**Online supplementary material:**

**Constructing a longitudinal dataset on charitable organisations in England and Wales**

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This supplementary file provides details about the longitudinal dataset which was constructed to form the basis for the analysis in the paper ‘Charitable organisations, the Great Recession and the age of austerity: longitudinal evidence for England and Wales’. This file contains information on:

1) Which organisations are included in the analysis?

2) How was the longitudinal dataset constructed?

3) How is the cumulative growth index calculated? Elaboration and worked example.

4) What is the basis and means of classifying charities according to charitable field?

**1. Which organisations are included in the analysis?**

We start with information provided in a series of files provided by the Charity Commission of England and Wales (CC), based on their Register of Charities. Note that the Charity Commission Register does not encompass:

* Charities that are `exempted' from the CC's jurisdiction, including further and higher education institutions; and charities that fall within the CC's jurisdiction but are `excepted' from registration, including places of worship.
* Charities registered in Scotland or Northern Ireland, and not with the Charity Commission in England and Wales.
* Financial information on subsidiary, group or constituent charities, which are each linked to a ‘main’ charity for administrative purposes but do not report financial results in their own right.
* Non-charitable third sector / civil society organisations. The National Council of Voluntary Organisations (NCVO) uses charitable status as a basis for identifying ‘voluntary organisations’ in England and Wales and includes noncharitable organisations - like mutuals, cooperatives and noncharitable social enterprises - under the wider concept of ‘civil society organisations’ (Kane *et al.,* 2014). Note that Community Interest Companies (CICs), a legal form available for noncharitable social enterprises, have grown steadily in number since their introduction in 2005. However, given preexisting legal forms for social enterprises the growth of CICs does not equate to a proportionate growth of noncharitable social enterprise activity (see also Teasdale *et al*., 2013) and the population of CICs remains very small in comparison to the number of charities. Indeed the trends that we observe for charities in this paper do not simply reflect ‘compositional’ changes - associated with formerly charitable activity now being undertaken under new legal forms of third sector organisation. Instead the distinctive declines in charities’ income, which are evident in particular years, are consistent with the importance of recession and austerity rather than simply ‘compositional’ changes. Nevertheless, we emphasise that the trends in the paper relate specifically to charities rather than to the wider third sector.

**2. How was the longitudinal dataset constructed?**

In order to make an assessment of the importance of recession and austerity for voluntary organisations, organisations’ recent income should be placed within the context of their longer-term income trends. This temporal perspective is fundamental given the difficulty of the alternative approach of trying to assess the importance of recession and austerity through estimating a counterfactual to compare to observed data (Jenkins *et al.*, 2012). However, longitudinal data on voluntary organisations has not been previously available: as the UK Statistics Authority (2012:6) explain, the machinery of official data collection is instead orientated towards the state, the market and individuals, such that there has been a notable ‘shortage of regular and timely published statistics about the voluntary sector’.

Therefore, to provide the basis for this paper’s empirical analysis, we first constructed the longitudinal dataset by linking together a series of historical files that were provided by the Charity Commission - based on financial data originally provided by charities, as part of the regulatory process, in their annual returns over the period. We linked these files in two stages.

Each charity has a unique charity registration number. Therefore, the different files were merged together using the charity registration number as a key.

However, if an organisation changes legal form, from unincorporated (either charitable trust or unincorporated association) to incorporated (charitable company limited by guarantee), it drops off the register and re-emerges with a new charity registration number. Therefore, to follow charities over time across the analysis period, it was important to link together these separate records. We are confident that the linking method that we used is both comprehensive and reliable. It is comprehensive because the Charity Commission maintains a specific file in order to keep a record of all of the current names, working names, and former names of an organisation. We were able to use this file to link unincorporated and incorporated records for the same organisation by matching the current, working and former names of an organisation record to the current, working and former names of any other organisation record. It is reliable because two records were only linked not only where names were matched – but also where the match specifically involved only two charities, with one an unincorporated charity and the other a charitable company, and where they were both located in the same local authority area.

