

The 2011 Census:

What surprises are emerging and how they show that cancellation is stupid

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The 2011 census revealed a treasure-trove of facts we did not know about Britain. An informed commentator might have assumed that, in England and Wales, ONS had been over-estimating the population because historically ONS has been better at counting immigrants than emigrants. The 2011 census told us that the opposite had in fact occurred. ONS had been under-estimating the population and there were far more people living in the UK than they thought, at least for a large part of the year.

Because it was a census, not a survey, the 2011 count was so carefully taken and checked - with a massive follow up capture-recapture survey - that we could be sure of its results. Neither a sample survey nor administrative records would have been as reliable. The 2011 census showed us that the population of the UK was rising, still slowly, but faster than ONS had thought, and faster than almost anywhere else in Europe. Without knowing that fact we could not speculate in a sensible way as to why that might be happening. The census reveals that in the global economic crisis more people were arriving than were leaving the UK.

Conversely, both the 1991 and 2001 censuses had been useful for telling us that there were fewer people than we thought in the UK during the 1980s and the 1990s. Complete surveys, in other words a census, targeting 100% of the population have to be undertaken if statistics are to be produced which are reliable enough to correct for bias in annual population estimates. Census data is used to make adjustments to thousands of statistical time series, especially those concerning small geographical areas.

Mortality rates for the 1980s and 1990s in many areas turned out to be higher than had been thought to be the case, following the 1991 and 2001 enumerations. Recent evidence has revealed that mortality rates rose for men in parts of Glasgow, but not in other poorer parts of the country. This key work could only be undertaken due to the accuracy of the censuses, which, decade after decade, have corrected biases in population and risk estimates thereby allowing studies to report important statistical findings, such as mortality rates rising for some groups, with confidence (Norman et al 2011).

Mortality rates rising for particular groups living in particular villages, towns and cities inform directors of public health, government, and the people that something about their society is going wrong, very wrong. The last time mortality rates rose for any groups in Britain, outside of wartime, was during the 1930s depression (Davey Smith and Marmot, 1991). We only know this because good and complete censuses were held in 1921 and 1931, an emergency population register was taken in 1939, and censuses were held again from 1951 all the way through to 2011. These allow us to work out how death rates by group are changing, how they are falling and - very rarely - if mortality rates are rising.

It is only because the census is our most accurate count of the population that we can tell, using it, whether mortality rates, university admission rates, employment rates, or almost any other rates are rising or falling for particular groups in particular parts of the country over time. In calculating rates the numerators tend to be more reliably measured: deaths registered, students enrolled, or paying jobs in these three cases. Errors tend to be greater in the denominators, the population estimates. The census counts, corrected for estimates

of under-enumeration, are the best denominators we have. An ID card system that relied on people being compelled to register their place of residence would be more accurate, but also far more intrusive. On the accuracy of the census and the need for it see Simpson, S. and Dorling, D., 1994; Boyle, P. and Dorling, D., 2004; and Dorling, 2011, 2012, 2013.

One of the reasons you might choose not to have a census is if you wanted the kinds of studies that relied on census data as a denominator **not** to be undertaken. This includes trying to prevent studies such as that of Barr *et al.* (2012) which finds rising inequalities in health in England. Often it is not immediately obvious that a study would not have been possible without the censuses, but work that uses the Index of Multiple Deprivation, or says it “groups the 32,482 Lower-layer Super Output Areas” could not be carried out without these data. For another recent example see studies such as that of Bajekal *et al.* (2013). Many census users, researchers and policy makers are currently unaware that the 2021 UK census is under threat of cancellation. This threat is changing in its nomenclature, but not in its underlying nature.

When the coalition government of May 2010 came to office the new government ministers were encouraged to try to identify large cuts in their departmental budgets. Cancellation of the 2011 census was seriously considered but thankfully it was realized that plans, spending and contracts to undertake the work were too far advanced. Immediately talk started of canceling the 2021 census, for which the planning cycle has already started. When it appeared that there might be opposition to such a significant spending cut, the talk changed to suggesting that we would still have a census, but not one which could generate “small area statistics”. In other words we would have a survey that would be called a census. The politically devious way to cut something is to cut it, but claim that it is continuing.

