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Charitable Bequests And Wealth At Death In Great Britain

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Charitable bequests and wealth at death

in Great Britain

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Abstract

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Key words: charitable donations, bequests, wealth at death, NGOs

JEL codes: D12, D31, D64, L31

1. Introduction

Giving to charity at death is an age-old phenomenon but its study poses serious questions – both conceptual and empirical – for social scientists. How should we model theoretically a decision that by definition is not repeated and that is often taken long in advance? Decisions to leave legacies are very different from those concerning everyday consumption. For the individual, bequeathing to charity is one form of concrete expression of philanthropy, and part of the "unique form of communication between the dead and the living" that takes place through a will (Finch et al 1996: 1). The nature of the act means that it is hard to obtain empirical information about individual bequests. In the UK, bequests represent a major source of income for charities. Among the top 500 fundraising charities, legacies make up about a quarter of total donated income, amounting to about £1bn per year (CAF 2004: 22). But, despite the quantitative importance of charitable bequests, surprisingly little is known in the UK about this form of transfer of wealth at death. Aggregate data from charity accounts show which causes benefit most from legacies. For example, cancer charities and animal charities rely heavily on charitable bequests, while charities devoted to overseas development do not (CAF 2004). And the percentage of deaths that result in a charitable bequest has been estimated – about 5 percent (Radcliffle 2002). But the existing literature contains very little analysis of the characteristics of individual bequests in the UK. We know little about who makes charitable bequests or about which people give to which causes.

The aim of this paper is to consider how best to model the decision to make a charitable bequest and to examine the evidence for Great Britain provided by new data on individual estates. The data cover the entire population of estates that passed through probate and relate to 12 months from August 2007 to July 2008 – about a quarter of a million estates. The information used in this paper draws on the grants of representation and the accompanying wills. A grant of representation (referred to as "probate") is required where the estate is subject to Inheritance Tax or where it is necessary to establish the right to transfer any part of the estate. A grant of representation is not required if all assets were held jointly with another person (e.g. a spouse) and the law permits the transfer of certain assets, such as a bank or building society account up to a limited value. Our data cover approximately half of all deaths in the relevant period; those omitted are typically small estates.

In Section 2, we review the existing literature in the UK and the much larger volume of studies of the impact of estate taxation in the United States. The pioneering studies of wills in Britain in 1925 by Wedgwood (1929) and of estates at different dates in Northern Ireland by Dawson et al (2003) have helped shape our approach. The US literature provides valuable evidence about the variation of charitable bequests by the size of estate. At the same time, the literature does not bring out the fact that the studies make use of data relating to different stages of the bequest process. In Section 3, on modelling charitable bequests, we highlight the multi-stage nature of this process. Between an individual's expressed intention to leave money to a charity and the receipt of a bequest by that charity lie several steps, each of which may mean that the intention is not translated into a transfer of wealth. The person has first to make a will, and a surprising number of people die intestate (without making a will). When making the will, the person has to include the charitable bequest. This is typically a decision about an event in the distant future. Much may happen in the meantime, and for this reason the testator may make the bequest conditional, for example on a spouse predeceasing.

In Section 4 we describe the new data used in this paper. We use the data to examine three main aspects of charitable bequeathing. The first of these is, as our title suggests, the relation with wealth at death. In Section 5, we analyse how the probability of making a charitable bequest in Great Britain varies with wealth at death and personal characteristics, distinguishing the different stages of decision-making. How does the probability of making a will rise with wealth? Does the proportion of testators including a charitable bequest rise with wealth? And do they become more likely to make absolute, rather than conditional, bequests to charity? The use of such a large dataset allows us to estimate with considerable precision how charitable bequests vary with wealth at death, not only at the relatively modest asset levels possessed by many people when they die but also for much higher estate values: our dataset contains some 15,000 individuals with estates valued at probate at over £0.5m. We also comment on whether the exemption from inheritance tax accorded to charitable bequests appears to have any obvious impact on behaviour, the subject which has been the focus of the US literature (although absence of relevant information in our data means that we cannot go into this in any detail).

The second aspect on which we focus is the existence of geographical differences in bequest behaviour. In US research, considerable attention has been paid

to the geographical dimension. It has been suggested (see, for example, Wolpert 1988) that there may be differences in social values and levels of civic engagement that lead to differences in generosity. These may be broad regional differences. Evidence from the UK Giving Survey suggests, for example, that the proportion giving money to charity while alive is higher in Scotland than in London.[1] The differences may be much more local, reflecting "contextual features unique to the individual places and their historical development" (Wolpert 1988: 665). There may be peer group influences. In Section 6, we examine how the bequest propensity differs by region and show how it varies with living standards in the local area of the deceased person, even when we control for individual wealth.

In Section 7 we turn to bequeathing by cause, the third subject considered in this paper. This subject has not seen much attention in the existing literature on charitable giving, whether inter-vivos or at death (see, for example, the survey in Andreoni 2006).[2] Yet for individual charities the breakdown by cause is essential. Do people leave their money to the same charities that they gave to when alive? Or do they favour different causes? Our data allow us to examine the composition of bequests by cause and to investigate the way in which the causes vary with wealth. Do the causes favoured by the wealthy differ from those favoured by people with only modest estates?

The main part of the paper is concerned with the act of bequeathing, without reference to the amount. The variable is either 0 or 1. We focus on this because the amounts bequeathed are often unobserved. The only firm information that we can derive from the estate data is that relating to unconditional bequests of money. Where the bequest is conditional, we do not know whether the conditions are met; where the bequest is in the form of financial assets or property or is a residuary share, we are not able to calculate the cash value. At the same time, the data do cast some light on the amounts given. Are the amounts so modest that in most cases charitable bequests can be seen as a "mere token or a 'tip'" by the individual making the bequest (Dawson et al 2003: 168)? This is considered in the Appendix.

Section 8 summarises our findings.

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[1] This is true in both the 2004/05 and the 2005/06 surveys of individual charitable giving (NCVO/CAF 2005: 16 and 2006: 15). Unfortunately, these surveys do not cover Northern Ireland.
[2] Although giving by cause is discussed extensively by Dawson et al (2003).

2. The existing literature on charitable bequests

The British data used in this paper have a famous historical antecedent. In his LSE thesis, Josiah Wedgwood (1929) documented charitable bequests using information on 118 wills published in *The Times* newspaper.[3] The sample size is small and the concentration on those estates selected to be reported in *The Times* raises obvious questions concerning the representativeness of the data, even among the rich in the 1920s. But the idea of using these publicly available data was innovative and the findings served to correct popular misconceptions. As he wrote, "readers of the newspapers are often impressed by the daily lists of substantial sums bequeathed to the churches, to philanthropic and educational institutions … If, however, one looks more closely at these lists, it is seen that such bequests … usually form only a small proportion of the total estate" (1929: 104).

More recently, Dawson et al (2003) assembled and then analysed data on over 10,000 individual estates in Northern Ireland. They examined all wills formally proved and admitted to probate in Northern Ireland in 1937, 1967 and 1997. Their data do not therefore cover those dying intestate, whom they estimate to be 77 per cent of the recorded deaths in Northern Ireland in 1997. The wills were studied in terms of gender, age, marital status, number of children, occupation, socio-economic class, and religion. Their results show that the proportion of wills containing a charitable bequest was virtually unchanged over time: 18 per cent in 1937, and 19 per cent in 1967 and 1997 (2003: 45). Applied to the 23 per cent of deaths covered by a will, this yields an overall percentage of 4½, or close to the figure cited above. Of the charitable bequests, 20 per cent in 1997 were subject to conditions. This percentage had increased from 9 per cent in 1937. Dawson et al found that women were more likely to make charitable bequests than men, and that the married are much less likely to do so than the single and widowed.[4] We have drawn heavily on the Dawson et al study (2003), but they did not examine the relationship between bequeathing to

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[3] Finch et al (1996) used a sample of 800 estates drawn across the four decades to 1989, and underlined the little use that social scientists in the UK have made of wills as a data source (1996: 7). But they focused on transfers of wealth within the family and did not study charitable legacies, beyond noting that 9 percent of wills contained a bequest to a 'charity or other organisation' (p.71).

[4] The authors warn that their estimates may be biased downwards for single people since marital status could not be deduced from the will in about 40 percent of cases (1997 data), and in general these were likely to be the unmarried or the widowed (p.55).

charity and the level of wealth at death, about which almost nothing is known in Britain. Moreover, their study related to Northern Ireland. As the authors recognise, charitable bequests in Northern Ireland may be higher on account of the significance attached to religion, or may be lower on account of the high level of social deprivation.