Incomes are adjusted for inflation using the revised RPIJ measure, which uses the Jevons formula to calculate a geometric mean of price changes. This is preferred to the original RPI measure which has been shown to systematically overstate inflation (Cribb *et al.*, 2015). Therefore the choice to use the RPIJ represents a conservative approach: using the RPI leads to even more significant declines in in the cumulative growth index for the population of charities between 2008 and 2014 (18% using RPI, compared to 13% using RPIJ).

**3.** **How is the cumulative growth index calculated? Elaboration and worked example**

*Rationale: the cumulative implications of annual trends*

This paper provides empirical evidence about trends in the income of charities during the Great Recession and subsequent period of public spending austerity. The purpose of the cumulative growth index is to provide insight into the cumulative implications of annual changes in income. Indeed the salience of the economic downturn for charities is best understood from two complementary perspectives: not only considering year-on-year changes but also considering the potential for a compound effect through successive year-on-year income declines.

*Worked example*

The cumulative growth index, defined in equation (2) in the manuscript, answers the question:

*How would a charity’s income have changed during the period between 1999 and 2014 if it had, for every year of this analysis period, experienced the median (‘typical’) annual relative real growth rate?*

Table A1 provides a worked example.

TABLE A1 Calculation of cumulative growth index $c\_{n}$ as the product of the sequence of median annual relative real growth rates $\tilde{y}\_{t}$

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |

|  |
| --- |
| $$\tilde{y}\_{t}$$ |

 |

|  |
| --- |
| $$c\_{n}$$ |

 |
| 1999 |  | 100.000 |
| 2000 | 0.998493 | 99.849 |
| 2001 | 0.995554 | 99.405 |
| 2002 | 0.992371 | 98.647 |
| 2003 | 0.995901 | 98.243 |
| 2004 | 0.988480 | 97.111 |
| 2005 | 0.998284 | 96.944 |
| 2006 | 1.007515 | 97.673 |
| 2007 | 1.000351 | 97.707 |
| 2008 | 1.004144 | 98.112 |
| 2009 | 0.982938 | 96.438 |
| 2010 | 0.988160 | 95.296 |
| 2011 | 0.961466 | 91.624 |
| 2012 | 0.962675 | 88.204 |
| 2013 | 0.982788 | 86.686 |
| 2014 | 0.988616 | 85.699 |

Across the population of charities as a whole, the median relative real growth rate between 1999 and 2000 ($\tilde{y}\_{2000}$) was 0.998 (3 d.p.); the median relative real growth rate between 2000 and 2001 ($\tilde{y}\_{2001}$) was 0.996; the median relative real growth rate between 2001 and 2002 ($\tilde{y}\_{2002}$) was 0.992. Therefore, compared to an index value of 100 in 1999, a charity which experienced the median relative real growth rate in each of these years would have an index value in 2002 of:

$$c\_{2002}=100∙\prod\_{t=2000}^{2002}\tilde{y}\_{t}= 100∙\tilde{y}\_{2000}∙\tilde{y}\_{2001}∙\tilde{y}\_{2002}=100∙0.998∙0.996∙0.992=98.6$$

reflecting a decline in income of 1.4% between 1999 and 2002 $(c\_{2002}-c\_{1999})$/$ c\_{1999}$ )=((98.6-100)/100). Values for $c\_{n}$ in other years are calculated in the same way.