The most important task of the decennial census is in updating annual population estimates for small areas to remove systematic bias so that a huge number of studies and also funding calculations can be enacted. However, the census is of much greater use than

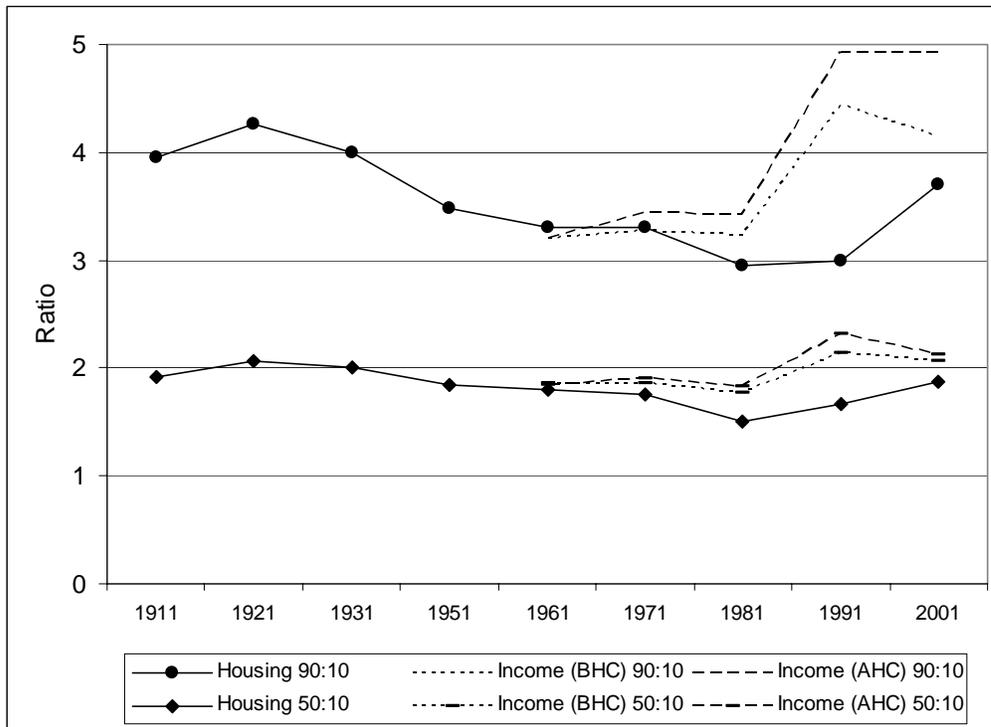
that. The census does not just count people, but how they are related, their families and the households they live in. The census also counts cars and tells us how many people use cycles and how many go by train to get to work. It is as much a count of dwellings, of ‘flats and houses’, commuting vehicles, caravans and beds in halls of residents – as it is an enumeration of people.

Above all else the census tells us how all these objects and people are connected. It even tells us that there are more bedrooms in a city like London than there are people to sleep in them (and therefore that all could be well housed). It tells us about how well we share and when we fail to distribute, and it is part of a series that now stretches over two centuries in length. Figure 1, below, reveals a little of the value of this, it is taken from Becky Tunstall’s inaugural lecture given at the University of York during 2012.

This graph is included as an example of one of the more complex uses of census statistics. It helps us to work out the extent to which current housing crises are driven by an increase in the unequal consumption of housing since 1981, in short by more better-off people living in houses that have many empty rooms, while poorer families become ever more crowded within certain parts of cities like London.

The graph suggests that on the 90:10 ratio (comparing the worst-off tenth of the population to the best-off tenth), by 2001 our housing was more unfairly allocated than at any time since 1951. The trend in increasing unfairness is upwards. Until, however, analysis of the 2011 census is undertaken we will not know if we have returned to the 1920s levels of unevenness in housing provision, or whether this growing inequality has been halted. If the 2021 census does not take place we may become even more unequally provided for in terms of housing with no way of even recording that fact.

Figure 1: Trends in income inequality, 1961-2001 and housing consumption inequality, 1911-2001, measured by percentile ratios



Sources: Income: Labour Force Survey data for Great Britain from the IFS; <http://www.ifs.org.uk/fiscalFacts/povertyStats>. The figures represent the position of childless couple households rather than fully equivalised results. Figures given for 2001 are the mean of 2000-01 and 2001-02 figures to match the census date of April 2001. Housing: Censuses 1911-2001 (GRO 1913, 1925, 1935, 1956, 1964, OPCS 1974, www.casweb.mimas.ac.uk) Source: Becky Tunstall Figure 6: from a copy of the lecture shown here: (Tunstall 2012)

Because the censuses go so far back in time they allow us to look back to the last time Britain became rapidly more unequal, the period up to the census of 1921. What the graph above makes clear is that housing, in terms of how rooms were distributed among people, became more unequal between 1911 and 1921, but then progressively more equal through to 1981, after which inequalities in housing provision rose.