For the UK as a whole, HM Revenue and Customs carried out a special analysis of 1,000 cases where a grant of representation had been issued relating to deaths in the financial year 2000/1, examining the wills to identify legacies to charities and the inheritance tax returns for other key details, including marital status (Aldous 2005).[5] Of these 89 were intestate, leaving a sample of 911 estates of which 16 per cent contained a charitable bequest. Aldous concluded that marital status is 'the most important determining factor in the proportion leaving legacies to charity' (2005, para 5.2), with married persons less likely to bequeath. He notes that marital status is strongly correlated with age and gender. Men are far more likely to be married when they die. He concludes that the evidence for age as a determining factor is not persuasive. Aldous's work considered estate size only briefly, grouping estate values into four categories: the proportion leaving a charitable legacy was 14 per cent below £¼ million, 27 per cent between £¼ and £½ million, 25 per cent between £½ and £1 million, and 38 per cent above £1 million (Aldous 2005: 10).[6]

The US literature

In the US there is a sizeable literature on individuals' bequest behaviour, focusing in particular on the impact of estate taxes (e.g. Harriss 1949, Boskin 1976, and Joulfaian 2000). Much of this research has used data from special investigations of the estate and gift tax returns carried out by the Internal Revenue Service (IRS).[7] Interest has focused particularly on the effect of estate tax exemption, but authors have also studied other correlates of charitable bequests. The US evidence underlines the diversity of behaviour with respect to charitable bequests. Shoup (1966, Appendix

[5] This study also forms the basis for inheritance tax statistics Table 12.9 currently on the HMRC website ('Distribution of the value of bequests by sex and marital status of deceased and relationship to beneficiary').

[6] The study over-sampled the wealthy in order to increase the number of large estates included in the analysis (for example, 211 of the 911 estates were valued at over £1m). Figures for the whole sample, such as the 16 per cent of estates with a charitable bequest, are weighted calculations that take account of this sample design. Aldous is careful to point out that the small size of the sample results in wide confidence intervals.

[7] Such as those for 1957 and 1959 (see Shoup, 1966, Appendix A).

G) gives examples of individual cases of large estates at the end of the 1950s containing virtually no charitable bequests ($50,000 out of an estate of $31 million) or, in the other direction, leaving charitable bequests large enough (over $10 million) that no estate tax was payable on an estate of $22 million. But across the majority of estates in the IRS data – typically about 80 percent – there is no variation since they contain no charitable bequests at all.

Some of the main features of the US studies are summarised in Table 1 (this is not intended to be comprehensive). All studies include as explanatory variables the size of the estate (before charitable bequests) and a measure of the 'price' of a bequest to charity relative to a bequest to heirs, allowing for the tax deductibility. With the present structure of inheritance tax in the UK, this price is either 1.0 or 0.6 (where above the threshold) but, as we explain below, there are serious obstacles to the identification of the threshold at which the price changes for the individuals in our data (the threshold depends on unobserved variables). For this reason the impact of tax deductibility is not our focus and in describing the US literature we concentrate on other aspects of the data and models.

Table 1 near here

The most obvious feature is that use of estate tax returns places a major restriction on the analysis – to estates large enough for a return to be submitted. A threshold of $60,000 applied in the 1957 and 1959 IRS samples used by Shoup and by Boskin (1976), the paper on which many later studies have built. This meant that the data covered only about 7 percent of all deaths. Subsequent rises in the real value of the threshold have resulted in the IRS samples relating to an even smaller tail of the distribution. The 1992 data used by Joulfaian (2000) covered only about 3 percent of all decedents. In 2005 when the threshold was $1.5m, 45,000 estate tax returns were filed (Raub 2007: Figure C), representing under 2 percent of deaths that year. (The threshold rose to $3.5m in 2009 before estate tax is abolished for 2010 – and then re-instituted in 2011 with a threshold of $1.0m.) The one study in Table 1 that is based on probate records rather than tax returns was also restricted to the wealthy (Barthold and Plotnick 1984). The US literature is therefore based on a very particular set of estates.

Authors have differed in their reactions to this restriction. Boskin argued that the truncation of the data was a problem that was 'probably minor' (1976: 35) since bequests were 'quite small and infrequent' at lower estate values just above the threshold for filing and that 'the charitable bequests thus ignored [due to the truncation] are unlikely to be large relative to the total included.'[8] On the other hand, Joulfaian (2001) noted that the threshold implied that 'we are only able to study the behaviour of the rich'.

What do the US studies tell us about the variation of charitable bequeathing with the size of the estate? Table 1 reports summaries of authors' estimates of the elasticity of charitable bequests with respect to wealth at death. An elasticity of around 0.5, found, for example, in some of the results of Boskin (1976) and of Barthold and Plotnick (1984), indicates that the size of charitable bequests rises as the square root of estate, and thus represents a smaller proportion as wealth rises. However, other studies have found different values. Several authors have noted large differences in estimated elasticities depending on the model used. In some cases, the elasticity is greater than 1, implying that charitable bequests represent a larger proportion as wealth rises. Recent commentary from the IRS on the pattern of charitable bequests in estate tax returns for 2004 decedents, based on a simple cross-tabulation, reflects this pattern, the share rising with wealth:

> 'larger estates … gave away a larger portion of their gross estates than their smaller counterparts, on average. Bequests from estates with less than $2.0 million in gross estate averaged only 3.8 percent of total gross estate [of all decedents], but this percentage increased steadily with estate size. Estates with $20 million or more in gross estate left an average of 20.1 percent of gross estate to qualifying charities.' (Raub 2008: 126).

In part this reflected a rising propensity to bequeath, from 17 percent for estates of less than $2 million to 44 percent for estates with $20 million or more. It is on the propensity to bequeath that we focus particularly in this paper.

Summary

The studies described above suggest a number of the variables that need to be considered when analyzing our data set. And they underline that most estates,

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[8] We have not been able to find US data that confirms or refutes this view. Our reading of the total charitable bequests reported each year in *USA Giving* for example is that these relate only to those bequests from estates where a return for estate tax was filed.

irrespective of the source of data, do not contain charitable bequests – we are likely to have many zeros in our data. Zeroes may arise for several reasons. People may die intestate; if they draw up a will, they may make no charitable bequest; if they make a bequest it may be conditional. This affects the conclusions that can be drawn from different forms of empirical evidence. Evidence from wills cannot tell us whether the charitable bequest materialized; evidence from estate/inheritance tax data cannot tell us everything about the original intentions of the testators.

3. Modelling the bequest decision

The US literature has typically modeled bequest behaviour as an extension of standard consumer choice. For instance, Boskin (1976) specified utility as a function of consumption C, transfers to relatives X_L, and charitable donations D during life, together with transfers to relatives X_D and charitable bequests B at death.

$$U (C, X_L, D, X_D, B) \tag{1}$$

Utility is then maximized subject to a budget constraint relating expenditures to lifetime wealth, which is equal to the value of initial assets and work income (treated as exogenous). Such a specification is commonly used in conjunction with specific assumptions about the form of the utility function.[9]

This approach is valuable for highlighting three features of the bequest decision. First, it assumes that testators have complete freedom to dispose of their wealth at death. In this sense, it is a model of Anglo-Saxon testamentary freedom. We should however note that, in the UK, family provision legislation can impede this ex-post – threatening charitable bequests if the deceased is seen to have unreasonably failed to make sufficient provision for his or her family (Hannah and McGregor-Lowndes 2008). The second – and related – feature is that charitable bequests

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[9] Among the specifications derived from consumer theory are the demand for charitable giving using a Deaton-Muellbauer expenditure share equation:

$$p B / W = \alpha + \beta.X + \gamma \log_e p + \delta \log_e W + \varepsilon$$

adopted by Bakija, Gale and Slemrod (2003), where p is the price of bequeathing to charities relative to that for bequeathing to heirs and W is disposable wealth at death.

compete at death with the claims of the deceased person's heirs, who may include a surviving spouse.

The third feature emphasised by the formulation (1) is that giving to charity is a lifetime process and charitable bequests cannot be seen independently of giving while alive. This has been formalized by Watson (1984) who formulated the problem as maximising, over a known lifetime T, the following expression

$$\int_0^T e^{-\rho t} U(C, D)dt + e^{-\rho T} \varphi[(1-\tau)(A(T)-B(T)), B(T)] \tag{2}$$

The first term gives the discounted (at rate ρ) utility from consumption, C, and charitable donations, D, over the lifetime T; the second term gives the utility produced by the estate (in anticipation) where A(T)-B(T) of assets held at death, A, is given to heirs and taxed at rate τ, and B(T) passes untaxed to charity.[10] This formulation may be questioned for its separation of the utility from giving at death from that derived from lifetime.[11] The former is assumed independent of the latter, but that may not be the case. There may be a positive interaction. Lord Nuffield presumably derived utility from leaving his residual estate to Nuffield College that would not have been possible if he had not founded the college some quarter of a century earlier. On the other hand, they may be substitutes: with those who have been generous donors to charity during their lifetimes not leaving charitable bequests.

