Department of Quantitative Social Science

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Anthony B. Atkinson
Peter G. Backus
John Micklewright
Cathy Pharoah
Sylke V. Schnepf

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Charitable Giving for Overseas Development: UK trends over a quarter century

Anthony B. Atkinson,[*] Peter G. Backus,[†] John Micklewright,[‡] Cathy Pharoah,[§] Sylke V. Schnepf[¶]

Abstract. Charitable giving is an important source of funding for overseas development and emergency relief. Donations in the UK are about a quarter of the size of government development aid. There has been strong growth over time, reflecting the activities of development charities and the public response to humanitarian emergencies. The paper examines how this charitable giving has changed since 1978, using a newly constructed panel data set on donations to individual UK charities. When did the increase take place? Did the public respond to events such as Live Aid or has there been a steady upward trend? What has been the relationship with changes in household income? Which charities have grown fastest? Have new charities displaced old? How do changes in giving for overseas compare with changes in giving for other causes?

JEL classification: D1, F35, L3.

Keywords: charitable giving, overseas development.

1. Introduction

The target date – 2015 – is approaching rapidly for the United Nations (UN) Millennium Development Goals, agreed by world heads of government in order to promote living standards worldwide (http://www.un.org/millenniumgoals). It is widely accepted that more development aid to poor countries is needed if the Goals are to be achieved. The UK government has substantially increased Official Development Assistance (ODA), which almost doubled in real terms over 2000-6, rising to 0.5 per cent of national income. The 2010 Coalition Government is committed to reaching the target of 0.7 per cent (speech of Deputy Prime Minister to the United Nations Millennium Development Goals Summit, 22 September 2010). This contrasts with the 1980s and 1990s when ODA stagnated in real terms and fell as a percentage of national income (Department for International Development 2007, Table 7). But what of *private* provision of overseas aid? Charitable donations by individuals for overseas development are significant both as a signal of public concern and as a financial contribution to the UK's development effort. The largest charities focusing on overseas development and emergency relief received nearly £1 billion in donations, bequests and other forms of 'voluntary income' in 2004-5 (Charities Aid Foundation 2006), equal to about a quarter of the figure for ODA in that year. The importance of giving overseas, and of giving for other causes, is shown in public interest in the role of voluntary organisations, as reflected for example by the creation within UK government of the Office for Civil Society. Recent academic interest in charity behaviour includes papers by Aldashev and Verdier (2010), Atkinson (2009), and Karlan and McConnell (2009).

This paper examines trends in individual overseas giving in the UK over the period 1978-2004. Part of the picture is well known: private giving increased substantially. Well established charities such as Oxfam have greatly expanded their activities. New charities such as WaterAid have demonstrated innovative ways of tackling old problems. There has been a strong public response to humanitarian emergencies, as reflected in the success of the Band Aid Christmas single in 1984 and the Live Aid concerts of the following year, both devoted to raising funds for famine relief in Ethiopia. There was the remarkable response to the 2004 Asian Tsunami. Longer term development needs of poor countries and continued public interest have been highlighted by the Live 8 concerts of 2005 and by the Make Poverty History

campaign. Prominent new fund-raising charities have sprung up which reach out to mass television audiences, such as Comic Relief.

But just *how much* has private overseas giving increased? When did the increase take place? How has the change in charitable donations compared with the change in household incomes? Which charities have grown fastest? Have new charities displaced old? How concentrated is charitable giving to just a few large charities? And how does giving for overseas compare with charitable giving in general? The answers to these questions are relevant both to the future of development finance and to understanding charitable giving more broadly.

Section 2 begins by describing a new data panel. The data are drawn from the long-standing annual publication *Charity Trends* (for example Charities Aid Foundation 2004), and have considerable advantages: they represent the population of larger fundraising charities, rather than a sample, and they are the only compiled source of information on the voluntary donated income of charities in the UK that covers the 25 year period with which we are concerned. From the basic data, we have constructed a new panel covering the incomes of individual charities. Its construction involved a number of issues, which are described in Appendix A. We then use the data to investigate the size distribution of charities' annual receipts of donations. In the theoretical model of development charity behaviour proposed by Aldashev and Verdier (2010), competition between charities results in them all having the same share of the market in the long run. How far is this from reality? And do development charities tend to be larger or smaller than other types of charity?

Section 3 examines the growth in the total donations received by development charities as a whole over a quarter century. Has there been a steady rise or did events such as the Ethiopian famine lead to discrete shifts? We analyse whether giving for development has grown faster than giving to charity in general. The onset of economic recession in 2008 has generated considerable interest in the impact of changes in household incomes on charitable donations (see e.g. National Council for Voluntary Organisations (2009)). We investigate the relationship between giving and household income in the last recession, which took place in the early 1990s, and over the longer period covered by our data.

Behind the total amounts lie the experiences of individual development charities. Section 4 examines the history of giving to individual charities. How variable has their growth been? Has growth come more from long-standing charities

or from new charities founded since the end of the 1970s? Has the concentration of 'market share' of the larger development charities changed and how does this compare with other charitable sectors? Have larger charities come increasingly to dominate the market place, as has been claimed by some commentators e.g. Duncan Smith (2005)?

Section 5 summarises the main conclusions and the implications of our findings.

2. Data on charities' incomes

Our data come from a series of annual surveys of the finances of major UK charities. These were initiated by the Charities Aid Foundation (CAF) in 1978 and resulted in an annual report *Charity Trends* over the next 30 years, for example Charities Aid Foundation (2004). (The report was known as *Charity Statistics* before 1986 and *Dimensions of the Voluntary Sector* from 1994 to 2002.) Up until 2001, CAF itself collected the data, in part through direct contact with charities. From 2001, all data were supplied to CAF by CaritasData, who became the co-publisher of the report, although for brevity we refer to 'the CAF data'. Throughout their existence the annual reports aimed to document the 'voluntary income' (defined below) of the leading fundraising charities, together with their other incomes, e.g. government funding and the proceeds of trading, and selected expenditures. Initially, target coverage was the top 200 fundraising charities, increasing to the top 300 in 1985, to the top 400 in 1986, and to the top 500 since 1991. (These dates refer to the year of publication.) We use the CAF files for the reports from 1978 to 2006. There was no report in 1995, and we did not have access to the report for 1981. The 2007 report was the last in the series but we do not use it for reasons explained below.

The top 500 charities covered by the data represent less than half of one per cent of the more than 160,000 active charities in the UK. However, most charities are very small. In 2007/08, only 5,549 had an income from all sources (not just voluntary income) in excess of £1 million and half of all income went to the 706 largest charities (http://www.charity-commission.gov.uk). CAF estimate that the top 500 fundraising charities account for nearly half of all voluntary income (CAF 2004: ix, 21, 40).

Development charities

We are especially concerned with the development charities. We include under 'development' both charities grouped under this heading in the CAF reports (except the Priory of St John, commonly known as St John Ambulance) and the 'religious international' charities that are separately identified (e.g. CAF 2004: Figure 2.4), which include Christian Aid and the Catholic Agency for Overseas Development (CAFOD). (We do not include the 'religious missionary' charities.) In recent years, the CAF data have included about 30 charities principally concerned with overseas development and humanitarian assistance. Table 1 lists those reported in *Charity Trends 2006* as raising more than £10 million in voluntary income, ranked by the amount collected. They include many well-known names such as Oxfam, Save the Children, and the Red Cross and newer entrants such as World Emergency Relief and WaterAid. While all have a focus on development and/or emergency relief, their particular aims or organisational ties vary, as shown in some cases by their names. There are general purpose charities, such as Oxfam and ActionAid. There are charities that have similar aims but with a religious link, such as Christian Aid and CAFOD. There are charities focusing on particular groups in the population, for example the blind and those at risk of blindness in the case of Sight Savers, or particular issues, for example WaterAid. And while most charities in the list work solely in developing countries, others also have domestic programmes within the UK – the Red Cross and Comic Relief are examples – so that their donations cannot be seen as being given solely for overseas development causes. This heterogeneity suggests there may be shifts within the sector over time as particular objectives gain or lose popularity with the general public.

The table reflects some of the changes over a quarter century within the overseas sector. We indicate whether the charity concerned was also among the top 200 fundraising charities in 1978 and the year in which the charity was founded. Five were in the top 200 of the equivalent CAF table for 1978. Several of these had long histories, with the Red Cross stretching back into the nineteenth century. Of those not in the top 200 in 1978, several existed at that time but in four cases they have been founded subsequently, for example Islamic Relief. These differing dynamics are a major reason for the interest in constructing a panel for individual charities.

Table 1 here

'Voluntary income' and 'donations'

The CAF reports rank charities by their total 'voluntary income'. This comprises (a) donations from individual donors, companies, and other charitable trusts, and voluntary subscriptions, (b) legacies, (c) the value of goods donated to charity shops, (d) the revenue from fundraising events, and, after 1995, (e) National Lottery fund grants. Table 2 provides a breakdown of the total voluntary income across these categories from *Charity Trends 2003,* comparing development charities and all charities taken together. Around half of the total comes from donations – true of both development charities and charities in general. However, legacies are much less important for development charities, making up only 12 per cent of voluntary income. In contrast, more of their income comes from fund-raising and donated goods.

