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Trends in the concentration of income among charities

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Abstract

There is a perception among some policy makers and practitioners that the charitable sector has become increasingly concentrated, with the larger charities capturing an increasing share of sector income. Debate over this issue is largely normative and little evidence as to the reality of changes in the distribution of income among charities exists. We seek to answer the substantive questions surrounding the issue of changing concentration of income in the charitable sector using data on the population of registered charities in England and Wales from 1995 to 2007. This paper is concerned with changes in the cross-sectional distribution, i.e. concentration of sector income in each year. In a companion paper we address the longitudinal perspective. Results suggest a complex story and no single answer to the question of increasing concentration emerges. Further complexities emerge when charitable sub-sectors are considered.

Keywords

Charity, income concentration, income inequality, income distribution, industrial concentration.

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1 Introduction

> *'There now seems to be an established trend towards the concentration of income in the very richest charities. The voluntary sector appears to be undergoing 'Tesco-isation' with a small minority of large charities becoming ever more dominant.'* (Duncan-Smith, 2005)

Charitable organisations have become a significant economic force over the past few decades. That the economic weight of such organisations has increased is well documented (Kane, Clark, Lesniewski, Wilton, Pratten, and Wilding, 2009; Atkinson, Backus, Micklewright, Pharoah, and Schnepf, 2008). However, there is substantive interest not only in changes in the level of sector income but also in the distribution of that income and how changes therein determine the competitive environment in which charities operate. Interest in this issue is typified by the debate over 'Tesco-isation', a term that has become a pejorative catch-all used to describe the perceived increase in the disparity between the large and small charities; that the large charities are, in some sense, increasingly dominating the sector at the expense of smaller organisations (Plummer 2008, Benjamin 2009).

Discussion of changes in the distribution of income among charities has been largely normative but the implications of changes in the competitive environment in which charities operate are not clear. Duncan Smith (2005) is critical of large charities dominating the sector on the grounds that their increasing dominance leads to a more homogeneous sector and leaves fewer resources for smaller organisations. Others argue that focusing on size per se is overly simplistic as it fails to recognise that large charities become so by being good at what they do (Bubb (2009). There is similar disagreement among economists with some arguing that increased competition among charities will lead to a decrease in the private provision of the public good (Aldashev and Verdier, 2010) and others arguing the converse (Bilodeau and Slivinski, 1997).

Whatever the consequences of competition among charities, little is known about the 'market' conditions in which charities operate. In two companion papers we outline changes in the competitiveness of the charitable sector using a panel based on the population of charities in England and Wales from 1995 to 2008. This paper is concerned with the cross sectional perspective where we compare the marginal income distributions from year to year to measure changes in the distribution of total income focusing on changes in the concentration of income among the largest charities. This approach allows us to measure changes in the concentration of income using metrics such as the share of income captured by the largest 1% of charities. Measures of concentration such as this are often used to describe the competitiveness of a certain market or industry with higher levels of concentration generally understood to correlate to lower levels of competition (U.S. Department of Justice and the Federal Trade Commission, Horizontal Merger Guidelines §1.51) and there is an extensive literature on industrial concentration (see Caves 1998, Curry and George, 1983 for surveys). Measuring income concentration in the charitable sector is interesting insofar as it describes something about competition within the sector and provides a test of the 'Tesco-isation' hypothesis.

This perspective alone will provide an incomplete picture of changes in the sector as the composition of that 1% group may change over time. In a companion paper (Clifford and Backus, 2010), we address the longitudinal perspective, where we exploit the joint distribution of income at time t and $t+\tau$ allowing us to follow individual charities over the observed period. Together these provide a nuanced picture of changes in the distribution of income in the charitable sector.

The paper proceeds as follows: section 2 discusses the impact of competition on charities; the data and an outline of the cleaning procedures are provided in section 3; changes in the level of income to the charitable sector are documented in section 4; changes in distribution of income for the charitable sector are considered in section 5; and section 6 considers such changes by charitable sub-sectors; conclusions are presented in section 7.

2 The impact of competition in the charitable sector

> *'Like the big supermarkets who have driven many small traders to the wall, big charities are crowding out small, innovative community-based bodies whose thinking and practice is often more closely in touch with public opinion.'* (Duncan-Smith, 2005*)*

Any changes in the competitive environment in which charities operate must be interpreted in light of two facts. The first, which we discuss in section 4, is that the sector has expanded dramatically both in terms of total income and numbers of charities. The second, discussed in detail here, is that there is little agreement about the normative implications of any such changes.

While Duncan Smith's concern is to do with the diversity of ideas and the degree to which the work of charities reflects the will of the public, economists have also examined the impact of competition on charities. Their interest is in the private provision of public goods (e.g. care for the elderly, international development) and the efficiency with which they are provided. The economic consequences of increased competition among for-profit firms are well documented (see Mas-Colell, Whinston, and Green, 1995, pp. 307-341). The economic consequences of increased competition among charities are less clear.

The seminal work of Rose-Ackerman, 1982, found that increased competition among charities results in sub-optimal private provision of public goods. Measuring competition by the number of charities in the sector, she concludes that increased competition will reduce the total provision of services by charities, *ceteris paribus*. As more charities enter the market a greater share of expenditure is diverted towards fund-raising as competition for limited resources increases. Assuming no barriers to entry, the share of expenditure spent on fund-raising of the marginal charity will approach one. Even relaxing this assumption, fund-raising is still 'excessive' and collusion among charities can produce a Pareto improvement. She proposes regulating the market, not to restrict charities' ability to co-operate, as is the case with anti-trust regulation of firms, but to require it. The Disasters Emergency Committee is an example of such a policy, albeit self-imposed, in the UK. The potential negative impact of competition among charities, perhaps leading to increases in the proportion of expenditure spent on fund-raising finds further theoretical support in Cha and Neilsen, 2001 and Aldashev and Verdier, 2010 and empirical support in Feigenbaum, 1987.

The negative impact of competition on the private provision of public goods is a distinguishing feature of several theoretical treatments of the market for charity but not a universally identified one. Bilodeau and Slivinski, 1997 show that when a public good is under-supplied, competition amongst charities leads to higher levels of voluntary contributions vis-à-vis a single 'monopolistic' charity. Castaneda, Garen, and Thornton, 2008 identify conflicting effects of competition on the distribution of charities' expenditures using a cross-section of American charities. Reported administrative expenditure fell as competition, measured by the Herfindahl-Hirschman Index (HHI), increased as charities became more efficient in response to the increased competition. Conversely, fund-raising activities were increased by competition, though the first effect is found to dominate.