As the US authors have stressed, empirical implementation of this formulation requires a substantial amount of information. Boskin comments that 'an ideal body of data would provide information sufficient to accurately measure six variables: charitable bequests, [lifetime] wealth, and four prices' (p.34), treating the price of lifetime consumption as the numeraire. He goes on to comment 'no body of data exists which provides such information'. He could also have gone on to say that the information was also not available to the testator when making the decisions. People seeking to maximize lifetime utility have to form a view about the future tax treatment

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[10] Modern macro-economists, who model consumption in terms of dynasties maximising utility over all future generations, would have only the first term in (2), with T tending to infinity. Death has no significance in this case. In (2), the expected future circumstances of the heirs will influence the utility produced by the estate left to them, but their consumption is not regarded simply as an extension of that of the donor. An intermediate case is where the first argument in φ depends on the expected future income of children; an aspect that has been explored empirically by Wilhelm (1996).
[11] Note also that equation (2) corresponds to the 'warm-glow' hypothesis, according to which people derive personal benefit from the act of giving. The donor is assumed to be completely unconcerned with the use made of the gift and with the effectiveness of charitable activity.

of legacies and gifts, about the future needs (and indeed survival) of their heirs, and the needs of the charities, to say nothing about the likely evolution of their wealth, possibly over a considerable period. Of course, people can re-make their wills, but in practice wills are not kept up to date. Dawson et al (2003: 52) found that only 1 in 9 wills in 1997 in Northern Ireland had been made within a year of death. Where wills are made some time before death, there is uncertainty about future asset prices, such as the behaviour of the stock market and of house prices. It is not only asset prices, but also the liquidity of the assets that will concern the testator, and, as recent events have demonstrated, this may be difficult to forecast. On the spending side, ill-health may lead to unplanned consumption in the form of medical or nursing fees. It is not therefore surprising that many bequest decisions are conditional. As we see below, a common feature of UK estates are bequests where the charity receives the legacy only if certain conditions apply, such as the spouse having predeceased the testator. Another way in which the individual may deal with uncertainty is to bequeath a residual part of the estate rather than a fixed sum.

Decisions about charitable bequests, and indeed about all bequests, are different from those about repeated consumer purchases based on contemporary information. In our view, this suggests that we cannot simply appeal to the maximization of a (lifetime) utility function; rather we need to adopt a more flexible approach. In particular, we need to model the decision-making process as much as the choices themselves.

This is particularly the case when we take into account the prominence of estates with no charitable bequests at all, which we have already drawn attention to. In the US literature, Boskin (1976) and later authors using microdata have dealt with the statistical problem that this poses by employing a Tobit model. This model has the attraction of being straightforward to fit to the data but the disadvantage of assuming that the decision over whether to leave any charitable bequest at all is determined in the same way as differences in positive amounts of money bequeathed. Observed amounts are assumed simply to be censored at zero. But some individuals may never leave anything to charity, no matter how low the price or how high their wealth. They do not support charities. Or it may be that people are potential donors but the decision to bequeath is affected by wealth, price and other explanatory variables in a different way from the determination of positive amounts bequeathed. What is more, the data used in the US studies is a mix of charitable bequests that were absolute and bequests

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that were conditional *and* the conditions were met. Conversely, a zero bequest may indicate either that no bequest was intended or that a conditional bequest was made but the conditions not satisfied or that the individual was intestate.

A three-stage approach

Drawing on the earlier literature, we decided to adopt here a three-stage approach, considering three either/or decisions as set out in Figure 1. (The sample sizes shown in the diagram refer to the data used here, and are discussed further below.)

Figure 1 near here

The first stage concerns the decision to make a will. To make a charitable bequest, a person has to make a will.[12] One reason for expecting zero charitable bequests to be determined by a different process is that people can die intestate, having made no will. For some, this will be a matter of choice: the individual is content with the law of succession that applies to intestate estates (which in the US varies from state to state), or at least with her or her own perceptions of the law. Here an intestate estate is no different from the case where a will is made and no money is left to charity. But death intestate represents a 'surprise' for other decedents who intended to leave a charitable bequest – the zeros here hide unrealised charitable intent. In practice intestacy may be rare in the wealthy estates covered by the IRS data in the US but can be expected to be more common in data like those used in this paper that are not limited to high levels of wealth.[13]

The second stage is to include the charitable bequest in the will. However, as already noted, this does not necessarily translate into a transfer into the account of a

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[12] Strictly, in a very small number of cases, charities may benefit from the estates of people dying intestate with no next-of-kin (Dawson et al, p23). Although such property should pass to the Crown as *bona vacantia*, in some cases it may pass to a charity.

[13] Of the 38,015 decedents with estate tax returns filed in the US in 2007 (when the threshold for filing was $2m), 1,617 had no wills (4.3 per cent). (We are grateful to David Joulfaian for this information.) The sample of probate records used by Barthold and Plotnick (1984) appears to be restricted to the testate, that is 'individuals who had prepared wills' (p228). 40 percent of all Americans aged 50 or over are estimated to have no will; unsurprisingly the figure is lower for those with higher incomes (AARP, 2000).

charity at death. The bequest may be *conditional*.[14] The charitable bequests actually studied in the US literature refer to a mix of bequests that were 'absolute' (free of conditions) and those that were conditional and where the condition was met. Although the data will measure correctly the amount of wealth transferred to charities (for estates above the tax threshold) they may be seen as understating the full extent of the charitable intent of the decedents concerned – the estates with conditional bequests where the condition was not fulfilled are treated the same as those with no bequests at all. Conditional bequests will vary in their probability of being realized, and hence in what they reveal about charitable intentions. A condition that a spouse predeceases the testator has a reasonable chance of being satisfied. Other conditions may mean that the charity is very unlikely to benefit, for example when a married person with children leaves a bequest that will take effect only if there are no surviving heirs, including any grandchildren born after the will is drawn up.[15]

Conditionality of bequests may well be a joint decision of husband and wife. Wills may be made in identical form, with charitable bequests being made after the death of the second. This suggests that bequest behaviour may be best seen in terms, not of individual utility maximisation, but of a model of household decision-making, where negotiation and bargaining play a role. One member of the couple may have greater weight in decisions, so that the bequest at death may reflect the preferences, not of the deceased, but of their previously deceased partner. In the case of lifetime giving, Andreoni, Brown and Rischall (2003) have modelled household bargaining over charitable donations and argued that this tends to reduce charitable giving. It is the nature of the data used here that we observe only individuals, and this is a qualification that needs to be borne in mind.

In view of conditionality, we have separated the stages: making a charitable bequest (Stage 2) and making an *absolute* charitable bequest (Stage 3).

Variables affecting different stages of the decision

Each of the three stages highlighted – making a will, making a charitable bequest, and making an absolute bequest – will be influenced by possibly different considerations, as will be the amount of the bequest. In the main part of our empirical

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[14] Even when free of conditions, a bequest of course results in no transfer if the estate has insufficient assets after debts have been paid or if a residuary share is bequeathed and the residual is zero after bequests to heirs are accounted for.

[15] Beveridge (1948, Appendix B) draws attention to examples of more bizarre conditional bequests.

work, we examine how the 0/1 decision is related to a range of variables. The first of these is estate size. It seems likely that the propensity to make charitable bequests will rise with estate size, and we are interested in how rapidly the propensity rises and whether it approaches an upper limit.

The estate size is also relevant as it affects the "price" of giving. Under the UK Inheritance Tax (IHT), the excess of an estate above the allowance (£300,000 for most of the period in question) is subject to a 40 per cent marginal rate of tax. Tax due is calculated after the value of any charitable bequests has been deducted from the estate, hence the effective price of a charitable bequest relative to a bequest to one's heirs falls from a factor of 1 to 0.6 when the tax-free threshold is exceeded. We should therefore expect a jump at this estate size in the propensity to make charitable bequests. However, it is unlikely that such a jump will stand out in the data. First of all, the point at which IHT applies may in fact be well above the value of the IHT threshold. The amount of any outstanding debts such as mortgage loans on a property are deducted from the gross estate value to arrive at a 'net estate value' on which tax is calculated. Assets left to a surviving spouse or civil partner are free of tax by law, and do not use up the tax-free allowance. A further complication is that from November 2007 the executors of an estate of a widow or widower could claim any IHT allowance that had not been used by the former spouse as a result of having left assets to their surviving partner. The unused allowance is granted at the current rate, effectively doubling the value of the tax-free threshold of an estate for many widows and widowers. Even before this change in the law, many estates larger than £300,000 in value were free of tax. HMRC figures show that less than 2/3^{rds} of estates above this size of persons dying in 2005-6 were subject to any IHT (although this is the figure after taking into account the reduction in tax liability due to any charitable bequests.) (IHT statistics, Table 12.3).[16] We do observe the net estate value in our dataset, but, as we explain below, the data do not contain all the information that would allow the threshold applying in any individual case to be calculated. The second consideration is that charitable bequests are determined in many cases at some time before death. The testator has therefore to form a view about the likely value of the threshold in the future, but this may change substantially – as illustrated by the recent dramatic swings in estate tax threshold in the US. For these reasons, we do not

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[16] In some cases IHT will be due even if the estate is below the normal threshold: IHT takes account of gifts made in the 7 years before death.

allow for an explicit jump at the IHT threshold ruling at the date of death, but rather consider the behaviour of the different propensities around £300,000.