Donations come largely from individuals, but also include those from the corporate sector and from grant-making charitable trusts. These cannot be separated in the data employed here, but recent estimates based on the breakdown for the top 300 fundraising charities indicate that corporate donations represent about 1 per cent of total voluntary income and donations from trusts about 8 per cent (Pharoah 2008: 63). The donations figures in principle include the value of basic rate tax relief that charities claim on donations made with a Gift Aid declaration, possible from 1990 for gifts of £600 or more and from 2000 for all amounts, and the value of tax relief of donations by covenant, which were very important until phased out in 2000. The figure for donated goods to charity shops is dominated in the case of the development charities by the total for Oxfam, which we discuss in the Appendix. Only two others, the Red Cross and Save the Children, have non-trivial totals listed under this heading.

Table 2 here

Several development charities distribute significant amounts of donation income to other UK development charities, especially if they perform what is essentially a 'middleman' role in fundraising. The money concerned is then reported by the receiving charities as part of their voluntary income, implying that there may be some double counting in the sector total if both donor and recipient are in the CAF rankings. Christian Aid, Comic Relief, Oxfam, CAFOD, and Tearfund are examples of 'grant-making' donor charities (CAF 2004: 97). Unfortunately, the CAF data do

not record the charities to which the grants were made. The five charities just named are listed in descending order of the size of total grants made, which ranged in the 2004 report from £36 million to £16 million. These amounts are significant but not large in relation to the sector total. On balance, we think the double-counting problem to be minor. The Band Aid Trust, which was prominent in the 1980s, is another example of a grant-making charity, and we return to this case later.

In the rest of the paper we focus on voluntary income minus legacies. The latter are less important for development charities and can be expected to have different determinants to donations made over the lifecycle. For convenience, we refer to this sum of all other forms of voluntary income as 'donations' although, as noted, these include items other than donations by private individuals. We put all figures into 2007 prices using the UK Retail Price Index (all items). When we refer to any ranks, including the 'top 200', we refer to charities ranked by us on donations as just defined.

Constructing a panel of data on charitable donations

To assemble a useful panel data set on donated income, we need information (a) covering a long run of years, (b) providing data on individual charities on a consistent basis, and (c) giving figures on donations received. While there are problems, noted below, the CAF annual reports can be used to construct a panel meeting these requirements. Indeed, the data represent a rich source of panel information that has been insufficiently exploited. Robinson (1993) used them to track growth in development charities' total income from 1977-1991, but, to our knowledge, the CAF data have only once before been assembled with the aim of tracing individual charities across the years. Khanna et al. (1995) and Khanna and Sandler (2000) estimated econometric models with data for 1983-90, but did not focus on development charities.

In creating a panel, there are a number of aspects that require adjustments to the data to ensure the highest possible degree of consistency over time. These problems and our solutions to them are described in Appendix A. Some adjustments arise because CAF did not design their annual survey to be used as a panel: there are no unique identifying numbers for charities and tracing across the years via charity names is not always straightforward. The accounting period to which the data in each report refers can vary across charities. Observations are occasionally repeated across

reports or are missing. In the 1990s there was an alteration in the definition of shop income. Close to the end of the period covered by our study, there was a major change in the coverage of the CAF reports, which meant that we did not include in the panel the charities that enter the files for the first time from 2002 onwards. World Emergency Relief and Islamic Relief, listed in Table 1, are among the development charities that are excluded. We note the sensitivity of our results to this decision where appropriate.

One problem resulting from the Charity Commission's Statement of Recommended Practice (SORP) for charity accounting could not be resolved. The SORP defines voluntary income as including grants from all sources, whether private or statutory, and CAF chose to reflect this decision when defining the top 500 charities in the 2007 edition of *Charity Trends*, the last in the CAF series of annual reports. Government grants are particularly important for overseas development charities, representing nearly 30 per cent of their total income (CAF 2004: 87). The figures for voluntary income from the 2007 report are therefore not comparable with those from earlier reports, which is why we do not use these data.

A total of 70 different overseas development charities are present for at least one year between 1978 and 2004 in the panel that we were able to construct. The panel also contains 726 non-development charities.

The size distribution of donations

Figure 1 shows estimates of the distribution of donation income received by charities, where donations are defined above, distinguishing between all charities in the CAF data and the development charities. (The note below the graph describes how estimates were obtained.) These are truncated versions of the distributions for all charities in the UK, the truncation coming from CAF's focus on the top 500 fundraisers. Data are pooled for five years, 1996-2000, so a charity present in the data throughout this period contributes five observations to the graph. Data are plotted on a log scale and the vertical line indicates the average level of donations required to be in the top 200, the group that was the focus in the early years of *Charity Trends*.

Figure 1 here

The graph shows clearly a tendency for overseas charities to be large compared to other charities in the top 500. As many as 70 percent of the observations for development charities are to the right of the top 200 line, rather than the 40 percent one would expect if development charities were the same size as other charities. The mean and median values for development charities are about twice those for all charities. We look later at growth rates over the period but suffice to say now that development charities are significantly larger on average throughout the period. For example, mean values of donations to development and to all charities also differed by a factor of over two in 1978-80. This pattern is consistent with economies of scale being needed to operate effectively overseas. Like other charities, the distribution for development charities shows strong positive skew. The situation is far from the equal market share assumption of theoretical models of development charities. In Section 4 we investigate whether the concentration of donation income within the sector has changed significantly over time.

3. The growth in donations of development charities

We now address four questions concerning the growth of donation income of development charities over a quarter century. First, by how much has giving to development charities grown? Second, what has been the pattern of growth? Third, has this growth been unusual when compared with that of all charities? Fourth, what has been the relationship of the change in donations to the change in household incomes?

By how much has giving for development grown?

Figure 2 shows the growth of donations to development charities in the top 200 when ranked on donations. We focus on the top 200 since this gives the longest run of available data. These charities also account for the vast bulk of donation income received by the top 500. From 1978 to 2004, the total contributed to charities in the top 200 increased in real terms from £116 million to £683 million. Average annual growth across the period was 7.4 per cent – see Table 3. This six-fold increase compares starkly with the growth in giving by the UK government in the form of ODA across the same period, also shown in the graph. ODA grew in real terms by a factor of just 1½, with all the growth coming in or after the late 1990s.

Figure 2 here

Table 3 here

Part of the growth story has been due to more development charities entering the data. The number of development charities among the top 200 rose from 14 in 1978 to a peak of 34 in 1997. Moreover, our construction of the panel excludes charities entering the data for the first time after 2001 for reasons of consistency of definition. Were we to have included the development charities from among them, total donation income of the development sector in the top 200 in 2004 would have been £83m higher and the annual growth rate over 1978-2004 would have risen to 7.5 per cent.

As an alternative, we therefore examine the amounts received by the 14 largest development charities each year in our panel in terms of donations. This allows us to examine annual changes over the period for a consistent number of charities in each year, although their identities are not necessarily constant. By 2004, the 14 largest charities were raising £625m in donations, with annual average growth over the period of 6.7 per cent, only a little less than for all development charities in the panel in the top 200.

What has been the pattern of growth?

The growth in giving to development charities was far from steady, as is also evident from Figure 2, where the early 1980s emerges as a very significant time. From 1982 to 1985 the number of development charities in the top 200 rose by 7 and their donation income increased 187 per cent. This surge in numbers and amounts has however to be seen in the context of the period as a whole.

In Figure 2, we have identified by vertical lines four distinct periods: 1978-82 (before the "surge"), 1982-85 (the "surge"), 1985-97 ("marking time"), and 1997-2004 ("renewed growth"). Table 3 gives average annual growth rates for each period. They differ markedly. A major change took place in the mid-1980s and the cause is evident. The Ethiopian famine of 1984-85 brought a huge public response. This was in part stimulated by the work of Bob Geldof, who organised the Band Aid Christmas single ('Do they know it's Christmas?') in 1984, with the proceeds going to the Band Aid Trust, and the Live Aid concerts in 1985. Oxfam had a record year in 1984, with its £111 million of donations nearly double that of the year before. In 1985 the Band

Aid Trust was the charity with the highest donations in the UK: £124 million. Oxfam also had a significantly better than average year in 1985, though its contributions were 25 per cent down from the 1984 total.

One question that arises is whether some of these changes reflect double-counting in the data. Did the Band Aid Trust give its money to other development charities? Our inspection of the Trust's accounts suggests that the majority of its income was spent directly on the charity's own relief efforts in the early years. The accounts for 1985 show only £12.1m of expenditure in grants to other unnamed relief agencies; rising to £27.7 million in 1988 (both these figures are in 2007 prices). These are not trivial amounts, but some of the grants were made directly to overseas organisations, and it seems reasonable to conclude that double counting is relatively modest. As a sensitivity check, Figure 2 shows a series that excludes donations both to Band Aid and to Comic Relief, which as we noted in Section 2 also has a part 'middleman' role. Although the figures for some individual years are affected, the removal of these two charities has little impact on the picture of growth over the period as a whole: Table 3 shows that the average annual growth rate is reduced by less than 0.2 percentage points.

Following the years of the Ethiopian famine, overseas giving fell sharply, by about a third in 1986. But donations in this year were still double the average for 1980-82. The apparent impact of the crisis was to produce an upward shift in giving to development charities – we test for this in a formal statistical model below. The rest of the period 1986-97 was one where growth was positive, but modest – just over 2 per cent. The 1997 total was below that which would have been attained if donations had grown steadily at a rate of 7.0 per cent since 1978.