Taking the impact of competition on the behaviour of charities as given, little is known about the substantive nature of that competition or any changes in the degree of competition. Atkinson, Backus, Micklewright, Pharoah, and Schnepf, 2008 find substantial variation in the size of development charities, even among the largest 500 fund-raising charities. These results are somewhat at odds with the predictions of Aldashev and Verdier, 2010 about the same sub-sector. However, Atkinson, Backus, Micklewright, Pharoah, and Schnepf 2008 also find that the concentration of voluntary income to development charities fell over the period, suggesting that, perhaps, in the very long run the predictions of Aldashev and Verdier 2010 are more accurate. While the period examined in Atkinson, Backus, Micklewright, Pharoah, and Schnepf 2008 is longer than that employed here, they only have data on the very largest UK charities whereas we exploit data from the population of registered charities in England and Wales. Thornton, 2006 looks at the impact of competition amongst charities on fund-raising expenditure using a panel of charities from the US. Using the HHI based on total income as a measure of sector concentration, he finds that competition has increased in fourteen of the sixteen identified sectors. Thornton does not account for the negative correlation between sample size and the HHI.

We measure the concentration and changes in the concentration of the charitable sector in England and Wales. Understanding the competitive environment in which charities operate is essential to the development of policies aimed at shaping the sector. While it is widely agreed that more competition among firms is desirable there is little agreement about the impact of competition among charities on their behaviour. Previous attempts to measure the concentration of income among charities have been restricted either by the data available or by methods which do not adequately account for the increasing number of charities.

3 Constructing the panel

Our analysis focuses on charities registered with the Charity Commission (CC) between 1995 and 2007. The CC is a non-ministerial governmental body charged with the regulation of charities. Charities are required to register with the CC and to submit annual accounts. The data we are using have been obtained from two sources. Data for the financial years 2001/2 to 2007/8 for all registered charities, companies limited by guarantee (CLGs) and community interest companies (CICs), were obtained from Guidestar Data Services, a firm specialising in data on the voluntary

sector. We include only organisations registered as charities, though some organisations can be registered as both a charity and a CLG simultaneously. Data for 1995 to 2001 have been obtained from records of the CC register held by the National Council of Voluntary Organisations (NCVO).[1] The two data sets are compatible as they both originate with data provided to the Charity Commission.

The Guidestar and NCVO data sets are appended to one another creating a panel of tens of thousands of organisations covering the period 1995 to 2007. The two data sets overlap in 2001/2. Where observations were duplicated, those from the Guidestar data were retained. The overlap is only partial and thus some observations are missing. Some observations are missing for other reasons, such as failure to report to the Charity Commission. Missing values for headline income and expenditure are imputed in three ways. First, any single missing observation is filled in with the mean of the preceding and subsequent years. For example, if a charity is present in 1996 and 1998 but missing in 1997, we fill in the missing value with the mean income from 1996 and 1998. Second, we fill in the value for 1995 for charities that were registered pre-1995 and that are present in all other years using the average growth rate from 1996 to 1998. Third, we fill in missing values for 2007 for charities which were not dissolved by 2007 and are present in all other years using the average growth rate from 2004 to 2006. In total 4.3% of the observations have been imputed in this way.

We exclude charities which are exclusively grant making trusts to avoid double counting income in the aggregate though some double counting will remain (e.g. a grant made by a national charity to a local charity). We further restrict our analysis to 'general' charities excluding places of worship (e.g. parishes, temples), independent schools and NHS-controlled organisations. We also exclude any observation with less than £1,000 of total income. Until 2007, the Charity Commission required any organisation with income exceeding £1,000 to report headline income and expenditure for the year with more detailed reporting required at higher levels of total income. In 2007 this threshold was raised to £5,000. For an organisation with an annual income below the reporting threshold, there is no obligation to report to the Charity Commission, though some do. We have no way of discerning how many of these very small organisations we are actually capturing. In 2007, 15.5% of charities had an income of less than £1,000 and these charities accounted for less than 0.02% of sector income. The data set used in the analysis that follows contains 935,806 observations from 115,806 uniquely registered charities.

When applying measures of competition to charities one must be clear about what serves as the basis for such measurement. Measurement of concentration among firms is often carried out using revenue or value-added (e.g. Mahajan, 2006). Charities are funded in a number of different ways: by grants; contracts; *inter vivo* donations; legacies; earned income, etc. and there is substantive interest in each of these individually. For example, contract-based funding has increased in recent years (Kane, Clark, Lesniewski, Wilton, Pratten, and Wilding, 2009). According to Duncan-Smith 2005 *'the grants and contracts-based funding mechanisms favoured by government are... exacerbating the growing divide between the haves and the have-nots'*. Some organisations rely almost entirely on public-body grants (Seddon, 2007).

An analysis of the composition of charities' income streams and changes in the composition of those streams is of interest. However, data limitations prevent us from doing this over an extended period. The data set obtained from NCVO (for 1995 to 2002) contains only headline income. More detailed data on income sources are available for 2002 to 2007, but given the relatively short length of the period we restrict our attention to total income for the longer period. We therefore choose to focus on measuring changes in the distribution of total income among charities following Thornton, 2006.

All monetary variables are deflated to 2008 prices using the Retail Price Index obtained from the Office of National Statistics making all reported growth rates real.

4 The growth of the charitable sector

'Charitable giving is finite. . .' (Duncan-Smith 2005)

Our primary interest is in measuring changes in the distribution of income among charities. As noted above, any such analysis must first recognise how the size of the sector has changed. The policy implications of increasing concentration with low levels of growth will be different from those of increasing concentration with significant positive growth. We look only briefly at changes in the level of sector income and in the numbers of charities registered as such questions have been documented elsewhere (e.g. Kane, Clark, Lesniewski, Wilton, Pratten, and Wilding 2009). In the subsequent section we employ tools from both the literature on household income inequality and industrial concentration to measure changes in the distribution with a focus on the question of concentration of income among the 'largest' charities in a given year.

4.1 Growth of sector income

Total sector income grew monotonically at a real average annual rate of 7.9%, more than twice that of GDP, from £10.2 billion in 1995 to £25.6 billion in 2007. In no year between 1995 and 2007 did sector income grow by less than 3.5% in real terms. Figure 1 plots total annual income on the left axis and GDP on the right axis.