The second set of variables are demographic, which we have seen to be important in earlier studies. Almost any model of the bequest decision, including those implied by equations (1) and (2), emphasizes that bequests are likely to vary substantially with an individual's marital status and dependents, and age: 'the conjecture, of course, is that married and younger persons have more, and more dependent, dependents: spouses and younger children' (Boskin 1976: 46). Boskin's results were ambiguous on the impact of marriage – the 1957-9 data showing that the married bequeathed more to charity (ceteris paribus) and the 1969 data showing the reverse. Later authors in general concur that the married give less at death to charity. The IRS estates tax data in the US for 1995 show sharp differences in the bequest propensity: 7 percent of married decedents bequeath to charity, 25 percent of the widowed, and 43 percent of single (Havens et al 2006: 545). (The nature of the IRS data means that conditional bequests where the condition is not met are not included, which may be expected in particular to affect the figure for married persons.) Other dependents are sometimes found to have a negative effect too, although it should be noted that their presence is typically measured by the mention in the will of bequests to them, which hardly seems ideal. Conditional on marital status, dependents, age, wealth, and other characteristics, gender is estimated to have little impact in some studies (e.g. Boskin 1976 and Joulfaian 2000) while women are found to give less in others (e.g. Joulfaian 1991).

In what follows, we examine the influence of some of these variables on the three stages of the decision process. We turn now to describe our British data.

4. Data on estates and charitable bequests in Great Britain

The data used by Wedgwood (1929) were taken from *The Times*. The source of these newspaper listings, which continue today, are the reports provided by a commercial company, Smee & Ford Ltd., which informs charities that subscribe to its legacy notification service of the bequests that they will receive.[17] To do this, Smee & Ford

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[17] See http://www.wilmington.co.uk/company/smee-ford.

read all grants of representation and accompanying wills. They also read grants for persons who die intestate. We make use of exactly the same source. Our data refer to 253,706 estates in Britain processed by Smee & Ford during the 12 months August 2007 to July 2008.[18]

Our data relate to all estates in Britain (but not Northern Ireland) that go through probate, that is estates for which a 'grant of representation' is issued by the Probate Service. As described earlier, a grant of representation is not required if all assets were held jointly with another person e.g. a spouse (since in this case the assets pass automatically to the surviving joint owner)[19] and may not be required if the estate is small in value. The law permits certain assets up to a value of £5,000, such as a bank or building society account, to be dealt with without production of a grant of representation, although estates smaller than £5,000 may nevertheless pass through probate if the executors so choose and will have to if the assets they contain are not all within the permitted group. The threshold applies per asset rather than to the total estate so in principle an estate composed of several accounts of under £5,000 each could be administered without a grant, and hence may be missing from our data. Note that estates where the deceased person was intestate, i.e. made no will, still require a grant of representation and are present in our data unless the exceptions above apply.

Her Majesty's Revenue & Customs (HMRC) estimate that 275,000 estates of persons dying in the tax year 2005-6 in the UK were subject to probate compared to about 580,000 deaths – a little under a half.[20] No estimates are made of the split of the estates that do not go through probate between the 'joint assets' and 'small estate' categories. However, we have been advised by HMRC that the latter probably accounts for the large majority of the total.[21] This means that about a half of all persons in the UK die with only little or no wealth to leave, whether to heirs or to charity. Broadly speaking, our data set therefore refers to the population of all estates

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[18] In general Smee & Ford receive information on estates promptly from district probate offices but information on Scottish estates is received with a lag of about six weeks.

[19] An obvious example of a jointly owned asset is a house or flat owned by a couple. If the owners are 'joint tenants', then the house must pass to the surviving owner when one of them dies irrespective of the terms of their wills. Only if the couple are 'tenants in common' can they dispose of their share in their wills as they see fit. Joint tenancy is more usual in Britain than tenancy in common (see e.g. Dawson et al 2003: 40).

[20] Inheritance tax statistics, Table 12.3, http://www.hmrc.gov.uk/stats/inheritance_tax/menu.htm.

[21] As an example of the reasoning for this conclusion, HMRC noted to us that an investigation of estates of widows and widowers above the inheritance tax threshold showed that probate had not been sought for only about 4 to 8 per cent of the late spouses' estates – in the great majority of cases, the estate had passed through probate on the first death.

(imperfectly) truncated at a low value of wealth, and covering the – richer – half of the population. It should be noted that half is a considerably higher proportion than the less than 10 per cent of estates covered in many US studies.

We have the following information for each estate: gender, date of death, whether or not the decedent was testate, the number of charitable bequests, the value of the estate, whether the estate went through a Scottish probate office and (in England and Wales) whether the deceased was a foreign national. The age of the deceased is recorded for most estates below the inheritance tax threshold, for some estates above it, and for all Scottish estates (age is coded for 77 percent of all estates).

Both gross and net values of the estate are recorded in the data. The net value is the gross value less outstanding debts, including funeral expenses and any mortgage loan on a property. It is these 'net' values that we analyse, and these are the values of the estate before any inheritance tax is deducted. About 80 percent of our sample died in the tax-year 6 April 2007 to 5 April 2008 when the tax-free allowance for inheritance tax (IHT) was £300,000. The values of most estates that are below the IHT threshold are recorded after rounding up to the nearest £1,000 while those above the threshold are recorded to the nearest £1. The data suggest that executors may also report rounded figures when estates are low in value. There are over 3,000 estates of £5,000 but only 700 of £6,000. Estate value is missing in only 0.5 percent of cases.

We trim the sample by dropping 8,239 estates where the date of death was before 1 January 2005 and, subsequently, another 4,555 that are below £5,000 in value. (The first two deaths in the data occurred in the 1980s. Estates with pre-2005 deaths have a lower average value.) We discard the estates below £5,000 to attempt to avoid a potential sample selection bias. Many estates of less than £5,000 will never enter the data set since they do not require a grant of representation. Small estates that do pass through probate and enter the Smee & Ford data are almost certainly different in some way.

This leaves us with a sample of 240,912 estates, the figure shown as "Population A" in Figure 1. "A" stands for "All", although, as noted above, this is approximately half the number of deaths (a precise comparison is complicated by the fact that the deaths occurred at dates between 1 January 2005 and 18 June 2008. In 2007 there were some 560,000 deaths, so on that basis we are covering some 43 per cent.

Table 2 shows descriptive statistics for the resulting sample. The mean age at death was 79 years. The median estate was £146,000, and the mean £221,338, reflecting the skewness to the right, the top percentile being £1,345,789. If we take £300,000 as the Inheritance Tax threshold, then 17.5 per cent of the estates in our data are above this level. This implies that about 7.5 per cent of deaths are of people above the threshold.

Table 2 near here

Where the will contains a charitable bequest, Smee & Ford record the type of each bequest into one of three categories: (i) 'effects' or items (e.g. clothes, jewellery, or a teddy bear collection), (ii) 'pecuniary', i.e. a bequest of a sum of money, financial assets (e.g. shares) or real property (houses and land), and (iii) a residuary share, i.e. a share of the value of the estate that remains after all pecuniary legacies and legacies of specific items to heirs (and other charities) have been paid. Pecuniary and residuary share bequests are further distinguished into those that are unconditional ('absolute') and those that are conditional e.g. that only take effect if the spouse predeceases. ('Effects' bequests are all treated as absolute.)

These data represent a large and rich source of information. Their obvious attractions are that they relate to the population of estates passing through probate rather than to a sample, that the value of the estate is almost always coded, that testate estates can be identified, and that the presence of all charitable bequests are recorded together with their type and the causes to which they are made.

At the same time the data have at least two major limitations. First, we only very rarely observe marital status, a variable found to be most important by Aldous (2005). Nor do we observe any other details about the individual's family, such as whether they have children or other surviving relatives. Both types of information are recorded on the IHT return that must be made for each estate passing through probate. These returns were drawn on in the construction of the dataset used by Aldous but they are not made available to Smee & Ford. (Where we do observe marital status, this is because it is mentioned in the will.)

Second, the value of any charitable bequest is recorded only if the bequest is (i) a specific sum of money, (ii) is made unconditionally, and (iii) was made to a Smee & Ford client (or a small number of other charities). This means that we

observe the *presence* but not the *value* of the bequests of specific items or residuary shares. (Nor can we calculate the latter since we do not observe the size of any legacies made to the deceased person's heirs.) We know from other sources that the average charitable legacy from residuary bequests is much larger than the average cash legacy (Radcliffe 2002: 61). This means that we focus in what follows on the propensity to bequeath, although in the Appendix we examine the evidence about absolute cash bequests.

5. Propensity to bequeath, wealth and personal characteristics

In this section we consider the 0/1 decision at each of the three stages: make a will, include a charitable bequest, and make the bequest absolute. It should be noted that our data relate to Great Britain and that the period covered is around 2007. We examine the relation with estate size and with personal characteristics (age and gender).

Making a will

Of the 240,912 estates covered by our data, 36,014 (14.9 per cent) are where people died intestate. If the 57 per cent of deaths not covered by our data were all cases of intestacy, then the overall rate of intestacy would be some 63 per cent. (Some of those not covered will have made wills but no probate was required.)

Who are the people who made wills? Table 3 shows in the third column the proportions testate by estate range. (In Tables 3 and 4 we show all three stages, so that we return below to the other columns.) The percentage rises from under three-quarters in the lowest ranges to 90 per cent plus in the top third of the distribution. The relationship is plotted as a function of estate size in Figures 2A and 2B (the latter uses a log scale). (As with the tables, we are showing in these diagrams all three stages.) The vertical line shows the Inheritance Tax threshold for 2007-8 at £300,000. (80 percent of deaths in our data were in this tax year.) As may be seen, the percentage in our sample making a will rises fairly steadily with the size of estate.