The index serves to complement information on annual growth rates. In particular, given the prolonged duration of the economic downturn in the UK, the cumulative growth index helps to illustrate the cumulative implications of annual changes in income since 2008. For example, across the population of charities as a whole the median relative real growth rate $\tilde{y}\_{t}$ was less than one - reflecting an annual decline in income in real terms - for six successive years. The index in 2014 is calculated as:

$$c\_{2014}=c\_{2008}∙\prod\_{t=2009}^{2014}\tilde{y}\_{t}= 98.1∙0.983∙0.988∙0.961∙0.963∙0.983∙0.989=85.7$$

Therefore an organisation which experienced the median annual relative real growth rate for every year between 2008 and 2014 would have seen a 13% decline in real income over the period (($c\_{2014}-c\_{2008})$/$ c\_{20o8}$ )=((85.7-98.1)/98.1). This worked example considers the population of all charities, irrespective of size or charitable ‘field’ (Figure 2 in the paper). Therefore, and given the diversity of the charitable population, the analysis in the paper is also disaggregated by charity size and by charitable field.

*Properties*

The cumulative growth index, as the worked example illustrates, is designed to relate directly to the sequence of median annual relative real growth rates $\tilde{y}\_{t}$. Therefore the index has three important properties. Here we describe these properties to make clear what the index does, and does not, seek to measure.

1. *The index provides insight into relative changes in income experienced at the level of individual charities, not trends in absolute aggregate income across the charitable sector as a whole.* Trends in absolute aggregate income are well described in NCVO’s *Civil Society Almanac* (Kane *et al.*, 2014). Here the main focus of measurement is examining changes in total charitable income across the sector: the income of all charities in a particular yearis aggregated and compared to aggregated income in previous years. These aggregate trends are important but provide limited insight into changes in income as they are experienced by individual charities. In particular, since they implicitly reflect the fortunes of the very largest charities which dominate total charitable income, they do not capture the experience of smaller and medium sized charities. Therefore the cumulative growth index is designed to provide a different and complementary perspective: since it is based on a sequence of relative growth rates, it provides no insight into trends in aggregate income across the sector as a whole; instead, it provides insight into changes in income at the level of individual organisations.
2. *The index is based on the experience of charities that existed between 1999 and 2014 - including those organisations that registered and/or dissolved during this period*. This is possible because the median annual relative growth rate $\tilde{y}\_{t}$ in year *t*, on which the index is built, considers all organisations that existed at $t-1$ and $t$, including those organisations that registered and/or dissolved at some point between 1999 and 2014. The cumulative growth index is therefore preferred to an alternative approach to measuring cumulative growth over our analysis period, based on directly comparing organisations’ income in 1999 with their income in each subsequent year, which would by definition have restricted analysis to the ‘balanced panel’ of organisations that existed from 1999 to 2014 inclusive. This alternative ‘balanced panel’ approach would have excluded over 50,000 charities that were formed or dissolved between 1999 and 2014; in excluding these organisations, it would have considered cumulative growth only among the ‘select’ group of charities that existed throughout the period. Note that the findings of this paper are robust to which measure of cumulative growth is adopted: restricting analysis to the ‘balanced panel’ also reveals that, while there have been sizeable cumulative declines in income since 2008 across the charitable population as a whole, smaller and medium sized charities have experienced more sizeable relative declines than larger charities, and those in more deprived local authorities have experienced more sizeable declines than those in less deprived local authorities.
3. *The index is the result of the multiplication of the sequence of median, rather than mean, annual relative real growth rates over our analysis period*. We choose to focus on the median since the relative growth distribution is positively skewed. Therefore the mean, which is highly sensitive to outlying values represented by a small number of organisations with very high relative growth rates, does not provide insight into the growth of a ‘typical’ organisation.

Overall the cumulative growth index is designed to complement the existing important empirical information – on trends in aggregate charitable income – with a perspective which examines changes at the level of individual organisations.

**4. What is the basis and means of classifying charities according to charitable field?**

*Basis of classification*

Given the diversity of charitable organisations we disaggregate the analysis according to different ‘vertical’ fields of charitable activity (Kendall, 2003). For this purpose we use the International Classification of Nonprofit Organisations (ICNPO), which categorises organisations according to their primary activity - the ‘types of services or goods they provide’ (Salamon and Anheier, 1992:11). The ICNPO system uses 12 major activity groups, each subdivided into subgroups. For a detailed listing of the kinds of organisations within each ICNPO group/subgroup, see Salamon and Anheier (1996).