The analysis here focuses on total income, though Atkinson, Backus, Micklewright, Pharoah, and Schnepf, 2008, show that there is a commensurate increase in donated income to the sector. Such growth does not imply that every charity or even most charities have experienced such stable growth over the period. For example, from 1997 to 1998, total sector income grew by 12.2%, 46.5% of charities experienced a drop in income. From 2005 to 2006 sector income grew by only 3.6% and 49.3% of charities experienced a drop in income. In any given year, nearly half of all charities experience a fall in income though smaller charities are more likely than larger ones to experience a fall. On average, 57% of charities with less than £10,000 of income experience a drop in income from one year to the next while only about a third of charities with income in excess of £1 million suffer a year-on-year fall in income.

4.2 Growth of sector population

The growth of the sector has not been in total income alone as the number of charities in the sector has also increased substantially. Between 1995 and 2007, 46,502 charities in our data

registered with the Charity Commission. Not all of these, however, represent a real expansion of the sector. Some will be previously established charities re-registering with the Commission. A number of re-registrations were identified in the preparation of the data and details of this linking procedure are in Appendix A of Clifford and Backus, 2010. As the Charity Commission does not track re-registrations, we cannot be certain that the linking is complete. Therefore enumerating registrations may overstate sector growth in terms of the number of charities operating. Dissolution date is also problematic as charities can remain on the register for several years before being formally dissolved. Other charities may remain on the register as shells of charities that have re-registered. This can be done to collect bequests left to the charity under its previous registration number.

To measure sector turnover more accurately, we adjust the number of registrations by excluding those charities for which there is a pre-1995 year of 'foundation' This year of 'foundation' is extracted from the charities' governing documents and does not necessarily refer to the first year the charity operated but does refer to a year of administrative import to the charity. If the governing document makes reference to such a year preceding 1995, we assume that the charity operated prior to 1995. Using this adjustment, we identify 41,951 registrations. The final year of a charity's operations is identified as the last year it reports income in excess of £1,000 though some may in practice continue operations with income less than £1,000. It is not possible to distinguish between those charities which cease operations involuntarily and those which had resolved to shut down.

New charities registered during the period account for a substantial portion of sector income. In 2007, charities that had registered since 1995 accounted for 35.1% of total sector income and 39.1% of charities. This large share of income is, despite newly registered charities, having relatively low incomes initially. The mean initial year income of new charities was £147,478, with a median of £15,235 and the mean income of charities present throughout the period was £410,744 with a median of £18,955. Charities in their final year were even smaller with a mean income of £64,054 and a median of £5,472. Figure 2 presents the kernel density functions for charities in three points in their life cycle. The first is the density of total income of the exits, charities in their final year of operation. The second is the density of total income for charities in their first year of operation, the entrants. The last is the density of total income of incumbent charities, those established pre-1995 and which are still operating in 2006, the last year we can identify charities in their first or final year.

While entrants are on average smaller than incumbents, their initial income can be very high. Over the period, 743 charities, about 1.7% of all entrants, had initial year income in excess of £1 million. Charities in their final year can also have high levels of income with 293 charities having final year income in excess of £1 million. These figures should be interpreted as an upper band since some of these large entrants and exits may be the result of incomplete linking of charities which re-register. An important difference between incumbents and entrants is at the very top of the income distribution where entrants are increasingly sparse. Over 5% of incumbents had an

income over £1 million. This discrepancy is even larger if we consider charities which enter our data during the period rather than those which register during the period.

We are interested here in measuring the increase in the number of charities operating in the sector. However, the number of charities that enter our data is larger since charities enter our data only when income exceeds £1,000 and charities may register with the CC before income reaches this threshold. Therefore a charity may have long been registered with the Charity Commission but only enter our data later when its income first exceeds £1,000. As such the mean (£13,056) and median (£145,421) income of charities entering our data are lower than for charities registering with the Commission. This characteristic is important when considering measures of sector concentration below.

5 The distribution of income among charities

> *'. . .and each year as the powerful charities consume more of the pie, their smaller colleagues are left to fight for the leftovers.'* (Duncan-Smith, 2005)

Though giving may be finite, it has been shown that the charitable sector has grown substantially both in terms of income and in terms of the number of charities in operation. It is clear that total income has increased significantly but questions remain about how income is distributed among charities and how that distribution has changed. Is there evidence that larger charities are capturing an ever-increasing share of the 'pie'? If so, have smaller organisations been left with less total income or has their income simply grown more slowly? Are changes homogeneous or has there been a narrowing of the income distribution over some levels of income and a widening over others?

5.1 The distribution of growth

Considering only aggregate growth measures of total income reveals nothing about the distribution of that income among charities. We have shown that in a given year nearly half of all charities experience a fall in income. But is it the case that in the long-run 'a rising tide lifts all boats', where the growth of the sector is uniform over the income distribution? Or, do we observe the top of the distribution growing more quickly, consistent with the 'Tesco-isation' hypothesis? Uniformly distributed growth implies that the distribution of income has remained unchanged over the period though the composition of the sector has changed. Deviation from uniformly distributed growth implies changes to the income distribution. Table 1 presents the distributions of income at the beginning and end of the period.

In 2007, income ranged from our imposed lower threshold of £1,000 to £482 million, up only slightly from the 1995 maximum of £475 million. In 1995, half of the charities brought in less than £10,990. The ratio of the 99th percentile to the 90th was 13.5, the ratio of the 90th to the 50th was 15.0 and the ratio of the 50th to the 10th was 5.1. By 2007, the 99/90 ratio was 13.0, the 90/50 ratio had increased to 17.0 and the 50/10 ratio to 7.2, indicating heterogeneous changes in the income distribution with narrowing at the top and widening at the bottom.

A more general approach than measuring the change in a small number of arbitrarily selected quantiles, is the growth incidence curve (Ravallion and Chen, 2001), commonly found in the literature on household income distributions. The growth incidence curve plots the growth of each quantile from year t to $t+\tau$. For example, at the 50th percentile, the growth incidence curve gives the change in median income between year t and $t+\tau$, in the current case a 64% increase. Figure 3 is the growth incidence curve, plotting proportional growth of each income percentile between 1995 and 2007.[2] Note that we are measuring the growth of income quantiles, not of charities *per se.* It is not possible to determine whether or not smaller charities have grown more quickly than large ones from the growth incidence curve, only which quantiles have grown more quickly than others. The growth incidence curve relies on the matching of quantiles from marginal distributions at t and $t+\tau$. For analysis of the longitudinal perspective exploiting the joint distribution of income in t and $t+\tau$ see Clifford and Backus, 2010).