This is scarcely surprising. What is remarkable is that some people die leaving estates of over £1 million without making a will.[22]

Table 3 near here

Figures 2A and 2B near here

The overall testacy rate is 85.1 per cent. For men the rate is lower (82.0 percent) than for women (87.8 per cent). In part this reflects the fact that testacy rises with age, as is shown in Tables 4A and 4B and Figure 3A, and that men on average die at a younger age (see Table 2). But there are still gender differences within age groups. For those aged 55 to 64, the percentage dying intestate is 10 percentage points higher for men.

Tables 4A and 4B near here

Figures 3A, 3B and 3C near here

Making a charitable bequest

The first step is to make a will; the second step is to include a charitable bequest. Overall, 16 per cent of testate estates did so. Given the testacy rate of 85 per cent and our calculation that the data cover some 43 per cent of all deaths, this implies that 6 percent of deaths in Britain in 2007 resulted in a charitable bequest. This compares well with the estimate of about 5 percent from Radcliffe (2002) reported in the Introduction. It is an underestimate of the true figure to the extent that some estates that do not pass through probate also contain bequests to charities.

The percentage of testate estates with a charitable bequest may be seen from column 4 of Table 3 to rise considerably with estate size. For the smallest estates, 1 in 10 make a charitable bequest; for those over £1 million it is more than 4 in 10. The rise is particularly noticeable around the Inheritance Tax threshold – see Figures 2A and 2B. For the range from £250,000 to £299,999, the percentage is 17 per cent; by the time we reach £500,000 to £999,999, the percentage has virtually doubled. A half

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[22] In all, 3.3 per cent of estates valued at £1m or more were intestate, which compares with the figure of 4.3 per cent in the US in 2007 for estates of $2m or more – see footnote 13.

of all testate estates of £3m or more contain a charitable bequest.[23] We can also see from the final column in Table 3 that the average *number* of charitable bequests increases: from around 2 or 3 to 5.

There is a gender difference in the proportion of testate estates containing charitable bequests: 14 per cent for men, compared with 18 per cent for women. From Tables 4A and 4B, it may be seen that the figure is higher for women within all but the youngest age group – see also Figure 3B. A smaller proportion of men make bequests than women. It should be noted that this includes both absolute and potential conditional bequests; we are not restricting attention to bequests that were realised. So the gender differential is not attributable to men being more likely to have a surviving spouse (and hence for charitable bequests not to be activated). We may note, at the same time, that among those making bequests, the mean number is similar for men and women.

Making an absolute bequest

For the charity to be certain of receiving a bequest, it has to be absolute (and the estate has to have sufficient assets). Of all those leaving a charitable bequest, 72.7 per cent left an absolute bequest (they may also have left conditional bequests). This percentage rises with estate size over the initial range and then levels off in the 80s – see Figures 2A and 2B. In this case, it is not perhaps surprising that men are less likely, for reasons discussed, to make an absolute bequest: 64 per cent, compared with 78 per cent. It is none the less interesting that, even in the age group 90-94 the percentage is 13 points lower.

What form did these bequests take? In Table 5 we show, by range of estate size, the percentage of different types. (The unit of analysis is the bequest, rather than the testator, of which the dataset contains 107,639 in total.) Overall, some 70 per cent were absolute, and nearly half were or effects or absolute pecuniary, rather than residual. The effects bequests account for a very small proportion of the total. More than two-thirds of the conditional bequests were residual. The absolute residual figure does not vary much with estate size, but the proportion of absolute pecuniary bequests rises from around 30 per cent to between 50 and 60 per cent at the highest wealth levels. The last column shows how the bequests are distributed across the ranges of

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[23] There are about 550 testate estates in each of the top two ranges of estate size. The two standard error confidence interval for the percentages with a charitable bequest in these ranges is about +/- 4 points.

estate. The larger estates contribute disproportionately as both the probability of making a charitable bequest and the average number of bequests made rise with estate size (shown in Table 3). Estates above the IHT threshold of £300,000, which we noted earlier to account for 17.5 per cent of all estates, contribute 41.9 per cent of all charitable bequests (and, not shown, 47.1 per cent of absolute bequests). However, as this also shows, the majority of bequests come from estates below the threshold. (These figures refer to the *number* of all bequests and not to their value.)

Table 5 near here

Fitting a model

The variation with estate size is clearly important, and it takes different forms for each of the three stages. In Table 6 we model this flexibly using a spline with knots at the first eight deciles and at the 85th, 90th, 95th, 98th, and 99th percentiles. Each coefficient shows the marginal effect of an increase in the estate size on the probability of being testate (column 2), of leaving a charitable bequest conditional on dying testate (column 3), and of leaving an absolute bequest conditional on leaving a bequest (column 4). The equation also takes account of the age variation (estate size tends to rise with age) and of the male/female difference. In these estimates, we have dropped 1,722 observations where the gender is not known, and 59 estates worth more than £20 million. This still leaves a large sample: over 239,000 for Population A. We have, following the Schwarz criterion, taken a critical value of $\sqrt{\log_e(N)}$ for the t-statistic, which is approximately 3.5 for columns 2 and 3 and 3.2 for column 4. Estimated parameters that satisfy this criterion are marked with an asterisk. The models are estimated as three independent probits (we do not have suitable identifying variables to allow selection models to be fitted). The marginal effects are calculated at the mean values of the explanatory variables for the sample used in estimation.

Table 6 near here

For testacy, the estate size spline variables are significantly positive for the bottom three-quarters of the distribution, but then become insignificant. The male dummy variable is negative and highly significant. The age variables are highly significant, showing a rising propensity with age (the missing category is 80-84). The

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gender result carries over to the other stages, with men having a significantly smaller propensity. But the pattern for other variables is different. For charitable giving, conditional on making a will, the estate spline variables are not significant until we reach the top two decile groups, which we have seen to coincide broadly with the Inheritance Tax threshold. Beyond this level, the propensity to give rises with estate size. Only certain of the age variables are positive. Among those making charitable bequests, only certain estate coefficients have a significant influence on the propensity to make an absolute bequest, whereas the positive age effect is strongly significant. Conditional on making a charitable bequest, a person aged 45-64 is 10.5 percentage points less likely to make an absolute gift than a person aged 80-84. Given the greater uncertainties, the direction of this effect is hardly surprising, but our results allow it to be quantified.

We also estimated separate models for men and women, thus allowing the relationship of each of the outcome variables with wealth and age to vary by gender (not shown here). We focus on the results for wealth. For testacy, the results are very similar. For charitable bequeathing conditional on testacy, the most obvious difference is that the propensity to bequeath continues to rise at high levels of wealth (above £600,000) while it flattens out for men. For absolute bequeathing, the propensity rises more steeply for men, converging on that for women at about £400,000.

6. Geography and bequests

One attraction of the data that we are using is that the data typically include the postcode of the last address of the deceased.[24] (Postcode is missing for 11 per cent of estates.) Importantly, these postcodes allow us to merge in to the dataset external measures of local living standards at a highly disaggregated geographical level. They also permit us to identify for each deceased person the bequests that are made by other persons in the individual's locality.

Regional variables

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[24] Occasionally, in the case of an estate with a charitable bequest, the postcode of a previous address is also available.

We begin by considering the broad regional distribution.[25] In Table 7 we show the effect of introducing into the estimates of Table 6 regional dummy variables (the reference region is the East Midlands). As an aid to understanding these results, we summarise in Table 8 some of the key features of bequeathing by region. Leaving aside the "foreign" residents, and those for whom the region is not known, the proportions of the sample in each region vary from 2.9 per cent in the North East to 13.3 per cent in the South East. The median estate varies by more than a factor of 2. There is considerable variation in the propensities we have identified. The proportion making a will varies from 80 per cent in the North East to over 90 per cent in the South West. Around an overall proportion of 16 per cent (of the testate) making charitable bequests, we see figures as low as 11 per cent in Scotland and 14 per cent in Wales, compared with 19 per cent in the South East and 20 per cent in the South West. On the other hand, a larger fraction make absolute bequests in Scotland and Wales.

The gross regional differences may well reflect differences in the wealth of regions or in their age composition (as with people retiring to the South West). We therefore move to a fuller model with these variables. Introducing the regional variables into the probit regressions makes little difference to the significance of the coefficients for estate size, the gender variable, or the age variables (not shown). As may be seen from Table 7, the estimated regional effects show some of the same features when we control for estate size, gender and age. (The omitted region is the East Midlands.) People in Scotland and Wales are less likely to make wills, and those who do are less likely to make charitable bequests. Those making bequests are however more likely to make them absolute (as are those in the North East of England). For example, the probability of a charitable bequest in Scotland is over 5 percentage points less than in the East Midlands (evaluating at mean characteristics) and over 5 percentage points higher for absolute bequeathing. Within England, those in the North East, North West, Yorkshire and West Midlands are less likely to make wills. Those in the South West are found more likely to make wills and more likely to make charitable bequests (by about 2 percentage points in each case), despite controlling for the higher levels of wealth in this region. Londoners are much less likely to make wills – by 8 percentage points. Controlling for wealth at death has

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[25] Region is identified from the postcode, with the exception of estates in Scotland for which we have a variable indicating that probate was obtained through the Scottish system.

produced a substantially larger difference in this case. (Median estate size in London is 70 higher than in the East Midlands.) They are also a little less likely to make charitable bequests (by 2 percentage points). Note that we have not been able to control for the degree of liquidity of the assets in the estate, something found to have a positive impact on charitable bequeathing in the US literature. The much higher average level of wealth in London must in part reflect higher prices of housing, a relatively illiquid asset.