Without a census these studies on housing and health, studies on education and university access, studies on whether we are getting greener and cycling more, studies on how many people in each place are not registered to vote, studies on how many children care for a

parent who is disabled, studies on whether we are becoming more or less ethnically segregated, and much, much, more, cannot be updated. New studies cannot be undertaken. We will not be able to tell whether we are pulling together or dividing further as a society. We will not be able to plan for the future. We will not know what it is that we are not all in together.

Some people's political ambitions include ending many research studies and much social planning. They see all these attempts to grasp what is going on as somehow immoral and intrusive. Very occasionally one of these people becomes a cabinet minister. Francis Maud is one example of just such a minister. He suggests that there is little need for the census. Unfortunately he happens to be in charge of the parts of government that are responsible for planning for the 2021 census. Here is what one of his supporters wrote in the run up to the last census:

“What are you doing on March 27? Are you planning to be at home, sleeping in your own bed; and if so, with whom? I don't mean to pry, but it's not me who is asking. Sunday, March 27 is the date of the national census, which seems to have crept up on us this year – so much so that a "census awareness" exercise was launched yesterday to whip up some enthusiasm. But why do we need a census at all? Francis Maude, the Cabinet Office minister, has already suggested that this year's might be the last....” (Johnston, 2011)

Most members of parliament are not as blinkered as Cabinet Minister Francis Maud. For instance: “...the Science and Technology Committee said they were not convinced that alternative ways of collecting the data would be a cheaper option. The MPs also raised concerns that social science in the UK would suffer if serious consideration was not given to how the data would be replaced and that any alternative may not be able to provide nationwide coverage like the census” (BBC 2012). MPs on the Science and Technology Committee are correct. Short of introducing a Scandinavian style open access population register, linked to taxation and other data, the census is the best we option we have.

If you doubt that any country would go so far as to scrap a census, look abroad.

Elsewhere in the affluent world (particularly in the kind of country Chancellor George Osborne turns to when looking for a new Governor of the Bank of England, one that he can approve of) scrapping of the census is already underway. Last year, in response to this, Munir Sheikh, the former chief statistician of Canada, wrote in the Ottawa Citizen Newspaper, that the new survey to be introduced in place of the census in Canada would mean that

“...these data would not be strictly comparable to the data from previous censuses, although comparisons would continue to be made in the absence of anything else; and, second, data for some smaller sub-groups of the population and smaller geographical areas may not be released because of unacceptable quality. As the clock is ticking for a decision on the 2016 census, I hope the government would consider restoring the long-form census” (Sheik, 2012).

We have more time than they have in Canada, but not much more time. The government that comes to power in Britain in 2015 will have a choice to make. On the one hand it could blame the previous administration and say that it is too late, no budget has been put in place to hold a census in 2021, or something just as good, or even something better. On the other hand it could choose to plan for a census or even something better.

Censuses take time to plan and money has to be budgeted for them. Most of that money ends up being spent within the UK collecting the census data. It can be a short term fiscal boost, and many tens of thousands of people can be employed for a short time in helping to take the census. The argument against the census is really about principles, not money. Because of differences in how principled they are, the parliament in Scotland may vote to still hold a census in 2021, even if no census is held in England and Wales. This could be the case, even if the Independence vote of 2014 is not carried. If the Independence vote is carried I would suggest that the Scots think of including the census in their first ever constitution, as the census is included in the constitution of the USA.

For England and Wales, countries that have little chance of getting a constitution in the medium term, I suggest that the incoming 2015 Westminster government reinstates the 2021 census but also sets in place plans to follow it up by a rolling annual survey that is far harder to cancel, a 10% annual survey, that after ten years becomes, in effect, a full census, a small part of which is always very up-to-date. Alternatively if time is the issue, and part of the count being a decade delayed is a problem, a full census could be held every five years, as is done in New Zealand. That country provides a far better model for statistical inspiration, than does Canada.

In New Zealand this year they have been taking the 2013 census. The 2011 census there was not held due to the Christchurch earthquake of 22nd February that year (Statistics NZ, 2013). If, however, two years after such a major earthquake, and reeling also from the economic effects of the global financial crises, reduced tourism and trade, a country far less well off than the UK can conduct a census, then there is no good reason why the UK should not hold a full census in 2021. Censuses can also have unexpected benefits. The October 2010 census held in Japan helped identify who did not survive the tsunami of March 2011.

The last time the census in Britain was canceled, in 1941, it was due to a war with fascists in Europe. Even after the 1929 stock market crash the 1931 census went ahead. The 1931 census was used in earnest during the Second World War in planning for the peace, for the introduction of a national health service, for national insurance, and for bringing in free education for all. If you care about people you take a census, you design it well and you plan for the future. On the other hand, if you have little regard for most people in the UK then why should you want to count them?

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