From 1997, development charities again saw a sharp increase in voluntary contributions. Growth in 1997-2004 averaged 8.0 per cent per year for all development charities in the top 200. This change coincided with the arrival of the Labour government and its pledge to increase ODA, following years of stagnation. It is possible that the level of public awareness and concern was increased by the UN Millennium Development Goals. Or it could have resulted from the attention paid to issues of development, particularly in Africa, by the then Prime Minister and Chancellor of the Exchequer. Increased ODA may have had a positive effect on charitable giving if the public views a rise in ODA as a signal of greater need. However, in our econometric modelling of the data reported in Arulampalam et al.

(2009), we find no evidence of ODA having a statistically significant influence on donations to development.

Has the growth of giving for development been different from that for other sectors?

It is clear that the development sector has undergone impressive growth and some significant structural changes over the period. The question remains whether or not this was unique to the sector or whether a broader increase in all giving took place. The final line in Table 3 shows the growth in donations to all charities in the top 200.

It is clear that charitable giving as a whole has experienced a great expansion – development is far from being the only sector to experience high levels of growth over the period. Donations to all charities in the top 200 grew by an average annual rate of 6.3 per cent. This is about 0.75 percentage points below that for the development charities but if we iron out the dependence of the calculations on the start and end year values by comparing average donations in 1978-80 with those in 2002-4, the difference disappears – development charities and all charities both grew at an annual average of 6.1 per cent. The rates are also very similar if we include those charities entering the CAF data for the first time from 2002 onwards – those excluded from our panel to maintain consistency in definition. However, the table also shows that the patterns of growth across the four sub-periods have been different, and not surprisingly the "surge" in 1982-85 caused by the response to the Ethiopian famine is muted in the figure for all charities. This figure is of course influenced by the development charities and if we exclude them from the calculation, the annual growth rate in 1982-85 for all charities serving other causes averaged only 4.5 per cent. Donations to the environment and heritage, causes that survey data show to be especially favoured by people giving for development (Micklewright and Schnepf 2009) actually fell by 3.7 per cent a year, suggesting some substitution between causes may have occurred.

Figure 3 shows how the effect of the different growth across the period of donation income for development and other causes plays out in terms of the share of the total that goes to development charities. The market share of the development charities did not change monotonically. Giving to the sector rose from an average of 22.2 per cent of all donations in 1978-1980 to nearly 40 per cent in 1985 at the time of the Ethiopian famine, with the Band Aid Trust alone taking nearly 11 per cent of all

donations to the top 200, but the share then fell back over the years. As we have noted, average growth for development and for all charities was the same if we compare three-year averages at the start and end of the period; by 2002-4, the market share of the development sector was back down to 21.9 per cent.

Figure 3 here

The graph also shows the shares of all donations going to charities working for cancer causes and the elderly. These examples are chosen to illustrate that some causes do apparently see a notable change in market share over the period: we should not generalise from the experience of the development sector to suggest that there is an equilibrium in which sector shares are constant, which was just temporarily disturbed by the Ethiopian famine. Giving for the elderly trends downwards over the period, from an average of nearly 14 per cent in 1978-80 to just over 5½ per cent in 2002-4, while giving for cancer causes trends upwards from about 6½ per cent to 13½ per cent.

How have donations for development changed with household income?

The growth of donations for development over 1978-2004 was substantially larger than the average annual increase in real total household after-tax income of about 2 per cent. The rise in charitable giving, both for development and for all causes taken together, far outstripped the rise in household income. The series for development donations and household income are both shown in Figure 4. This allows the growth rates of the two variables to be compared easily since the two vertical axes are scaled appropriately, although the variables' absolute levels should not be compared.

Figure 4 here

In view of the sharp economic recession that began in 2008, an obvious period to consider in more detail is that of the previous recession, which took place in the early 1990s. Household income fell in real terms by 6 percent between 1990 and 1993. However, Figure 4 shows little evidence of giving to development charities to have also fallen, taking that period as a whole. Total donations to development

charities that were among the top 200 fundraising charities actually rose over the three years, by 7 per cent, although the graph shows that the rise was not continuous: there was a fall in 1993.

The number of charities included in this calculation changes across the three years. An alternative is to focus on donations received by exactly the same development charities across the period – those among the top 200 fundraisers in 1990. (We exclude Comic Relief from this calculation in view of its biannual fundraising cycle.) Total donations to these 21 charities also rose by 4 per cent over 1990-93. This figure includes large year to year changes e.g. donations fell by 9.4 percent in 1993. The experience of development charities was not unique in the early 1990s recession. Donations to charities serving other causes among the top 200 fundraisers rose by 4.8 percent across the three years concerned. (This figure refers to 123 charities present in the top 200 throughout the period.) The experience of the 1990s downturn is not necessarily a good guide to the impact on charitable donations of the recession that began in 2008, a recession which differs in a number of respects, including its causes, its severity of its onset, and expectations about its duration. Nevertheless, the *prima facie* evidence is that the last recession did not seriously reduce charitable giving.

This suggests that giving to development, and charitable giving in general, is not particularly responsive to changes in household income. But before any conclusion can be reached, a more detailed exploration is needed of the relationship between donations and income across the whole period. Table 4 reports estimates of a simple regression model of the following form:

$$log\ D_{it} = \alpha_i + \beta.log\ Y_t + X_{it}'\gamma + u_{it} \tag{1}$$

where D is donations, Y is household income, X are other variables for which we control, notably each charity's fundraising expenditure, i and t index charities and years respectively, α_i is a charity-specific fixed effect, and u_{it} is the error term. The α_i pick up any time invariant characteristics of charities, including those that are unobservable. Care is needed when regressing one trended variable on another given the risk of estimating spurious relationships. Appendix B reports our investigation of the time-series properties of the CAF panel. We conclude that applying standard regression methods does produce consistent parameter estimates. We restrict

estimation to charities with at least six consecutive observations as it is only these charities for which a valid test of the time-series properties can be conducted. This leads to the Band Aid Trust being dropped from the modelling, which results in the estimated impact of the famine years being smaller than is suggested by Figure 4.

Column 1 reports results obtained from an ordinary least squares regression estimated for 47 development charities present at any time in the CAF data that have an uninterrupted run of at least six observations. We include just one control variable, a dummy variable for the two years 1984-85 to pick up the immediate impact of the Ethiopian famine, and we exclude the charity fixed effects, α_i, which as a result are absorbed into the error term, u_{it}. Since donations and income are both in natural logs, the coefficient on the income variable gives an estimate of the 'elasticity' of donations with respect to income, that is the percentage change in donations following a percentage change in income. The results indicate an elasticity that is broadly unitary – over the period as a whole, a 10 per cent rise in income is associated with a rise in donations of a little more than 10 per cent – although the 95 per cent confidence interval is quite wide, from 0.49 to 1.78.

Columns 2 and 3 show how this result holds up when we enrich the model modestly. In column 2 we allow explicitly for the charity fixed-effects, α_i, and a variable measuring the log of each charity's own fundraising expenditure. The fixed-effects are easily jointly significant at the 0.1% level (F=38.51) indicating the pooled model will be subject to bias. Fundraising was found to have an important effect on donations in the analysis of CAF data for 1983-90 by Khanna et al. (1995) and Khanna and Sandler (2000). Like household income, fundraising trends upwards over time making it important to control for. Note that the models estimated by Khanna and colleagues do not include household income – their explanatory variables were all charity-specific. In separate work we develop a more sophisticated modelling approach, including other explanatory variables, and experimenting with other estimation methods (Arulampalam et al 2009), but we find an estimated long-run impact of household income similar to that presented here.

The estimated income elasticity in column 2 is very similar to that in column 1 and the precision of the estimate improves modestly. The impact of the famine years is reduced while the r-squared value leaps due to the inclusion of an important charity-specific explanatory variable. Fundraising has a reasonably well determined and powerful effect. Evaluating at the mean value of donations in the data, the

parameter estimate implies that each extra £1 of fundraising leads to £2.33 of additional donations. Fundraising rose substantially in real terms over the period, the total increasing by 8.6 per cent per year on average. The estimated elasticity of 0.36 – the value of the parameter estimate – implies that this annual growth drove about 40 per cent of the growth each year in development donations. In column 3 we experiment with a time trend which picks up any increasing generosity towards giving for development that is not associated with changes in income or fundraising. Not surprisingly, this reduces the estimated coefficient on log income but the hypothesis of a unitary elasticity still cannot be rejected. A unitary elasticity implies that income growth accounted for about a third of the growth in donations.

Table 4 here

In column 4 we estimate the model for all charities, irrespective of cause. The 95 per cent confidence interval for the elasticity of donations with respect to income is 0.73 to 1.20, suggesting that donations for causes other than development, taken together, are somewhat less responsive to changes in income than are donations for development. We tested for this explicitly by allowing the impact of income to differ for the two types of charity (not shown in Table 4). The point estimates of the income elasticities are 1.43 for development charities and 0.91 for non-development charities but we can only reject the hypothesis that the two are the same at the 10 per cent level. This weak evidence in favour of a somewhat higher elasticity for development charities is broadly speaking in line with patterns shown in survey microdata on individuals' incomes and their charitable donations to development and non-development causes, although the evidence there is similarly rather inconclusive (Micklewright and Schnepf 2009).