In considering these findings, it is important to bear in mind the possible interaction between giving inter vivos and giving at death. As noted at the outset, lifetime giving in Scotland is higher.

Table 7 here

Table 8 here

Local deprivation

The regional differences may reflect broad regional characteristics, or they may reflect the greater prevalence within certain regions of factors of a more local nature that affect charitable behaviour. One such factor is the level of local deprivation. To examine this, we move now from regions containing millions of people to small area geography based on units known as Lower Super Output Areas (LSOAs), which can be identified for each estate from the postcode of the deceased's last address. LSOAs have between 1,000 and 3,000 people, and an average of 1,500. They are typically smaller than local government wards. There are 32,482 LSOAs in England and 1,896 in Wales. For each LSOA the government makes available a measure of income deprivation, based on the proportions receiving Income Support and other means-tested benefits, on the proportions receiving tax credits who are below 60 per cent of the median income, and on the number of supported asylum seekers. (See Department of Communities and Local Government 2007.) We attached this variable to the dataset for estates in England and Wales, where the measure has a comparable definition, but not for Scotland.[26] (This means that the sample is reduced

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[26] We do this using the information available at www.geoconvert.mimas.ac.uk. We choose the measure of income deprivation rather than the more general index of multiple deprivation available for LSOAs since the latter is measured on an ordinal scale. (The two have a correlation of 0.95, calculated using the LSOA as the unit of analysis.) We use the 2007 values. The income deprivation measures for England and Wales are not identical but are very similar. See

to 183,875.) The variable has a mean of 13 per cent and a standard deviation of 11 per cent (for the sample used in estimation). Controlling for estate size, we hypothesize that higher levels of local deprivation increase the probability of charitable bequeathing and of bequeathing absolutely since potential donors are more aware of the needs of others. We have no hypothesis for the impact on testacy.

In Table 9 we show the effect of introducing this measure of local deprivation. The variable is measured as a proportion and re-scaled through division by 10, so that the mean is 0.013 and the standard deviation 0.011. The coefficients on the estate, age and gender variables are not greatly changed. The regional effects are moderated with regard to testacy, but remain significant. The negative coefficient for Wales with regard to charitable bequests remains unchanged.

Income deprivation is negative with respect to testacy and the estimated coefficient is well determined. It is positive with regard to making an absolute bequest and again strongly significant, but is insignificant in relation to making a charitable bequest. The direction of the effect is as hypothesized for absolute bequeathing but the data reject our hypothesis in the case of charitable bequeathing of any type. The negative impact on testacy might reflect a weaker tradition of making wills in poorer areas. (We doubt that it reflects a lower supply of solicitors to draft wills.) The sizes of the estimated effects on testacy and absolute bequeathing are fairly modest, but comparable with some of the regional differences. A one standard deviation increase in income deprivation reduces the probability of testacy by 2 percentage points and increases that of absolute bequeathing by 4 points.

Table 9 near here

7. Bequeathing by cause

The literature has focused on the total of any charitable bequests made by decedents. Some US studies have also considered bequests by cause – see the final column in Table 1, although, as is noted by Feldstein (1976: 102), the fourfold categorisation of bequests by recipient used in the early IRS studies left the large majority in the

residual category.[27] Attention has been drawn to the specialisation of giving. In the study by Joulfaian (1991), of the 13,492 estates in the sample, 2,554 made charitable bequests. Of these, over half (1,307) reported only 1 category of recipient (out of 6). He describes this concentration as 'puzzling'. Some studies have looked at the number of causes to which bequests are made. The amount bequeathed to each cause has also been analysed and attention has been drawn to the variation in both price (tax) and wealth elasticities. For example both Boskin (1976) and Barthold and Plotnick (1984) find bequeathing to religious causes to be much less wealth elastic.

In our British data, where the will contains a charitable bequest, Smee & Ford record the main cause of the charity concerned and of each charity if there is more than one bequest. A total of 20 categories of causes are identified (including a residuary of 'other'), for example animal welfare, overseas aid, culture/arts/heritage. Importantly, this is done irrespective of whether the charity is a Smee & Ford client.[28]

In the data as a whole, the 6 most popular causes are, in decreasing order, animals, worship, hospices and hospitals, cancer research, nursing and care, and medical research – see the dark bars in Figure 4A. Here the bequest is the unit of analysis: the graph shows the percentage of all charitable bequests that go to each cause. More than 1 in 8 bequests are to animal charities. About a third (34.2 per cent) go to the 4 causes in the top 6 that are concerned with medical research of some type or care of the sick or the dying. Almost 1 in 7 bequests are to worship or to the smaller cause that is distinguished separately in the data, religious charities.[29] Education, mental health and human rights (which includes homelessness) are among the least popular causes.

Figures 4A and 4B near here

Figure 4B shows the popularity of causes from the perspective of the bequeather: the dark bars in the graph show the percentages of all charitable estates

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[27] For example, in the early study by Harriss (1949) with these 4 categories, 'charitable and other' accounts for 66 per cent of the total.

[28] The classification by cause does not always correspond to that used in other sources. For example, Smee & Ford classify the British Red Cross as nursing/care and Sightsavers International as physical disabilities while both are classified as overseas development by the Charities Aid Foundation in its annual report *Charity Trends*.

[29] The latter includes the Bible Society, the Religious Society of Friends (the Quakers), and Watchtower. We understand 'worship' to refer typically to local churches. No individual charities under this heading are identified by Smee & Ford.

containing bequests to each cause. (The estate is now the unit of analysis.) Viewed this way, worship is the most popular cause, favoured by 26.4 per cent of persons leaving a charitable bequest. The percentages in Figure 4B do not sum to 100 as many charitable estates contain bequests to more than one cause. On average, people leave bequests to 2.3 causes, which may be compared with the mean number of bequests of 3.2 shown in Table 3 – the difference reflecting the fact that some people leave more than one bequest to the same cause. The modal value is one – 43 per cent of people leave bequests to a single cause.

The choice of cause varies with gender and estate size. The second and third columns show the figures for men and women. (We discuss the other columns later.) The causes are sorted by the value of the differences between the two percentages. For most causes, women are more likely than men to leave a bequest, reflecting their higher propensity to bequeath to charity overall. The differences are most notable for animal welfare and worship. However, there is a sizeable minority of causes to which men give more often than women – the largest differences are for armed services, education, and the residual category 'other' – and several other causes where the differences are very small.[30]

Table 10 near here

The variation with estate size is illustrated in Figures 4A and 4B by comparing the dark bars, which we have already discussed, with the light bars. The latter refer to estates of £500,000 or more. Figure 4A shows that a lower percentage of all bequests from estates of this size go to 5 of the top 6 causes than from all estates irrespective of their size. And almost all of the less popular causes in the top part of the graph have a higher share of bequests from estates above the IHT threshold. Note that this pattern does not necessarily imply that the wealthy are less likely to bequeath to the most popular causes – they may simply 'add on' more causes, while giving like other people to the most popular ones. This is reflected in the comparison of the dark and light bars in Figure 4B. The percentage of estates of £500,000 or more that contain a bequest to a given cause (light bar) almost always exceeds the percentage of all

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[30] Examples of armed services charities include the RAF Benevolent Fund, the British Legion, and Gurkha Welfare.

estates containing a bequest to that cause (dark bar). Cancer research and animal welfare are exceptions.

Tables 11A-11D provides more detail on the differences summarised in Figure 4B. They show the percentages by band of estate size. We have sorted the causes on the basis of the figures in the penultimate row, labelled 'ratio', which show the percentage of large estates containing a bequest to the cause in question divided by the percentage of small estates with a bequest, where large and small are defined as £500,000 or more and less than £40,000 respectively. The average age of persons bequeathing to each cause is shown at the bottom of each column. Table 11A also shows the average number of causes in each estate band, which rises from under 2 to over 3. By comparison, the average number of bequests rises more steeply, from about 2½ to 5 (Table 3). Higher levels of wealth are in part associated with giving to more causes but also with more bequests to the same causes.

Tables 11A-11D near here

The first four causes include three of the most popular ones. The ratio for large to small estates is about 1.0 for animal charities and for cancer research and there is little variation in the percentages across the bands. The lowest percentage for animal charities and the second lowest for cancer research is for the top band of £3m+ but the small sample size and consequent sampling error need to be borne in mind (there are about 275 charitable estates of this size). For both causes, given that a bequest to charity is made, people of different levels of wealth have a very similar probability of bequeathing. The only popular cause where the ratio for large to small estates is as large as about 2.0 is nursing/care (Table 11C).