We make use of Kane (2009)’s slight adaptation of the ICNPO for the UK context. This adapted ICNPO is the basis for statistics presented within NCVO’s Civil Society Almanac (for example, Kane *et al.*, 2014). We list here the specific conventions that have been used:

*Parent Teacher Associations.* These have been identified separately (NCVO category 2.1) rather than included under ICNPO 2100 (Primary or Secondary Education).

*Preschools.* These have been identified separately (NCVO category 2.2) rather than included under ICNPO2100 (Primary or Secondary Education) or 4100 (Social Services).

*Hospices*. These are included under ICNPO 3200 (Nursing Homes) rather than ICNPO 3400 (Other Health Services). Most of the organisations in category 3200 are hospices.

*Youth groups*. These have been identified separately (NCVO category 4.1) rather than included under ICNPO category 4100 (Social Services). They include independent groups as well as affiliated groups of uniformed organisations like the scouts, guides, and sea cadets.

*Village Halls.* These have been identified separately (NCVO category 6.4) rather than included under ICNPO category 6100 (Economic/ Social / Community Development).

There are important points to note, about charitable status and charitable registration in England and Wales, for organisations in particular ICNPO categories:

*2200: Higher Education*. Most English universities and Higher Education Institutions are exempted from charitable registration.

*6200: Housing*. Voluntary sector housing providers are often exempt from charitable registration.

*7300*: *Political organisations*. Charitable organisations are required to be free of party politics.

*10: Religion*. Many places of worship, though charitable in law, are excepted from charitable registration.

*11: Business & Professional Associations, Unions*. Most of these organisations are not charitable.

Therefore we do not consider the ICNPO categories above in our analysis, which is based on data on registered charities. Note too that many recreation and social clubs (ICNPO code 1300) are not charitable organisations.

Finally, we choose to:

combine subgroups 1100, 1200 and 1300 (in Figure 4); subgroups 4100 and 4200 (in Figure 5); and subgroups 7100 & 7200 (in Figure 4).

Not include the following categories in the results, for reasons of space:

*2100: Primary and Secondary Education*. This category includes independent schools, and charitable funds/foundations linked to schools.

*2400*: *Research.*

*5100: Environment* and *5200: Animal Protection*.

Note that the analysis has been performed for these categories and the results are available on request.

When presenting the results we considered organising the Figures by ‘major’ ICNPO group, such that categories that belong to the same major group should be included in the same Figure. However, given the marked difference in income trends between categories within the major ICNPO groups (e.g. between PTAs and preschools within ICNPO group 2, ‘Education and Research’), we choose not to enforce this rule. Instead we include together in the same Figures categories that experienced a certain similarity in their income trends. We include Table 1 to show how each of the categories in Figures 4-8 relate to the underlying ICNPO/ NCVO classifications.

*Means of classification*

We make use of data, on the classification of English and Welsh charities according to the ICNPO, provided by the National Council of Voluntary Organisations (NCVO). These data include classification information on formerly registered, as well as currently registered, organisations. We are grateful to the NCVO for sharing these classification data for research purposes. Kane (2009) describes the range of different methods that were used to allocate charities to the ICNPO categories - with a hierarchy running from manual classification based on information in charity reports and websites, used for the largest charities, to less labour intensive matching procedures based on information on the Charity Commission Register, for smaller organisations. The final step was to allocate hitherto unassigned charities, after each of the methods had been applied, to an ICNPO category using automatic classification software. For the purposes of this paper’s analysis, when disaggregating by ICNPO we do not consider charities that were allocated to an ICNPO category in the final ‘automatic classification’ step, which was less reliable than other classification methods. This promotes the coherence of the ICNPO categories and minimises the likelihood of considering organisations that have been classified in the wrong category.

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