Finally, we attempted to identify an impact of the Ethiopian famine on giving for development that lasted beyond 1984-85. We experimented with a variety of specifications to test for this, including models in which the impact decayed over time, but we were unable to corroborate the impression of such a pattern that is given by Figure 2.

4. The growth of existing charities, new entrants and the degree of concentration

Behind the aggregate picture described in Section 3 lie movements of individual development charities. The advantage of the CAF panel is that it allows us to follow the histories of individual charities. We consider three questions concerning changes within the sector. First, how volatile have been growth rates of individual development charities? Second, how much entry to the market has there been of new charities and how important have they been in the sector's growth? Third, have large charities come increasingly to dominate the development sector? As in the previous section we make comparisons with charities serving other causes.

How variable has been growth of individual charities?

Table 5 provides information on the growth in donations for each of the development charities present in the CAF data in 1978. 10 of these 14 charities were still among the top 200, ranked by donations raised, in 2004. This figure of about 70 per cent compares with one of 60 per cent among all 200 charities in the 1978 data. Measured in this way, development charities therefore appear somewhat more durable than charities as a whole. This is consistent with their larger average size – they have further to fall in order to drop out of the rankings. But the sample size of development charities is small and not too much should be read into the comparison. The four that dropped out of the top 200 in part reflect changing times. The Co-Workers of Mother Theresa had left even before her death in 1997. War on Want ran into difficulties at the end of the 1980s and was re-launched in 1991 but has not recovered its former position. The exit of the Leprosy Mission reflects a success story: a substantial reduction in the incidence of leprosy worldwide. LEPRA, another leprosy charity, was still among the top 200 in 2004 but its annual average growth of 2.1 per cent was well below the average for the 14 charities in the table of 4.4 per cent.

Table 5 here

The variation in growth across the 14 charities is striking. The range is nearly 18 percentage points and even if we exclude the outlier maximum and minimum it is still over 8 percentage points per year. There were changes in the relative sizes of different bodies. For example, in 1978, ActionAid was a third of the size of Christian Aid; by 2004 they both received £63 million. However, the correlation of initial and final donations for the 10 charities is as high as 0.92.

Giving to individual charities has also often been volatile, as shown by the standard deviation of the annual growth rates (the note to Table 5 describes how these have been calculated). There is no systematic pattern between annual average growth and volatility, measured in this way. However, if volatility is expressed relative to average growth, using the coefficient of variation, the conclusion is that it has been highest for charities with the lowest growth. The volatility of donation income presumably hinders planning and execution of long-term projects and may reduce major donors' perception of charities' stability.

How important has been the entry of new charities?

We have noted the increase over the period in the number of development charities in the CAF data, even if we restrict attention to the top 200. Part of this increase involves the foundation of new charities. Some care is needed here. We cannot say anything about how many overseas development charities were established in a given year in the sector as a whole; all we can examine is the dates of foundation of charities that end up among the largest fundraisers. With this caveat, we find that the establishment of development charities covered by the CAF data has been very uneven over time. The Charity Commission website records the date of registration of a charity in its current form, which may be some time after foundation. We therefore obtained dates of foundation by inspecting charity websites and contacting charities if necessary. A handful of the 70 development charities present in the data at some time, including those that never make the top 200, go back to the 19th century, but nearly half were established between 1971 and 1993. We could not establish foundation dates for 12 charities. (The history of development charities is discussed in Nightingale, 1973.) The 1980s saw the establishment of 18 new charities in our panel; 16 of were founded before 1986 and eight were established in 1985 alone. Those charities founded after 1980 took an average of five years to enter the CAF data. The Band Aid Trust appeared the year it was founded while Global Care took as long as fifteen years.

How much of the growth in donation income was due to charities that already existed in 1978 and how much to new charities established subsequently? Figure 5 shows the share of total donations to development charities in the top 200 received by charities founded after 1978. The large spike in 1985 reflects the instant success of the Band Aid Trust. Leaving the mid-1980s aside, the figure is typically only about 10 per

cent (somewhat more by the end of the period), underlining the importance of long-established charities in the sector's total fundraising. The falling back of the series after the mid-1980s surge shows that any upward shift in giving that followed the Ethiopian crisis was largely due to the success of 'old' charities. New charities may have helped raise awareness and lever new funds into the sector, but they do not appear to have been the main long-term beneficiaries of any change in public sentiment. Indeed, the Band Aid Trust itself was not intended to be long-lived. The graph also shows the same calculation for all charities, irrespective of cause. The smaller spike in 1985 again reflects Band Aid. Among this much larger group of all charities there does seem evidence of a rise, with the post-1978 charity share rising from 6.4 per cent in 1986-89 to 9.0 per cent in 2001-4. However, as for development, the great bulk of donation income at the end of the period was still received by charities founded over a quarter century before.

The picture changes a little if we include charities entering the data from 2002 onwards, which we excluded from the panel due to a change in the CAF criteria for inclusion in *Charity Trends*. For example, the two largest development charities we excluded, World Emergency Relief and Islamic Relief, were both founded after 1978 – see Table 1. Were we to include all the development charities entering the data in or after 2002, the share of the post-1978 entrants would average 15 per cent in 2002-4. The conclusion about the importance of the 'old' charities would not change.

Figure 5 here

How concentrated is market share in the development sector?

How far is the raising of donations dominated by the largest charities? This question is similar to that asked by industrial economists: if a small number of firms produce most of an industry's output then we say that industry is highly concentrated. A commonly used measure of concentration is the *n*-firm concentration ratio which consists of the market share, as a percentage, of the *n* largest firms in the industry. These concepts can be applied to charities, considering the share received by the largest four charities. We examine whether or not there been increasing concentration.

In the industrial context, high concentration is generally interpreted as indicative of a market where there is a risk of collusion among the leading firms or other behaviour designed to restrict entry into the industry. In the case of charities,

growing concentration has been viewed negatively: '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.… The voluntary sector appears to be undergoing "Tescoisation" with a small minority of large charities becoming ever more dominant.' (Duncan Smith 2005).

At the same time, the normative interpretation of concentration is not necessarily the same as it is may be with supermarkets. In the case of development charities, explicit collaboration to raise donations from the general public may be welcomed, as takes place via the Disasters Emergency Committee (DEC). The DEC 'unites 13 of the UK's leading humanitarian agencies in their efforts to raise income through media appeals' (http://www.dec.org.uk). After a major international disaster, the public is encouraged to donate to the DEC which divides the income between its members according to a pre-agreed formula.

Has concentration actually been increasing? We cannot consider the full picture since the CAF data are restricted to the larger fundraising charities and may as a result exclude many of the 'community-based' charities that Duncan Smith (2005) had in mind. But we can investigate the changes in concentration that have occurred since the late 1970s among charities large enough to enter the CAF reports. Backus and Clifford (2010) consider changes over a shorter period using a dataset that covers the full population of registered UK charities.

The solid line in the top panel of Figure 6 shows four-charity concentration ratios for donations received by development charities. We limit attention to charities in the top 200 so as to analyse the longest possible period; if we were to include all charities in the top 500 then the degree of concentration would be a little lower. This should be taken into account when considering the very high level of concentration recorded: initially around 70 per cent of donations for development were received by the largest four charities. Concentration of donations has declined over time, the four-charity ratio falling to around 50 per cent. Approximately two-fifths of this 50 per cent accrues to Oxfam. These results are consistent with the notion that while donors have increased their total contributions to development charities, they have also increased the number of charities to which they give – we have noted the rise in the number of development charities in the top 200. Nevertheless, donations to the development sector remain highly concentrated with levels that are around that in the

UK pharmaceutical, telecommunication and oil and gas industries, where the top 5 businesses produce around 55 per cent of total output (Mahajan 2006, Table 6). The graph also includes two alternative measures of concentration, the Gini index and the Theil index, more commonly used to measure income inequality. Both these measures rise at the start of the period and the Theil index jumps in 1984-5 at the time of the Ethiopian famine, when unlike the four-charity concentration ratio it reflects the change within the top group. From then on both measures decline, like the concentration ratio.

Figure 6 here

How does development compare with other causes? First, the level of concentration at the end of the period for the development charities is not high by the standards of other sectors. The average four-charity concentration ratios for donations to charities in the top 200 in 2002-4 exceeded 70 percent for the elderly, animals, environment and heritage, and cancer. Among charities in the top 400, the average ratio for the ten sectors into which we group charities was 56 per cent, compared to 47 per cent for development. Second, the marked fall in concentration over time for the development charities has not been typical, although over the period 1978-2004 as a whole, the direction of change in most sectors has been the same – a reduction. The bottom panel of Figure 6 shows the experience for the two other sectors considered earlier in Figure 3, cancer and the elderly. For neither sector has the change in the four-charity concentration ratio series been monotonic. Note that the two largest cancer charities, The Cancer Research Campaign and Imperial Cancer Research Fund, merged in 2002 to form Cancer Research UK. There is only a modest rise in the series at that point reflecting the relatively small market share of the charity that changed from 5th to 4th in the ranking following the merger, thus entering the numerator of the four-charity ratio. Charities helping the elderly saw a marked rise in concentration from less than 50 per cent in the mid-1980s to around 70 per cent by the late 1990s. For all three sectors shown in Figure 6, the picture of changing concentration is little changed if we include the charities entering the CAF data from 2002 onwards that we have excluded from the panel.