The x-axis is in logs to allow for finer detail at the top of the distribution and the grey bars indicate the two bootstrapped standard error variability band. Each point on the curve is the proportional growth of the corresponding percentile from 1995 to 2007. Where the slope of the growth incidence curve is positive, income growth is regressive and inequality increases over that portion of the distribution as the higher quantiles have grown more quickly than the lower quantiles. Where the growth incidence curve is negatively sloped, growth has been progressive and inequality falls over that portion of the distribution as the difference between the higher quantiles and lower quantiles is reduced from 1995 to 2007. It is evident from Figure 3 that conclusions about the nature of growth in the sector vary depending on the portion of the distribution considered.

When taking the distribution as a whole, growth has been regressive, with growth of the uppermost quantiles exceeding that of the lowermost quantiles but growth is not strictly increasing in income. From 1995 to 2007, the 68th percentile grew the most at 97.4%. If we consider the portion of the distribution below the 68th percentile only, the growth of the sector has been regressive, leading to greater inequality over this portion of the distribution. This can be seen in the relatively large increase in the 50/10 ratio, for example. When considering only the upper third of the distribution, growth is progressive. Generally speaking, income inequality has increased over the bottom two-thirds of the income distribution and decreased over the upper third.

This suggests a complex picture of changes in the distribution of income for which no single answer to questions regarding changes in sector concentration will suffice. If the interest is in the impact of growth on the smallest charities, then growth has had a regressive effect. If interest is in the economically more substantial portion of the distribution, then there is evidence of progressive growth and a narrowing of the income distribution.

5.2 Measures of concentration

The growth incidence curve provides some insight into changes in the distribution of income among charities but reveals little about the concentration of sector income in a particular year or about how any changes in sector concentration evolved over the period. In 2005, Duncan Smith noted that *'the richest 1.6% of charities account for 67.5% of all charity income'*. But how has this and other quantile group shares changed over time? Is there a tendency for the biggest

charities, as defined in a particular year, to account for a growing share of total charity income over the period, to 'consume more of the pie'? To measure sector concentration we employ two metrics commonly found in the literature on industrial concentration: quantile group shares, like those cited by Duncan Smith, and n-charity concentration ratios.

5.2.1 Quantile group shares

Quantile group shares, such as that quoted by Duncan Smith, are a commonly used metric of income concentration. The quantile group shares are defined as the percentage of total sector income captured by the largest *p*% of charities. Table 2 presents the income shares of annually defined quantile groups for the top 0.1%, top 1%, top 5% and top 10%.

The quantile group income shares exhibit a great deal of stability over the period. In 1995 the largest 0.1% of charities captured 33.6% of sector income, only slightly higher than the share of the top 0.1% in 2007. In that same year the top 1%, top 5% and the top 10% captured 62.1%, 81.8% and 89.0% of sector income, respectively. Again, these are essentially identical to the shares in 2007. While the direction of changes for each quantile group share are not always the same year to year, the overall trend for each is one of stability. The coefficients of variation for each quantile group share are all less than 0.03.

The quantile groups themselves have changed however in both *size* and composition. In 1995, the median incomes of the top 0.1%, top 1%, top 5% and top 10% were £35,900,000, £4,450,985, £892,398, and £401,552 respectively. These increased by 94%, 75%, 73% and 78% over the period. Moreover, as the number of charities in the sector increased, so too must the number of charities in each quantile group. In 1995 the populations of the top 0.1%, top 1%, top 5% and top 10% were 57, 574, 2,870 and 5,740 each increasing by 45% by 2007.

These changes are important as they make drawing conclusions about trends in concentration from quantile group shares problematic. To illustrate the problem, assume some distribution of income Γ in year t and that all incumbent charities grow at rate g. If new charities enter but the underlying distribution remains unchanged then the quantile group share in t will be similar to that in period $t+\tau$. But consider the case where one new charity is established in $t+\tau$ and it is the smallest charity in $t+\tau$. The establishment of this new charity lowers the nth quantile increasing the number of charities in the top $(100-n)$%. The income of the marginal charity in the top quantile group is larger than the income of the newly established charity. In this situation the share of income of the top quantile group increases though it is debatable as to whether or not this ought to be interpreted as an increase in sector concentration. If this new charity were to enter at the top of the distribution, the quantile share would still increase from t to $t+\tau$, though more intuitively describe an increase in sector concentration. As noted above, new entrants tend to be small and so will tend to push quantile group shares up, all else being equal.

5.2.2 n-charity concentration ratios

One approach to reducing the impact of the changing number of charities is to fix the number of charities in the numerator of the income shares. The *n*-charity concentration ratio does just this and is defined as the share of total income going to the *n* largest charities in each year where *n* is fixed over time thus avoiding one of the shortcomings of the quantile group share. Consider

again the situation described above of a single new charity entering the sector. The quantile group share would measure an increase in sector concentration whereas the *n*-charity concentration ratio would measure a fall, perhaps the more intuitive result. Table 3 presents the 5-, 10-, 100- and 1,000-charity concentration ratios.

The largest five charities in 1995 earned 10.7% of total sector income. The largest hundred and the largest thousand captured 40.1% and 69.2%, respectively. Unlike the quantile group shares, the concentration ratios reveal a pattern of falling sector concentration, with the largest charities defined annually receiving a steadily falling share of sector income. By 2007, the largest five charities captured 'only' 7.5% of sector income, the largest hundred, 34.3% and the largest thousand, 62.6%. Changes in the concentration ratios are not monotonic as there is evidence of increases over the last few years.

The *n*-charity concentration ratio is an absolute measure of concentration with an arbitrary value of *n*. It is more robust than quantile shares to changes in sample size, though it is not independent of such changes. Therefore problems can arise when comparing concentration ratios across years with different numbers of charities. For example, assume the distribution of income is the same in year t and $t+\tau$ and that the number of charities increases from year t to $t+\tau$. The concentration ratio will differ even if the underlying distribution is unchanged.

Taken together the quantile group shares and *n*-charity concentration ratios provide evidence as to the substantive changes in the distribution of income among charities. Given the relatively small size of charities entering our data the patterns of stable quantile shares and falling concentration ratios are consistent with one another. The results here are indicative of a sector with falling concentration, albeit not monotonically as results suggest a slight increase in concentration over the last few years of the period.

Such local measures of the distribution provide a somewhat incomplete picture of changes in the sector. Both quantile group shares and concentration ratios exploit only information about the arbitrarily determined 'top' of the sector. Transfers of income between charities outside of that 'top' group will be unaccounted for. Neither of these local measures can fully describe the types of changes we observe in the growth incidence curve. These local measures are sufficient, however, as our interest is in measuring how concentrated income is among the largest charities rather than overall inequality per se as often measured by a global metric such as a Gini coefficient or a Generalised Entropy Index.

