) form. We think this is an important strength of the paper.

R2: In the **cases where poverty is not centralised** for historic reasons, what might be the implications for the study? Would it therefore be unreasonable to expect a poverty decentralisation, as for other cities? Are these cities even worth including in the study given their specific limits for housing lower income groups? (and if so, why).

R1: Another comment regards the **experiences in Edinburgh** (p. 15). That city had the greatest fall in segregation. However, it is also a city that actually had only a few poor people in the inner city left (certainly not an over-concentration). How can the fall be explained?

***General vs local***

R2 asks whether there is a different balance to be struck between the generality of the results and the detail for individual places, bearing in mind the non-UK reader. We have re-examined some of the place-specific commentary but are reluctant to lose what limited local detail we have here, not least because the picture is not a simple one where all cities move in the same direction at the same speed. We hope non-UK readers can tolerate or skip over a little local detail. We have in general striven to locate the paper within international debates and evidence.

R2: For an **international readership**, some of the results might be rather lost. Descriptions of the **experiences of specific (sometimes fairly small) cities** are unlikely to hold much interest for non-UK readers. Indeed, on occasion the discussion of different city experiences reads a little report-like. It is difficult to suggest a way around this - overly generalised results will only have some use. Again, if the author(s) can consider a way around this issue that would be worthwhile.

***Levels of segregation***

R2 also feels there should be more discussion of the levels of segregation and we have added this when introducing those results. There is less discussion of these since the focus of the paper is on ‘suburbanisation’. There is perhaps scope for a paper which focuses on de-segregation more directly but we feel it would distract from the central argument to expand on it too much here. Nevertheless we think it is an interesting finding within the bigger story.

R2: All D levels are relatively low at the start and end period of the study. At the start of the segregation section please **comment on segregation** at one point in time, in addition to the discussion of change. In general, more might be made of the segregation results, which feel a little underwhelming compared to the focus on the other measures.

***Mapping***

R2 suggests mapping some of the results. There are a number of reasons why we didn’t do this: with 25 cities and multiple time periods, we can’t map all of them so there are questions about which to pick; there are multiple groups or possible metrics (proportions in poverty; share of poverty at different time points; change in share of poverty) but no one metric captures everything. Our approach instead has been to show a number of facet plots which capture in a more abstract but space-efficient fashion the details for each individual city.

R2: **Mapping** some of the results presented would have brought some of the findings to life, and this should be considered.

### Conclusions/discussion

R3 suggests expanding the discussion to reflect in more detail on the substantive value of the findings and to discuss causes, and we have done both. The latter point is an opportunity to return to the question of displacement raised earlier.

R3: 3)      I think this section could/should be expanded, including:  
a.      A discussion about what the substantive value is of these findings. What do your findings (e.g. suburbanization of poverty, decreasing segregation) mean for the poor, as well as for urban regions in general?   
b.      A discussion of the causes. In the theory section, for example, policy changes and structural economic shifts are highlighted as important drivers. But these drivers disappear from the analyses and interpretation of the data. I think the discussion could return to some of these points raised in the theory section.

### Abstract and Introduction

Responding to R2’s comment, **we have dropped the use of the term ‘developed countries’ in the introduction**. R2 also felt that the sentence in the abstract about declines in spatial segregation was too general. **We have added the word “(unevenness)” to clarify how we are using this term.**

R2: **Abstract**: "the paper also shows that spatial segregation declined over the period" - sentence needs to be made less general to be useful. Otherwise, the abstract is very clear.

R2: **Introduction**: change "developed countries" in first sentence to a phrase less contested.

### References

**R3 identified a number of minor points which we have addressed.**