5. Conclusions

In this paper we have sought to illuminate the contribution of private charitable support to financing the wider ambitions of the Millennium Development Goals. We have used a new panel dataset on charitable giving to analyse the level and structure of giving for overseas development. Over a quarter century from 1978, giving for development increased more than 6-fold in real terms. This substantial growth is not confined to development charities: giving to other charitable causes has increased by a similar amount. Giving as a whole has outstripped the rise in household income. On the other hand, our estimates of the elasticity of development giving with respect to income suggest that it is not significantly different from 1, indicating that giving would rise proportionately with income. The additional growth in development giving, above that expected on the basis of income growth, appears in part to reflect the impact of greater fundraising expenditure by charities.

The estimate that the elasticity is not significantly above 1 has both positive and negative implications for development charities. A modest income elasticity means that charitable giving is less sensitive to downturns in household income. Our findings do indeed suggest that the UK recession in the early 1990s did not have a serious impact on charitable giving. On the other hand, development charities cannot expect to grow faster than in line with rising living standards. For faster growth to be achieved, there has to be a definite shift in the willingness of the public to give.

Individual charities can of course grow faster. Development charities did indeed grow at very different rates, reflecting in part the founding of new charities (although charities founded since 1978 did not account for more than about 10-15 per cent of total donations in 2000-4). The degree of concentration has been declining: the market share of the largest four development charities has fallen from around 70 per cent to around 50 per cent. This still leaves the sector highly concentrated by industrial standards, but reflects the considerable differences between the growth rates of individual charities. This suggests that there is scope for individual charities to determine their own future. One such ingredient, although only one, is fundraising expenditure, which we found to have an important impact.

Acknowledgements

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Appendix A. Construction of a panel from the CAF data

We summarise the most prominent problems faced in constructing a panel of data on charitable donations from the CAF data and the solutions we adopted. Further details are given in Atkinson et al. (2009).

Coverage. Prior to *Charity Trends 2004*, CAF excluded many charities that were essentially single-interest bodies working for their own institutions or very narrowly-focussed beneficiary groups, for example church diocesan trusts. The change in policy in 2004, which covered accounting periods back to 2002, led to large numbers of charities newly entering the CAF files. Allowing for our rule for assignment of data to years described below, but not for the cleaning of charity names, 247 charities appear for the first time in the 2004 to 2006 reports, including 15 development charities. These charities are excluded from our panel to ensure consistency in definition over time. In some cases exclusion may not be appropriate since the new entrant may be a charity that would have qualified on the criteria used prior to 2004 and that had now become large enough to be included among the top 500 fundraisers. For example, our inspection of their websites suggests that this may be the case with the two largest development charities among the 15 that we exclude, World Emergency Relief and Islamic Relief. In data for 2004, 16 percent of all donations to development charities went to those which we exclude. The figure for all charities irrespective of cause is 24 per cent.

Cleaning of names. To follow a charity over time, we needed to harmonise its name over time in the CAF files (there were no unique numerical identifiers). A charity's name could often vary from year to year. This might be through use of different abbreviations. For example, the National Council for Voluntary Organisations was recorded sometimes as "NCVO", sometimes as "N C V O", and sometimes as "ncvo". There were genuine name changes. For example, the "National Society for Cancer Relief" became "Cancer Relief MacMillan" in 1987 and since 1996 the charity's name has been "MacMillan Cancer Relief". Charities often have main names and working names. For example, the charity with the main name "The National Autistic Society" uses two working names under which it operates, "Autism UK" and "Action for Autism". The name used in the CAF files can change between main and working names. Cleaning of names was done first with computer programs and second through manual checking.

Assignment of data to years. Charities have different accounting periods with the consequence that the 12 month period covered by the data for each charity often varies in the data files. We re-assigned data to the appropriate calendar year, applying the rule that where the charity's reporting year finishes before June 30th the observation is assigned to the previous calendar year.

Repeat observations. Where a very large charity failed to respond to CAF's request for information or where data for a year were missing for some other reason, CAF's practice was to repeat the figures given in the previous year's report. We have identified these observations and deleted the repeated values. In a small number of cases including Oxfam and Save the Children, we have obtained the missing information from the charity accounts.

Missing observations. Where data on donations are missing for a single year and we do not obtain the data from the charity's accounts, we interpolate linearly using the observations for the previous and subsequent year. Missing data arise for several reasons, including our adjustment for repeat observations, the absence of reports in 1981 and 1995, and the fact that a charity may just drop out of the rankings due to a bad year (or a good year for other charities of a similar size). Very occasionally we 'fill-in' missing observations from earlier years if we know the charity certainly existed but is not present in the dataset e.g. UNICEF in 1978-1980 when we apply the average growth rate over the three subsequent years.

Shop income. The Charity Commission's Statement of Recommended Practice (SORP) for charity accounting affected the treatment of charity shops and of government grants. Prior to 1995, most charities reported the net profit of their shops after deducting the cost of selling goods donated. The switch to reporting the gross value of these goods as a result of the SORP in that year had a dramatic upward effect on voluntary income for those charities for which this heading is important, although some charities asked CAF to continue reporting only their net profit for several years afterwards, in order to avoid an impact on their figures that they felt gave a misleading picture of the actual value of voluntary income. In the case of Oxfam, which dominates the overseas charities' total for this form of income, we adjusted the reported figures from 1995 onwards by the ratio of the net profit to the gross value in 1995-1998, taken from the charity's annual reports.

Appendix B. Tests of times-series properties of the panel data

We test for unit roots to know if our variables are trended. Consider the autoregressive series $y_t = a.y_{t-1} + e_t$ where e_t is a random error term with mean zero, constant variance, and with no serial correlation. The series has a unit root if $a = 1$. There is a growing literature on unit root tests for panel data, for example Maddala and Wu (1999). These tests tend to require a balanced panel where the number of observations over time is the same for each cross-section unit. However, Breitung and Pesaran (2005) show how a test proposed by Im, Pesaran and Shin (2003) can be generalized to unbalanced panels, such as our CAF data, where the number of observations over time varies between the cross-sectional units. The test is only valid for units with at least six observations in one interrupted run. A quarter of our development charities have five or fewer observations in one run. We estimated equation (1) using the within-groups estimator for all charities and found parameter estimates that were very similar to those obtained for charities with at least six observations in one uninterrupted run. It appears that there is not a problem of sample selection bias and we therefore restrict further analysis to the latter group for which valid tests of time series properties can be conducted. No charity has more than one run of at least six consecutive observations. We test this sample for unit roots in fundraising and in donations. The test statistic outlined in Im, Pesaran and Shin (2003) is the standardized mean of the t-statistics from Dickey-Fuller tests conducted on each charity while allowing for cross-sectional correlation. A rejection of the null hypothesis implies that 'a significant fraction' of the autoregressive processes in the panel do not contain unit roots (Breitung and Pesaran 2005). For neither donations (p-value=0.69) nor fundraising (p-value=0.98) can we reject the null hypothesis. We also conducted a standard Dickey-Fuller test for time-series data for household income, which does not vary across charities. Again, we fail to reject the null hypothesis of a unit root (p-value=0.98) even when allowing for a trend (p-value=0.62) and two lags (p-value=0.11).

The results of these tests mean that the data series cannot be seen as stationary. Given non-stationary, or trended, data, there is a risk that in estimating equation (1) by standard linear regression techniques we estimate a spurious relationship between donations and the explanatory variables. Following conventional procedure, the next step is to test whether or not the series are cointegrated. Data series are cointegrated if

series each has a unit root but a linear combination of them is stationary. We use the Dickey-Fuller test procedure developed in Kao (1999) to test for panel cointegration. This test is carried out by first obtaining the residuals from estimating equation (1). We use the within-groups estimator and the specification in column (2) of Table 4, and use only charities with at least six consecutive observations. The test procedure then requires testing for unit roots in the residuals. We do this in four different ways, by estimating models for the first differences in the residuals, Δu_{it} :

(i) $\Delta u_{it} = \rho u_{it-1} + \eta_{it}$

(ii) $\Delta u_{it} = \alpha + \rho u_{it-1} + \eta_{it}$

(iii) $\Delta u_{it} = \alpha + \rho u_{it-1} + \gamma trend_i + \eta_{it}$

(iv) $\Delta u_{it} = \alpha + \rho u_{it-1} + \Sigma \theta_j \Delta u_{it-1} + \gamma trend_i + \eta_{it}$ where *j* is the lag length determined by comparing Akaike Information Criterion, minimized in this case with four lags.

Specification (i) is the simplest model, (ii) allows for a unit root with drift, (iii) allows for a unit root with drift and deterministic time trend, and (iv) implements an augmented Dickey-Fuller test that includes lags of the differenced residuals in order to control for serial correlation. Rejection of the null hypothesis $\rho = 0$ implies that (a) there is no unit root in the residuals and (b) the series are cointegrated. In each case the data reject the null hypothesis. Results from the Dickey-Fuller tests are reported in Table B.1.