6 Charitable sub-sectors

The analysis to this point has considered charities as a single homogeneous sector. This might be compared to measuring the concentration of all manufacturing, a perhaps less informative exercise than measuring the concentration of, say, the automobile sector. The charitable sector includes a diverse set of sub-sectors and the question remains whether the results above can be generalised to these sub-sectors. Given the varying causes served by UK charities and findings in Castaneda, Garen, and Thornton (2008) and Atkinson, Backus, Micklewright, Pharoah, and

Schnepf (2008) of sub-sector specific variation in growth and concentration, an analysis at the sub-sector level is appropriate.

The NCVO undertook a rigorous classification of all registered UK charities according to the International Classification of Non-profit Organisations (ICNPO) (see Kane, 2009 for details) which is the preferred classification system of NCVO. The ICNPO is a typology of charities and non-profits used internationally in which charities are assigned to one of twelve classifications. We make one alteration to the classifications as NCVO has assigned them, separately identifying research charities from education charities and we assume that classifications are constant over the period. To simplify the analysis we ignore the dynamics and focus on the changes on sub-sector concentration between 1995 and 2007. Table A.1 in the Appendix A lists the largest charities in each classification from 2007.

Table 4 presents the total income by sub-sector for 1995 and 2007 and the average annual growth rate over that period. Sub-sectors are sorted alphabetically.

The sub-sectors vary in terms of total income and numbers of charities. In 2007, the largest subsector in terms of number of charities, community development, included over 14,000 charities while only 185 professional associations operated. Numbers do not necessarily translate into higher sub-sector income, however. Total income to the community development sub-sector was only the fifth largest in 2007. In terms of total income, the largest sub-sector was social services with an income of over £3 billion while professional associations operated with total income of less than £80 million.

Every sub-sector experienced positive growth of total income over the period though there is substantial variation across sub-sectors. Total income to philanthropic intermediaries grew by nearly 400% while total income to professional associations grew by only 50%. Note that every sub-sector grew by more than GDP over the period.

The growth of sub-sectors has not been entirely organic, as each sub-sector expanded in terms of the number of charities over the period. This growth in numbers has not had a uniform effect on sub-sector income, however. For example, the number of charities classified as international nearly tripled over the period, whereas income increased by only 68%. The number of professional associations was only marginally higher in 2007.

Similar variation in sub-sector concentration exists and we apply the two metrics outlined above to each sub-sector. Table 5 presents the income shares of the top 1% and the top 5% of charities by ICNPO classification in 1995 and 2007 and the change in those quantile group shares. Note that when considering sub-sectors, the top p% can refer to a very small number of charities. For professional associations the top 1% contains precisely one charity.

Quantile group shares are relative measures of concentration. If the underlying distribution is the same for different sub-sectors, then even if the number of charities in each sub-sector differs, the p%, quantile shares will be similar. However, similar quantile shares do not imply that the underlying distributions are the same.

Discussion of changes in concentration of the charitable sector taken as a whole masks significant variation among the more homogeneously defined sub-sectors. Half of the sub-sectors have

experienced a decrease in the share of total sub-sector income captured by the largest 1% of charities in that sub-sector. Some of these decreases have been dramatic, such as the eleven percentage point fall in the share of sub-sector income captured by the largest 1% of education charities. Other sub-sectors, such as International and Health, have experienced a substantial increase in the income share of the largest 1%. For reasons outlined above, care must be taken when interpreting the changes in quantile group shares over time for these sub-sectors, particularly International given the large proportional increase in the number of international charities and the small relative size of entrants.

For some sub-sectors, the complexities of the issue of concentration become even more evident than they are when considering the sector as a whole. Consider the culture and recreation subsector where the income share of the largest 1% decreased by just over two percentage points while the income share of the largest 5% increased by nearly one percentage point. Conversely, the income share of the largest 1% of professional associations increased while the share of the largest 5% fell. Answers to the question of whether or not the largest charities have captured an increasing share of sub-sector income can depend on what is meant by 'largest'.

Table 6 presents 5 and 10-charity concentration ratios in 1995 and 2007 and changes in each. Note the 5-charity concentration ratios are generally much higher for the sub-sectors than they are for the charitable sector taken as a whole as there tend to be several very large charities in each sub-sector. Sub-sector concentration as measured by concentration ratios differs greatly over sub-sectors. In 1995, the five largest religious charities capture about 12% of sub-sector income whereas the five largest research charities capture over 66% of all income to research charities. There is similar variation for the 10-charity concentration ratio. As concentration ratios are absolute measures of concentration they are more appropriate for comparing sub-sector concentration over time, but are less appropriate for comparing concentration across sub-sectors. Even if the underlying distribution of income is the same across sub-sectors, the concentration ratios will vary due to the differing number of charities in each sub-sector. We can dismiss this possibility as the correlation between the five-charity concentration ratio and the number of charities is essentially zero (ρ = 0.002) suggesting the differences are not completely explained by differences in the numbers of charities in each sub-sector.

There is a high degree of heterogeneity over changes in sub-sector concentrations though most sub-sectors have experienced a fall in the concentration ratios. There is evidence of a negative relationship between changes in sector concentration and the initial level of concentration by either metric with the most concentrated sectors in 1995 experiencing the largest fall in the 5- and 10-charity concentration ratios. The correlation between the change in the 5-charity concentration ratio and the initial level of concentration is -0.64, similar to the correlation between the change in the 5% quantile share and the initial quantile share.

The pattern across sub-sectors both in terms of level and changes in concentration as measured by quantile group shares and concentration ratios are quite consistent. There is some disagreement however. The international sector experienced a fifteen percentage point fall in the 5-charity concentration ratio. This is the opposite of what we find when using the quantile group shares.

These apparently conflicting trends can be harmonised when one considers the large increase in the number of international charities operating. The relative size of entrants into the international sector is notable: the mean initial size of international charities registered during the observed period, including the adjustment discussed above, was less than £200,000 and the mean size of incumbent international charities was over £1.5 million. Taking this disparity into consideration, the changes in the quantile group shares and the changes in the concentration ratios need not be inconsistent with one another. However, a more accurate description of changes within a subsector over time is obtained by considering changes in the n-charity concentration ratios. These results re-emphasise the complexities involved in measuring concentration among charities. Conclusions about concentration in a particular sub-sector in a given year are largely independent of the metric employed. However, when comparing concentration across sub-sectors or changes in concentration over time the choice of metric is an important one and a single metric is insufficient to measure sub-sector concentration and changes therein.