The five causes with the highest values of the ratio – 3.0 or over – include the residual category 'others'. The percentages are particularly high for the top two ranges – 1 in 5 charitable estates of £2m or more contain a bequest to this category of charity. This represents about 1 in 10 of all estates of this size, including those with no charitable bequests. The residual category includes bequests to charities for which Smee & Ford have been unable to identify the charitable purpose, for example a bequest to a charitable trust named after the deceased where there is no indication as to the cause that the charity serves. The cause with the biggest ratio between large and small estates is education. Given that a bequest to any charitable cause is made, large

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estates are about 4½ times more likely than small estates to contain a bequest to this cause. And taking all testate estates, including those with no charitable bequests, large estates are about 15 times more likely to have a bequest to education than small estates, whereas they are only about 3½ times more likely to contain a bequest to an animal charity.

The last two columns in Table 10 show the same ratios between large and small estates separately for men and women. For most causes, the ratio is higher for women, implying a greater (proportionate) change between small and large estates in the probability of favouring the cause (given that any charitable bequest is made).

8. Summary

The main conclusions of the paper may be summarised as follows:

- Much of the previous literature on charitable bequests has taken too narrow a perspective of the decision-making process, not distinguishing the different stages in the process.
- We have carried out a three-stage analysis of bequest decision-making: making a will, inclusion of a charitable bequest, and the conditions under which the bequest materialises.
- The three different stages are influenced differently by the variables that we have considered: estate size, age, gender, and geographical location.
- The percentage making a will rises steadily with estate size and with age, where the independent effects of these two variables seems to be well established; the percentage is higher for women (again controlling for estate size and age); it is lower in London, Scotland and Wales; it is lower in areas of local deprivation.
- Overall, 16 per cent of those making a will included a charitable bequest; the percentage rises with estate size, particularly around the Inheritance Tax threshold; estates in excess of £300,000 contribute 42 per cent of all charitable bequests, although this still means that over half come from those below this level.

- A smaller proportion of men make charitable bequests than women; the proportion is lower in Scotland and Wales; it is higher in the South West.
- Of those making a charitable bequest, 73 per cent left an absolute bequest; the proportion is strongly linked to age; the proportion is higher in Scotland, the North-East and Wales; it is higher in areas of local deprivation.
- Our data contain detailed information on bequests by cause; the choice of causes varies with gender and estate size; the larger estates typically add further causes.

The limitations to our findings have been stressed in the paper. The propensity to make charitable bequests rises around the Inheritance Tax threshold but we lack the additional information required to draw any firm conclusions about the effect of tax concession (and there is a single rate of tax, limiting the degree of "price" variation). The data do not contain marital status, and have not allowed us to examine joint decision-making about charitable bequests by couples. We have been able to say very little about the amounts given.

At the same time, the results may be of value in developing policy analysis and in fund-raising by charities. The three stage model provides a framework that makes explicit the different possible points of intervention. The independent effects of age, gender and estate size have been clearly established, with differing effects on the three different stages of decision-making. It is these decisions that the government and individual charities will be seeking to influence if they wish to raise the percentage of people leaving charitable bequests.

Appendix: Charitable bequests by amount

We know the value of any charitable bequest if it is (i) a pecuniary bequest of a specific sum of money (rather than a financial asset or real property), (ii) was made unconditionally, and (iii) was made to a charity that subscribes to Smee & Ford's legacy notification service (or to one of a small number of other charities). This means we have values for just under a quarter of all bequests in the data. By value, these 'cash' bequests represent a substantially smaller fraction of the total amount actually received in the form of legacies by charities each year. As we noted in Section 4, other sources show that the average charitable legacy from residuary bequests is much larger than the average cash legacy. The cash bequests for which we have a value in our data sum to £91m, which may be compared with a figure of about £1bn for the total legacy income of top fundraising charities (see the Introduction).

Table A1 shows the distribution of the amounts of the 'cash' bequests for which we have values. The first set of figures refer to the individual bequests and the second to the total of any cash bequests in estates that contain at least one such bequest. The median bequest is £1,000 and the median amount of all such bequests in an estate is £3,000. The distributions contain marked spikes – the five most common amounts of individual bequest are £1,000, £500, £5,000, £2,000, and £100. These amounts account for over 70 per cent of all cash bequests: 26.1 per cent, 17.4 per cent, 11.0 per cent, 9.8 per cent, and 7.1 per cent respectively. (No other amount accounts for 5 per cent of bequests.) The distributions are right-skewed so that the means are much higher than the medians. (This pattern is exaggerated by two large outliers – two bequests of £3m each in the same estate.)

Table A1 near here

In Table A2 we show the relationship of the average amounts of the individual bequests with estate size. The second column repeats figures shown earlier in Table 5 for the percentage of all charitable bequests that are absolute pecuniary bequests. The third column shows the percentage of all these bequests for which we have a value. With the exception of the top range, the figures display almost no variation. (This is still the case if we condition on the bequest not being to 'worship', a cause for which we never observe the value.) The average bequest rises substantially with estate size

(we plot the means in Figure A1 against the mid-points of the ranges for estates below £2m). For example, the median rises by a factor of 10 from £500 for estates in almost all ranges below £100,000 to £5,000 for the largest estates of £2m or over. (The lack of change in the medians across many adjacent ranges is notable.) But as this illustrates, bequest values rise at a lower rate than wealth. To take another example, the mean bequest rises by a factor of about 4 between the ranges £25,000 to £40,000 and £400,000 to £500,000, while the mid-points of the ranges differ by a factor of about 14; as a percentage of the mid-point, the mean falls from 3.9 per cent to 0.9 per cent. The elasticity is therefore less than one. These figures refer to individual bequests but it should be noted that the average number of bequests in charitable estates rises with estate size. (And the value of the bequests for which we do not have figures, including all the residuary bequests, may change with wealth in a different way.)

Table A2 near here

Figure A1 near here

One factor that contributes to cash bequests being less in average value than residuary bequests is the lack of indexing for inflation of cash amounts in wills. The tendency to bequeath a fixed nominal amount is illustrated by the heaping of the bequest values at round figures such as £1,000. Dawson et al (2003: 168) report finding no evidence of index linking in their study of charitable estates in Northern Ireland. Smee & Ford have commented to us that it is very rare to see indexing in British wills. For the charitable estates in our data we observe the date of the will (and of any codicils to the will) as well as the date of death. A fifth of wills were made or altered within a year of death, while the median period between making or altering the will and dying was 3½ years. On the assumption that no cash bequests are indexed, we can calculate the amount that is lost as a result by the charities for which Smee & Ford record the amounts bequeathed. In each case we apply the change in the Retail Prices Index in the period between the date of will (or codicil) and date of death. We calculate the total amount lost due to the lack of indexing to be £15m (16 per cent).

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Figure 1. Stages in making a charitable bequest

Population A (All)
240,912

Stage 1 Making a will

Population T (Testate)
204,839

Stage 2 Making a charitable bequest

Intestate 36,014

Population B (Making charitable bequest)
33,482

No charitable bequest

171,401

Stage 3 Making bequest absolute

Population AB (Making absolute charitable bequest)
24,301

Making only conditional charitable bequest 9,137
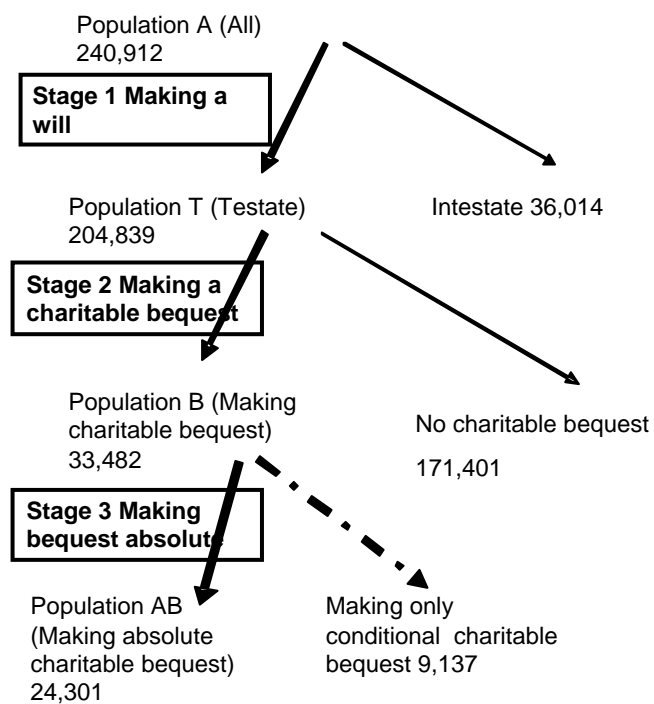
Note: Bequests may be effects (e.g. books), pecuniary (e.g. £X) or a residual share.