Table B.1: Results from tests for cointegration for development charities (after Kao 1999)

	(i) Unit Root	(ii) ...with drift	(iii) ...and a trend	(iv) Augmented D-F
L.residual (ρ)	-0.178***	-0.177***	-0.177***	-0.087***
	(0.034)	(0.034)	(0.034)	(0.031)
LD.residual				-0.333***
				(0.083)
L2D.residual				-0.183**
				(0.084)
L3D.residual				-0.146*
				(0.084)
L4D.residual				0.125
				(0.082)
trend			-0.001	0.001
			(0.002)	(0.003)
Constant		0.022	0.044	0.007
		(0.016)	(0.038)	(0.053)
Observations	657	657	657	455
R-squared	0.097	0.097	0.097	0.190

The conclusion that our data series are cointegrated means that the estimation of equation (1) by regression techniques produces consistent parameter estimates, despite the unit roots found for each individual series. However, inference cannot be undertaken with the standard errors produced by a packaged regression procedure. We therefore bootstrap the standard errors following the procedures for cointegrated panels discussed in Li and Maddala (1997) and Kapetanios (2008). The cointegration also implies that modeling with current period values is appropriate.

We followed the same procedure as above for non-development charities. For 14 charities there is more than one run of data with six consecutive observations and we take the longest run in each case. Again, we conclude that panel unit roots are present for both donations (p-value=0.62) and fundraising (p-value=0.99) but that the series are cointegrated. Table B.2 presents the results from the Kao tests carried out for non-development charities, based on the specification in column (4) of Table 4.

Table B.2: Results from tests for cointegration for non-development charities (after Kao 1999)

	(i) Unit Root	(ii) ...with drift	(iii) ...and a trend	(iv) Augmented D-F
L.residual (ρ)	-0.125***	-0.125***	-0.124***	-0.079***
	(0.009)	(0.009)	(0.009)	(0.010)
LD.residual				-0.235***
				(0.029)
L2D.residual				-0.152***
				(0.027)
L3D.residual				-0.092***
				(0.024)
L4D.residual				0.004
				(0.020)
trend			0.002***	0.004***
			(0.001)	(0.001)
Constant		0.000	-0.034***	-0.060***
		(0.005)	(0.012)	(0.016)
Observations	5,816	5,816	5,816	4,103
R-squared	0.064	0.064	0.065	0.116

As we are interested in long-run relationships between the variables, no further steps need to be taken with respect to their time series properties. Were we to wish to estimate short-run dynamics, the use of an error correction model would be the appropriate response. However, we do not need to estimate an error correction model if we are interested only in the long-run relationships.

Table 1. Development charities raising more than £10m in 'voluntary income', *Charity Trends 2006*

Charity	In Top 200 in 1978	Year Founded
Oxfam	Yes	1942
Save the Children	Yes	1919
The Red Cross	Yes	1863
Christian Aid	Yes	1964
ActionAid	[*]No	1972
Tearfund	No	1968
World Vision UK	No	1950
CAFOD	No	1962
World Emergency Relief	No	1995
Sight Savers	Yes	1950
Plan International	No	1937
UNICEF	[*]No	1956
Islamic Relief	No	1984
Comic Relief	No	1985
Wateraid	No	1981
Médecins Sans Frontières	No	1971

Source: *Charity Trends 2006*

Note: These charities are in the 'international' and 'religious international' categories defined by CAF. The asterisk indicates charities missing from the CAF report for 1978 but which we treat as in the top 200 in that year on the basis of our estimate of their level of donations. The charities are ranked by the amount of voluntary income collected.

Table 2. Breakdown of voluntary income in *Charity Trends 2003*

| | Development | | All causes | |
	£s (m)	%	£s (m)	%
Donations	327	56.1	2,026	52.0
Legacies	68	11.6	1,059	27.2
Donated goods	78	13.4	370	9.5
Fundraising	108	18.5	397	10.2
National Lottery	2	0.4	48	1.2
Total	583	100.0	3,899	100.0

Source: *Charity Trends 2003*.

Table 3. Average annual growth rates in donations

	1978-1982	1982-1985	1985-1997	1997-2004	1978-2004
Donations to development charities in the top 200	7.4	42.2	-0.9	8.0	7.0
Donations to development charities in the top 200, excluding the Band Aid Trust and Comic Relief	7.4	27.6	1.8	7.6	6.9
Donations to all charities in the top 200	4.5	14.5	4.9	6.3	6.3

Notes: 'Donations' are defined as total voluntary income less legacies and hence include donated goods to charity shops, fundraising and grants from the National Lottery (see Table 2). Donations are in 2007 prices and the growth rates are of these constant price values. The growth rate, g, over a period of T years is calculated using the ratio, R, of the end year figure to that of the beginning year and the formula $R = (1+g)^{T}$.

Table 4. Parameter estimates of a statistical model of log donations

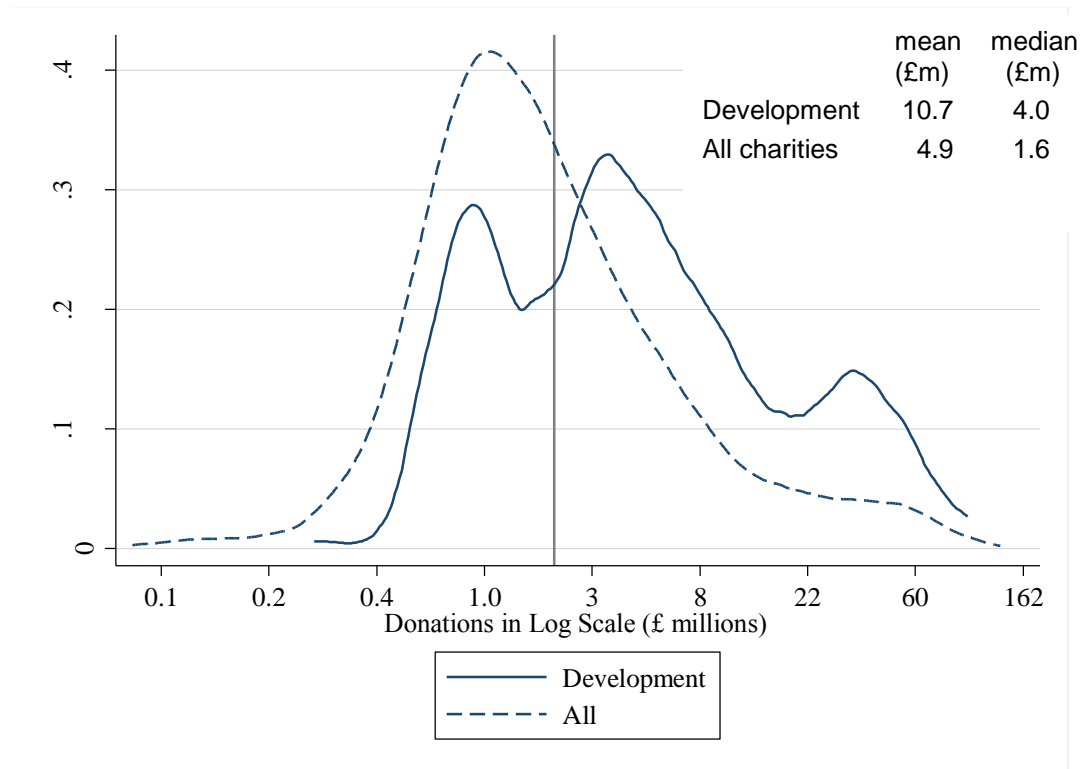|	Development charities			All charities
	1.	2.	3.	4.
Household income (log)	1.135***	1.250***	0.842***	0.965***
	(0.324)	(0.216)	(0.271)	(0.118)
1984/1985 (dummy)	0.498**	0.373***	0.349***	0.097***
	(0.238)	(0.118)	(0.117)	(0.025)
Charity's fundraising expenditure (log)		0.366***	0.344***	0.273***
		(0.073)	(0.073)	(0.022)
Time trend			0.012	
			(0.008)	
Constant	-6.374	-10.250***	-4.912	-6.604***
	(4.265)	(2.814)	(3.474)	(1.509)
Charity fixed effects	No	Yes	Yes	Yes
r-squared	0.016	0.507	0.509	0.375
Observations	713	713	713	7,244
Charities	47	47	47	509

Notes: Only charities with at least 6 consecutive observations in one run are used in estimation. We include only the longest run of observations for a charity if there is more than one such run, which is the case for 14 non-development charities but for no development charities. Charities with missing data for fundraising are excluded. The time trend included in column 3 is equal to (year-1978), hence taking the value 1 in 1979. Estimates of standard errors are reported in brackets. Standard errors are estimated by bootstrapping (we use 200 re-samples). ***, **, and * signify significance at the 1%, 5% and 10% levels respectively.