The results obtained for the charitable sector taken as a whole are not always generalisable to charitable sub-sectors, perhaps the more natural focus of such analysis. Every sub-sector, as identified by the ICNPO classification system, experienced growth both in terms of income and in terms of the number of charities operating. Some sub-sectors experienced dramatic growth of both, where others experienced much more modest increases. Changes in concentration were even more varied, with some sectors becoming more concentrated and others less so. Results suggest that any analysis of the charitable sector in aggregate will miss significant sub-sector variation.

7 Conclusions

There is a perception among policy makers and practitioners that the charitable sector in the UK has undergone a process of increasing concentration, with the larger charities earning an increasingly large share of sector income. Debate over this issue and the implications for the competitive environment in which charities operate has been largely normative with little evidence provided as to the substantive nature of changes in sector concentration. We seek to answer the substantive question of whether or not income among charities has become increasingly concentrated using data on the population of registered UK charities with more than £1,000 of income from 1995 to 2007. This paper is concerned with changes in the cross-sectional distribution, i.e. concentration of sector income in each year. In a companion paper we address the longitudinal perspective.

There is disagreement about the impact of competition on the behaviour of charities but little is known about the competitive environment in which charities operate in England and Wales. Understanding that environment is a first step towards understanding how governments might better regulate the sector and encourage the private provision of public goods. We find that the charitable sector has expanded significantly both in terms of income and in terms of the number of registered charities and the distribution of that income among those charities has changed over the period.

We are able to draw a number of conclusions about changes in the distribution of income among charities in England and Wales:

- the charitable sector in England and Wales experienced high levels of growth in terms of both total income and the number of charities operating;
- the growth of income was not uniform over the income distribution meaning that in addition to the level of income increasing, the distribution also changed. The nature of this change depends on which part of the distribution is under consideration. The disparity between 'middle'-sized charities, around the middle third of the distribution, and the smaller charities increased over the period. However, the disparity between the very largest charities and these middle-sized charities fell;
- the share of total sector income going to the largest *p*% of charities in a given year remained markedly stable. An alternative metric which is more robust to the increase in the number of charities, the *n*-charity concentration ratios, fell;
- the evidence suggests that the charitable sector has experienced a fall in cross-sectional concentration. These results are inconsistent with the 'Tesco-isation' hypothesis;
- the results for the charitable sector as a whole are not generalisable to sub-sectors. Some sectors have undergone an unambiguous process of increasing concentration. Others have seen sub-sector concentration fall. For many, the picture is less clear. Such variation is important to identify as policies designed to shape the charitable sector may have the undesired effects on many sub-sectors.

Our work might be extended in several ways. Further work on the normative implications of our results is needed. Also, an analysis of changes in the distribution of various types of income (e.g. donations, grants) has already been noted as being of interest. Similarly, an analysis of the distribution of different types of expenditure, particularly fund-raising expenditure, is interesting. As more data become available such a project will become viable. The variation across charitable sub-sectors is an important, if secondary, result here and future research into the charitable sector may benefit from carrying out analyses with greater focus on particular causes rather than on the charitable sector as a whole

Endnotes

[1] These data have undergone a substantial process of cleaning carried out by Steve Barnard to whom we are indebted (documentation available from the authors upon request). Records found to be 'unusable' during that cleaning process are expunged as are duplicates based on Charity Commission number, year and income figures. Appendix A in Working Paper 38 gives a full account of the preparation of the data common to this paper, and Clifford and Backus, 2010.

[2] Proportional growth is calculated as $\left(\frac{INC_{t+\tau}}{INC_t} - 1\right) \times 100$ for each percentile

Appendix A

Table A.1: The largest three charities from each ICNPO classification, 2007

CC Number	Charity Name	Income (£ millions)	ICNPO Classification
279057	Citisens Advice Bureaux	48.1	Civic/Advocacy Organisations
298028	Victim Support	33.3	Civic/Advocacy Organisations
215199	The British Diabetic Association	30.2	Civic/Advocacy Organisations
1110090	The Dolphin Square Charitable Foundation	88.8	Community Development
287785	The Shaw Trust	72.5	Community Development
226171	Nacro	61.6	Community Development
211775	Royal Opera House Covent Garden	94.3	Culture and Recreation
700520	Sheffield City Trust	52.5	Culture and Recreation
224223	The Royal National Theatre	49.9	Culture and Recreation
1096526	Preschool Learning Alliance	39.7	Education
1073332	WJEC CBAC	28.1	Education
270860	International House Trust	13.1	Education
205846	The National Trust	335.6	Environment
219099	Royal Society for the Prevention of Cruelty to Animals	117.6	Environment
207076	Royal Society for the Protection of Birds	102.4	Environment
1115297	The Gavi Fund Affiliate	452.4	Health
261017	Macmillan Cancer Support	117.4	Health
207994	Marie Curie Cancer Care	113	Health
202918	Oxfam	299.6	International
1105851	Christian Aid	96.1	International
274467	Actionaid	69.8	International
261794	National Council on Ageing	89.1	Philanthropic Intermediaries
218093	Wales Council for Voluntary Action	26.9	Philanthropic Intermediaries
282264	Broadcasting Support Services	17.5	Philanthropic Intermediaries
292786	The British Computer Society	21.9	Professional Associations
210161	The Geological Society of London	5.9	Professional Associations
209961	Royal Agricultural Society of England	5.6	Professional Associations
214779	The Salvation Army	135.2	Religious
1001349	Samaritans Purse International	23.9	Religious
1102949	Ahmadiyya Muslim Jamaat International	14.3	Religious
1089464	Cancer Research UK	481.9	Research
210183	Wellcome Trust	302.7	Research
225971	British Heart Foundation	176.3	Research
220949	The British Red Cross Society	249	Social Services
1097940	Action for Children	224.5	Social Services
216250	Barnardos	197.7	Social Services

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9 Tables and figures

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Figure 1: Total income and GDP