Table 5. Development charities in the top 200 in 1978, growth rates

	Donations (£m)		Average annual growth rate	Standard deviation of annual growth
	1978	2004		
UNICEF*	0.8	26.3	14.4	58.3
ActionAid*	6.9	63.2	8.9	10.8
Sight Savers	3.9	27.6	7.8	15.1
VSO	12.4	66.7	6.7	25.0
Red Cross	9.1	47.8	6.6	19.8
Tearfund	1.0	4.7	6.2	23.7
Save the Children	30.5	133.9	5.8	25.1
Oxfam	19.6	70.6	5.0	45.9
War on Want	19.9	63.4	4.6	22.6
Christian Aid	0.6	(2000)	3.1	125.8
LEPRA	2.3	4.4	2.6	28.5
Leprosy Mission	7.5	(2001)	1.3	11.6
Sudan United Mission	1.1	(1984)	0.2	9.3
Co-Workers of Mother Teresa	1.0	(1993)	-3.2	22.3

Notes: Donations defined as in Table 3. The asterisk indicates charities missing from the CAF report for 1978 but which we treat as in the top 200 in that year on the basis of our estimate of their level of donations. Years in parentheses indicate the year that a charity last appeared in the CAF rankings. Donations are in 2007 prices. Average annual growth rates are calculated as in Table 3. The standard deviations are calculated using the means of the year-to-year growth for each charity and not the annual average growth rate shown in the table, which is calculated as described in the note to Table 3.

Figure 1. Distribution of donations to overseas development charities and to all charities, 1996-2000 (log scale)
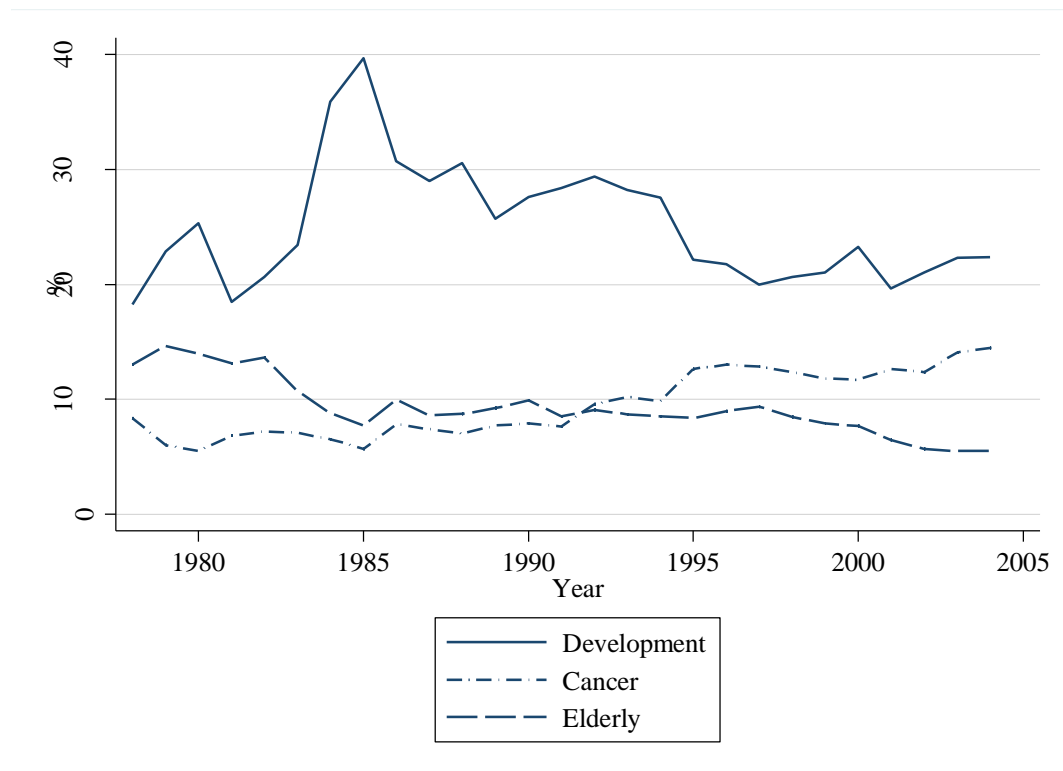

Notes: Overseas development charities include 'international' and 'religious international' charities from the CAF classifications. The unit of analysis is the charity-year. Donations are in 2007 prices. The vertical line indicates the average level of donation required to be in the top 200, about £2.1 million. 40% of all charities and 70% of development charities are in the top 200. Estimates of the distributions were obtained using the Epanechnikov kernel density estimator with the Stata computer package.

Figure 2. Total donations to development charities among the top 200 fundraisers and Official Development Assistance
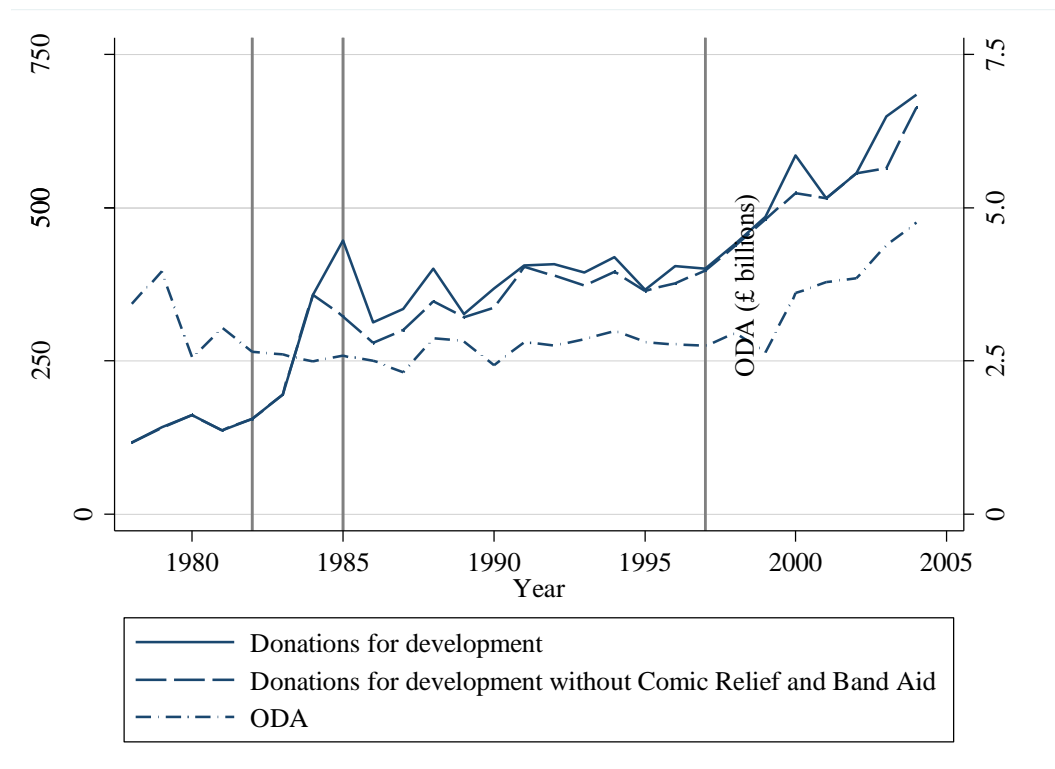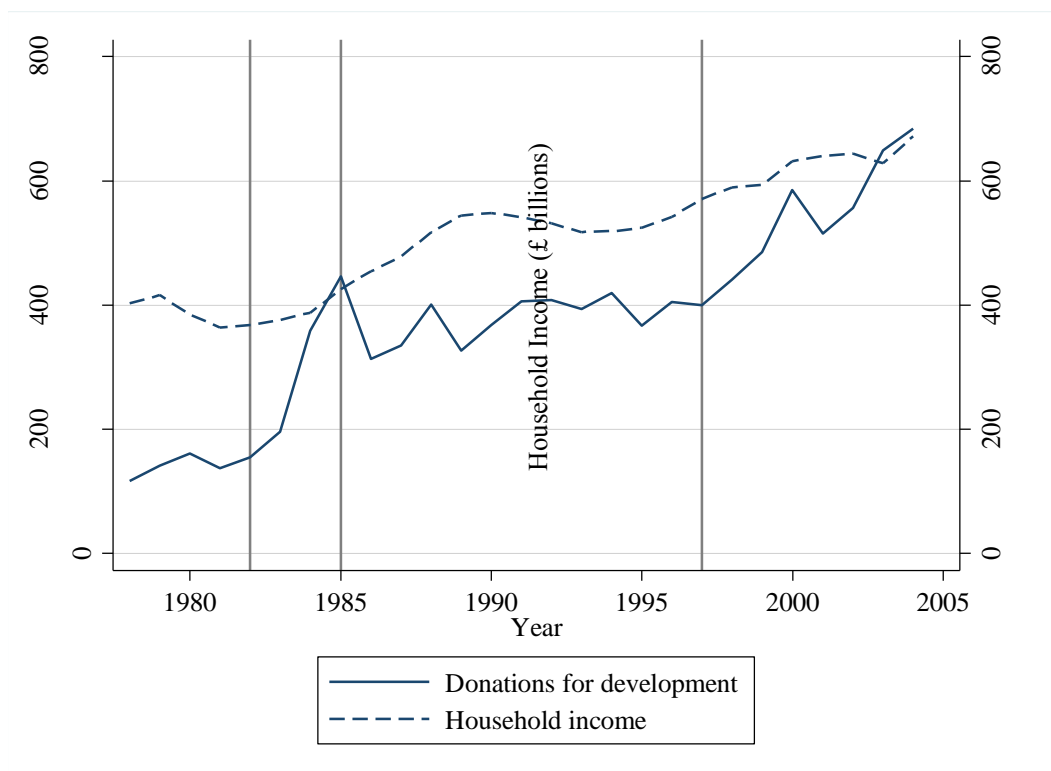

Notes: Donations defined as in Table 3. ODA figures are from Department for International Development (2007, Table 7). Both donations and ODA are put into 2007 prices using the Retail Prices Index (all items) available from http://www.statistics.gov.uk/rpi/.

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Figure 3. Percentage of donations to all charities in the top 200 that goes to overseas development, cancer and the elderly

Notes: Donations are as defined in Table 3.

Figure 4. Donations to development charities in the top 200 and total household income (at constant prices)

Notes: Donations as defined in Table 3. Household income is total after-tax income of households, and is constructed from the national accounts as described in Atkinson (2007, Appendix 4C); the series up to 1998 is as in this source; the series from 1999 is based on a new set of calculations on the same basis, adding the missing National Insurance and occupational pensions and converting the Blue Book figures to a tax year basis; the 1999 and 2000 figures also reflect revisions to the Blue Book series. Both donations and household income are in 2007 prices (see Figure 2 notes).

Figure 5. Share of donations to charities in the top 200 received by charities founded after 1978
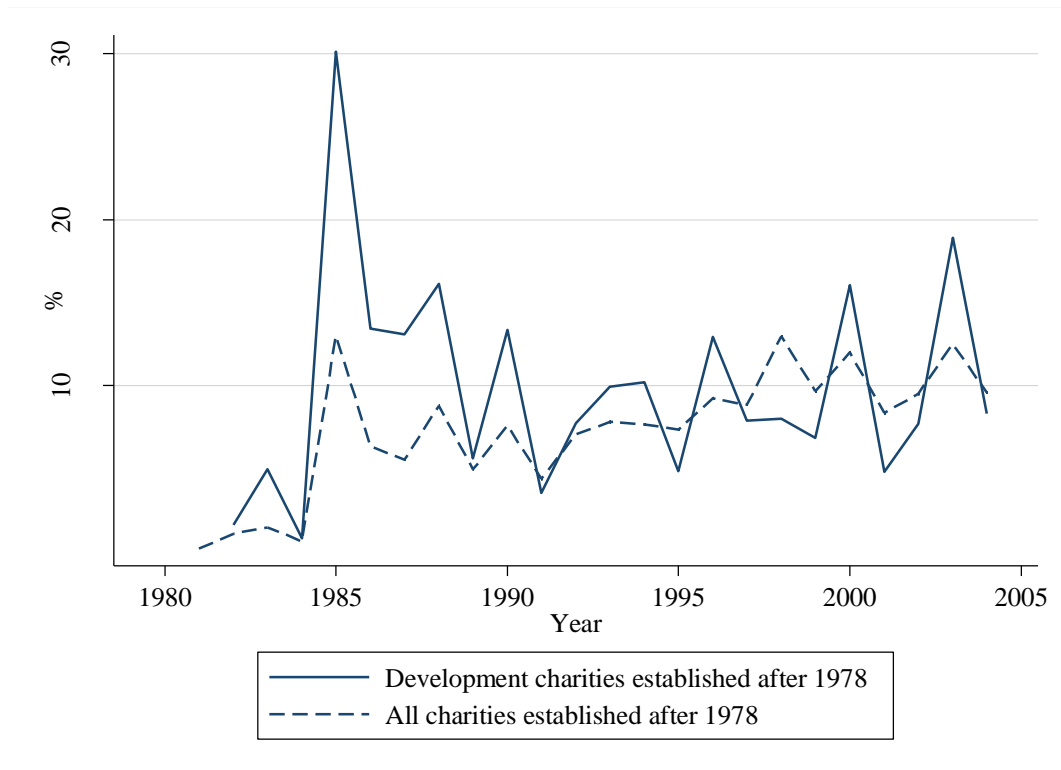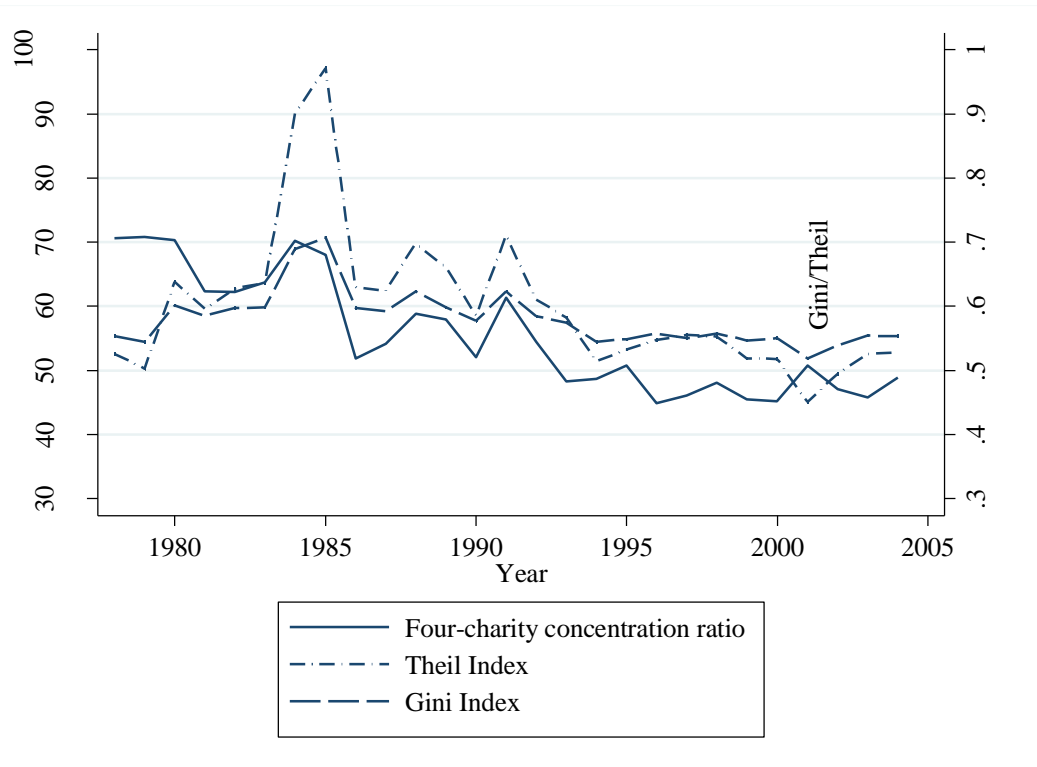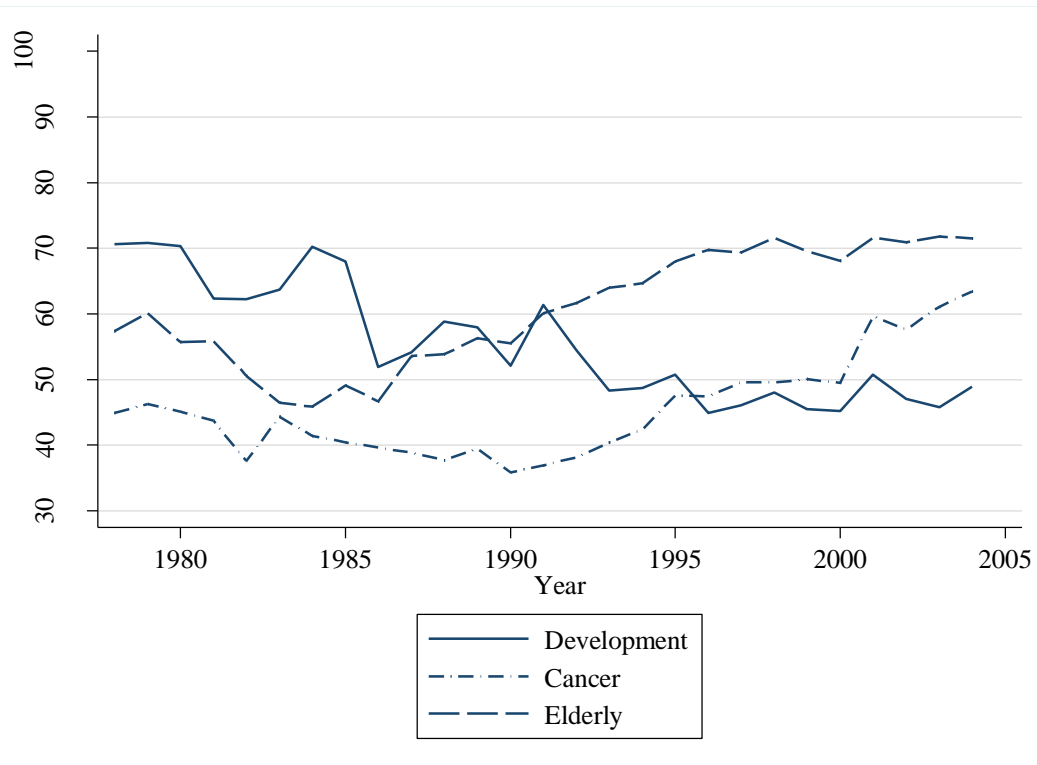
Figure 6. Concentration of donations for charities in the top 200

a) Development charities: different indices

b) Development, Cancer and Elderly: four-charity concentration ratio

Notes: Donations defined as in Table 3. The four-charity concentration ratio shows the per cent share of donations that are received by the four charities with the most donations in the sector concerned in each year. Donations defined as in Table 3.