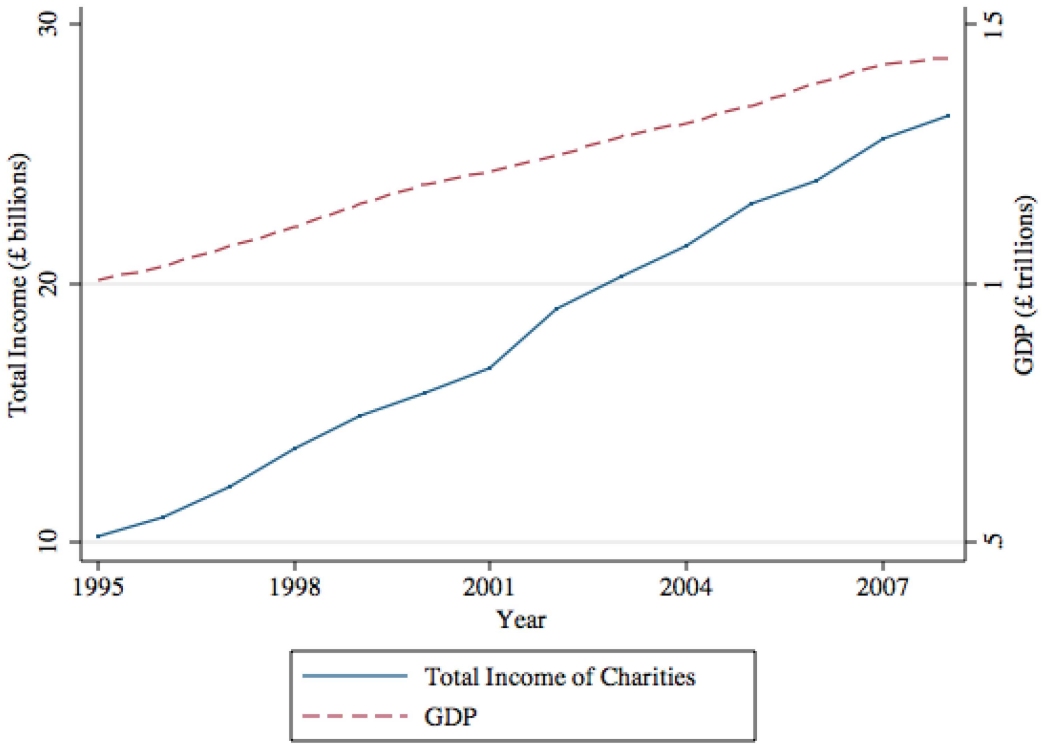

Figure 2: Kernel density functions for charities in their first year, last year and for incumbents

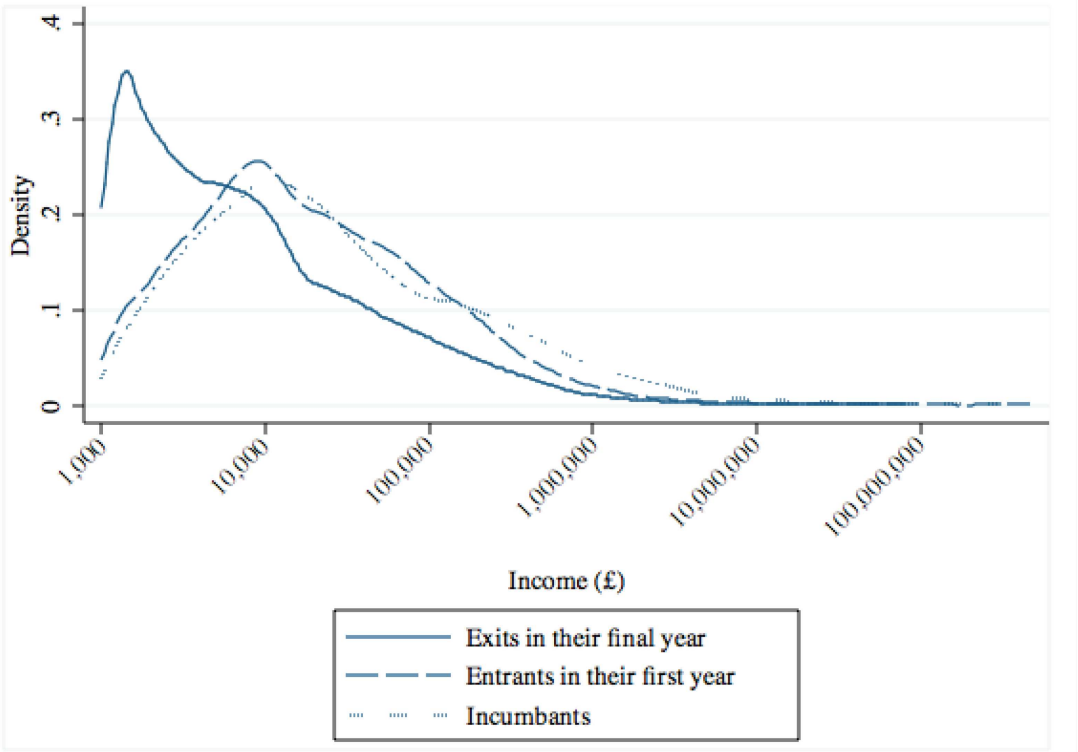

Table 1: Income distribution, 1995 and 2007

	1995	2007
5th percentile	1,578	1,715
10th percentile	2,141	2,512
25th percentile	4,288	5,743
Median	10,990	18,111
75th percentile	38,368	72,627
90th percentile	164,611	307,797
99th percentile	2,222,761	4,008,934
Mean	178,112	305,996
SD	2,917,681	4,350,098
Charities	57,407	83,581

Figure 3: Growth incidence curve for 1995 to 2007

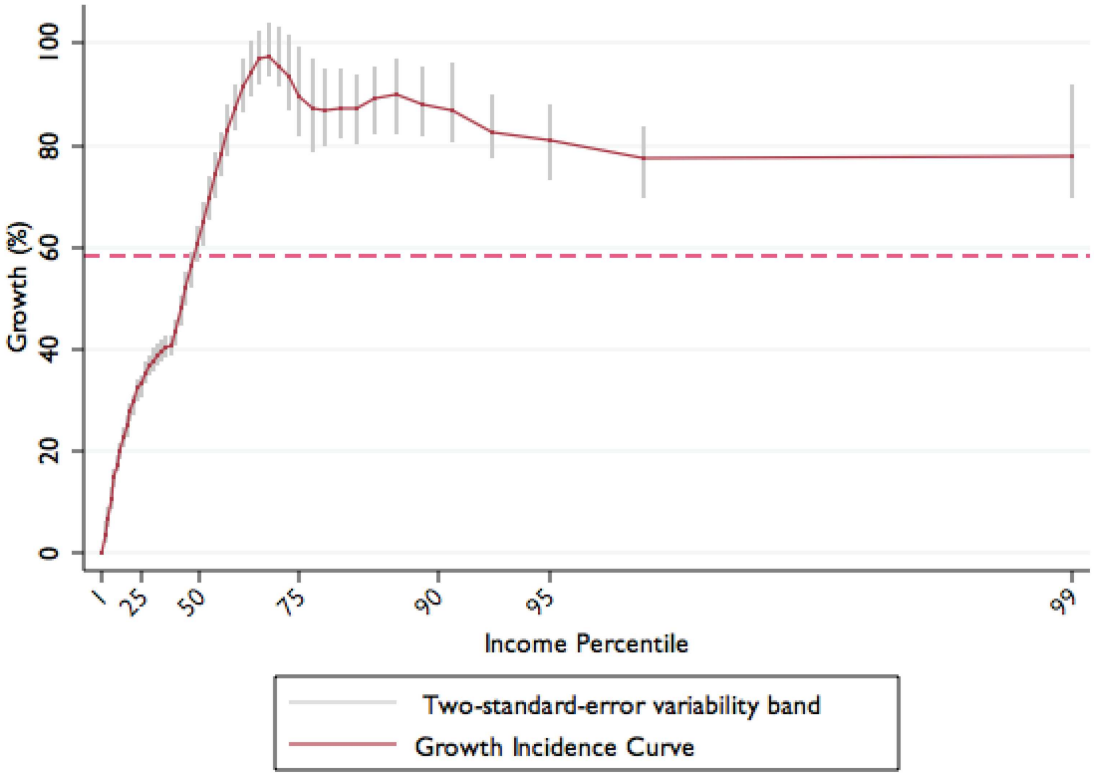

Table 2: Quantile group shares of the top 0.1%, top 1%, top 5% and top 10%

Year	Top 0.1%	Top 1%	Top 5%	Top 10%
1995	33.6	62.1	81.8	89.0
1996	33.5	62.2	81.7	88.9
1997	32.5	61.3	81.0	88.5
1998	32.8	61.3	80.9	88.3
1999	32.5	61.4	80.9	88.3
2000	32.5	61.2	80.7	88.2
2001	32.3	61.1	80.8	88.3
2002	31.7	60.1	79.8	87.6
2003	31.3	59.0	79.4	87.5
2004	29.9	58.0	79.1	87.3
2005	30.8	59.0	79.6	87.5
2006	30.3	58.5	79.5	87.6
2007	32.2	60.3	80.7	88.3

Table 3: 5, 10, 100 and 1000-charity concentration ratios

Year	5-charity	10-charity	100-charity	1000-charity
1995.0	10.7	15.7	40.1	69.2
1996	10.0	15.2	39.8	68.7
1997	8.4	13.0	38.1	67.2
1998	7.6	12.2	37.7	66.3
1999	7.5	11.8	37.5	66.1
2000	6.9	11.3	37.2	65.8
2001	7.4	11.6	37.2	66.1
2002	6.9	10.7	35.3	63.4
2003	6.6	10.4	34.3	62.0
2004	6.3	10.0	32.5	60.8
2005	7.1	11.4	33.5	61.8
2006	6.7	10.5	32.7	61.2
2007	7.5	12.0	34.3	62.6

Table 4: Total income by ICNPO classification

ICNPO Classification	1995 Income (£ millions)	1995 Charities	2007 Income (£ millions)	2007 Charities	% Growth of Income	% Growth of Charities
Civic/Advocacy Organisations	291	1,858	879	2,635	202.1	41.8
Community Development	905	14,151	2,638	18,378	191.5	29.9
Culture and Recreation	1,165	8,183	2,808	12,625	141.0	54.3
Education	504	9,092	1,314	13,149	160.7	44.6
Environment	802	1,720	1,914	3,251	138.7	89.0
Health	1,100	2,699	3,120	3,824	183.6	41.7
International	772	758	1,809	2,159	134.3	184.8
Philanthropic Intermediaries	106	585	512	929	383.0	58.8
Professional Associations	78	185	117	188	50.0	1.62
Religious	372	3,126	1,045	5,916	180.9	89.3
Research	1,123	1,509	1,984	2,227	76.7	47.6
Social Services	3,007	13,531	7,099	18,293	136.1	35.2

Table 5: Quantile group shares of the top 1% and top 5% by ICNPO classification

ICNPO Classification	1995 Top 1%	1995 Top 5%	2007 Top 1%	2007 Top 5%	Change in Top 1%	Change in Top 5%
Civic/Advocacy Organisations	39.7	56.4	33.4	51.7	-6.3	-4.7
Community Development	55.1	78.8	58.8	81.8	3.8	3.0
Culture and Recreation	51.0	77.1	48.8	78.1	-2.2	0.9
Education	56.1	78.1	45.2	67.8	-10.9	-10.3
Environment	65.6	82.7	60.4	81.0	-5.2	-1.7
Health	40.0	67.7	51.7	75.0	11.7	7.3
International	56.3	88.0	66.7	89.3	10.3	1.3
Philanthropic Intermediaries	23.8	49.2	35.7	54.4	12.0	5.2
Professional Associations	15.0	49.0	18.7	46.6	3.7	-2.4
Religious	30.7	57.2	40.3	63.0	9.5	5.8
Research	74.9	86.6	68.8	84.1	-6.2	-2.5
Social Services	67.1	83.9	64.5	82.5	-2.6	-1.4

Table 6: Concentration ratios by ICNPO classification

ICNPO Classification	1995 5-charity	1995 10-charity	2007 5-charity	2007 10-charity	Change in 5-charity	Change in 10-charity
Civic/Advocacy Organisations	25.4	33.3	17.7	24.2	-7.7	-9.1
Community Development	16.4	22.8	12.7	19.9	-3.7	-2.9
Culture and Recreation	13.0	19.6	9.9	14.9	-3.1	-4.7
Education	13.9	20.7	8.0	11.9	-5.9	-8.8
Environment	46.9	57.6	36.5	46.2	-10.4	-11.4
Health	18.5	26.7	27.9	38.2	9.5	11.5
International	49.1	66.0	33.2	47.4	-15.9	-18.7
Philanthropic Intermediaries	23.8	31.4	31.0	36.5	7.2	5.2
Professional Associations	36.4	51.3	35.3	49.0	-1.2	-2.4
Religious	11.7	17.1	19.1	23.2	7.4	6.2
Research	66.4	72.2	55.0	62.5	-11.5	-9.7
Social Services	18.9	30.3	14.3	23.7	-4.6	-6.6

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