Figure 2A. Three stages in charitable bequeathing by estate size (levels)
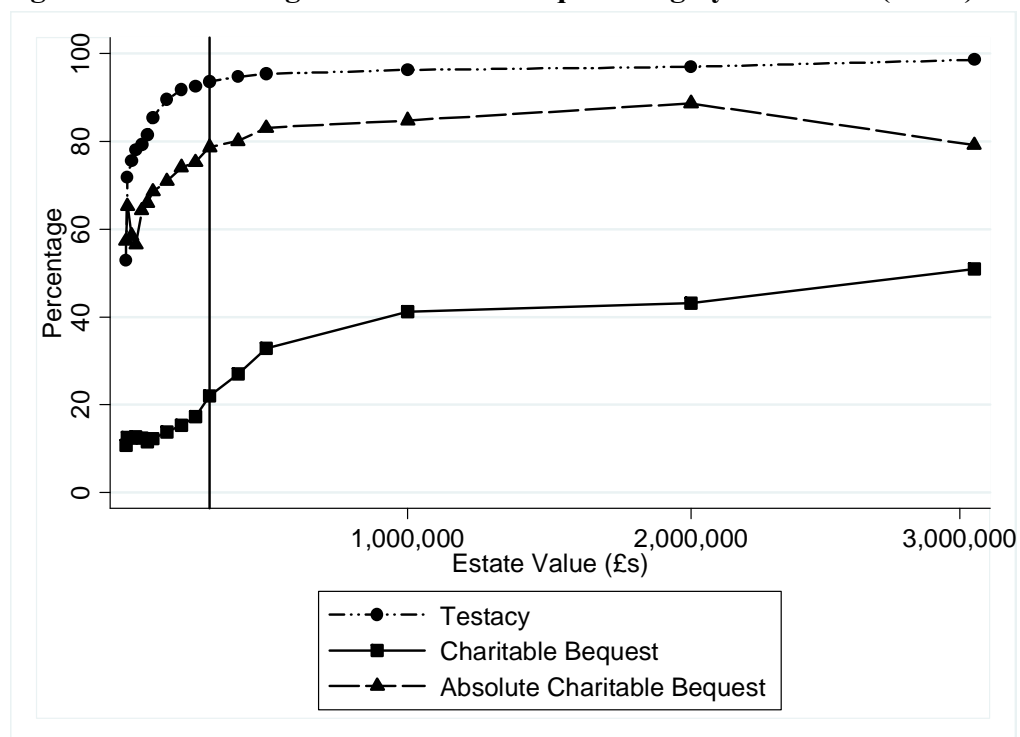
Figure 2A. Three stages in charitable bequeathing by estate size (logs)
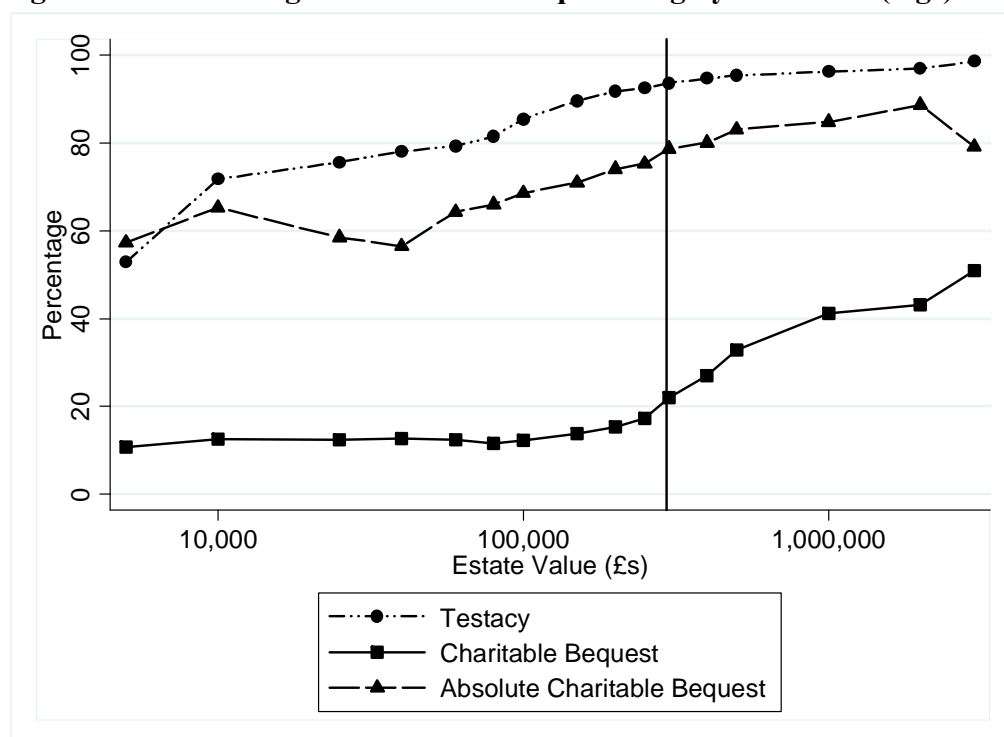
Note: percentages are taken from Table 3 and plotted against the minimum value of each range. The vertical line is at £300,000, the threshold for 2007/8 above which IHT may be payable.

Figure 3A. Percentage testate, by age
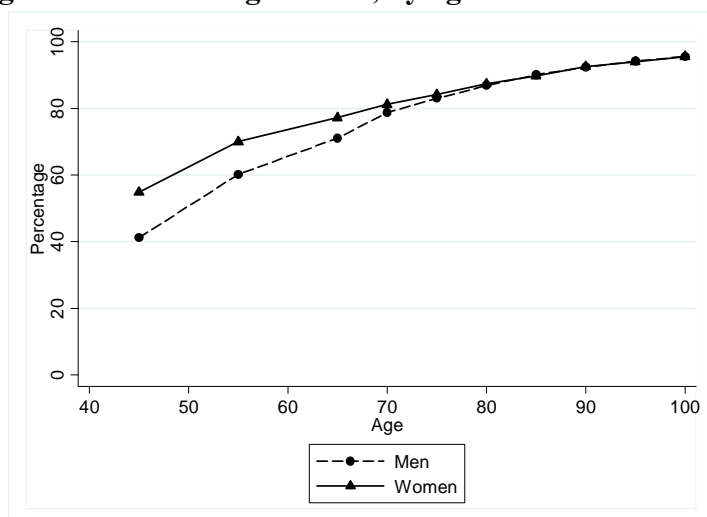
Figure 3B. Percentage making a charitable bequest conditional on being testate, by age
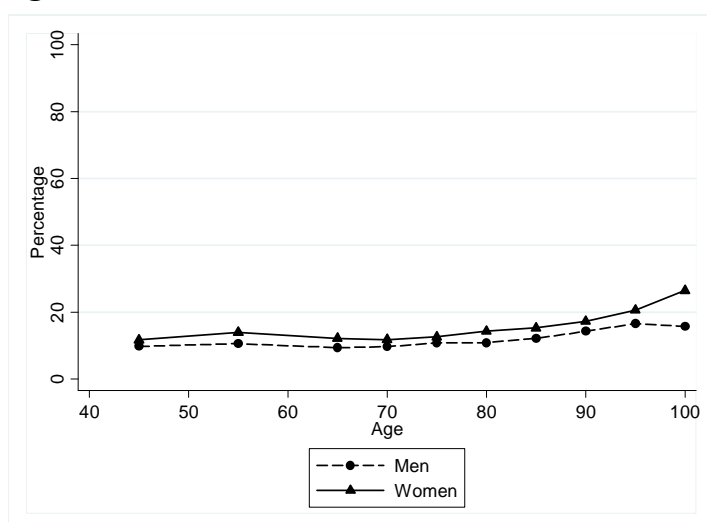
Figure 3C. Percentage making an absolute bequest conditional on making any charitable bequest, by age
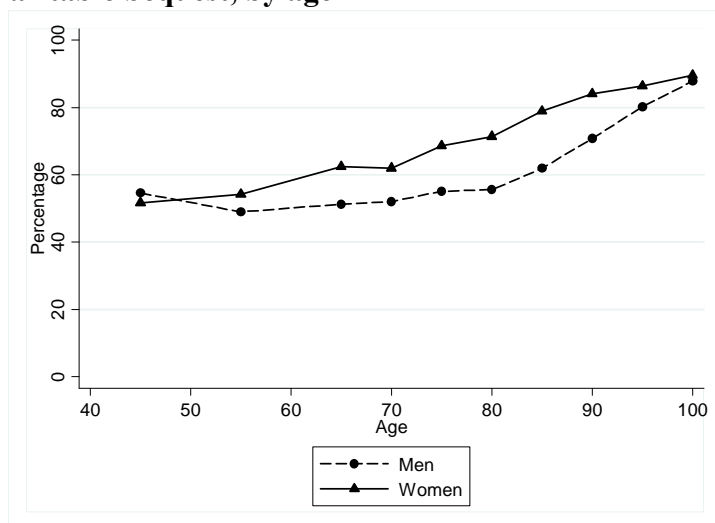
Note: percentages are taken from Tables 4A and 4B and are plotted against the mid-point of each age range (excluding persons aged 18-44).

Figure 4A. Percentage of charitable bequests going to each cause
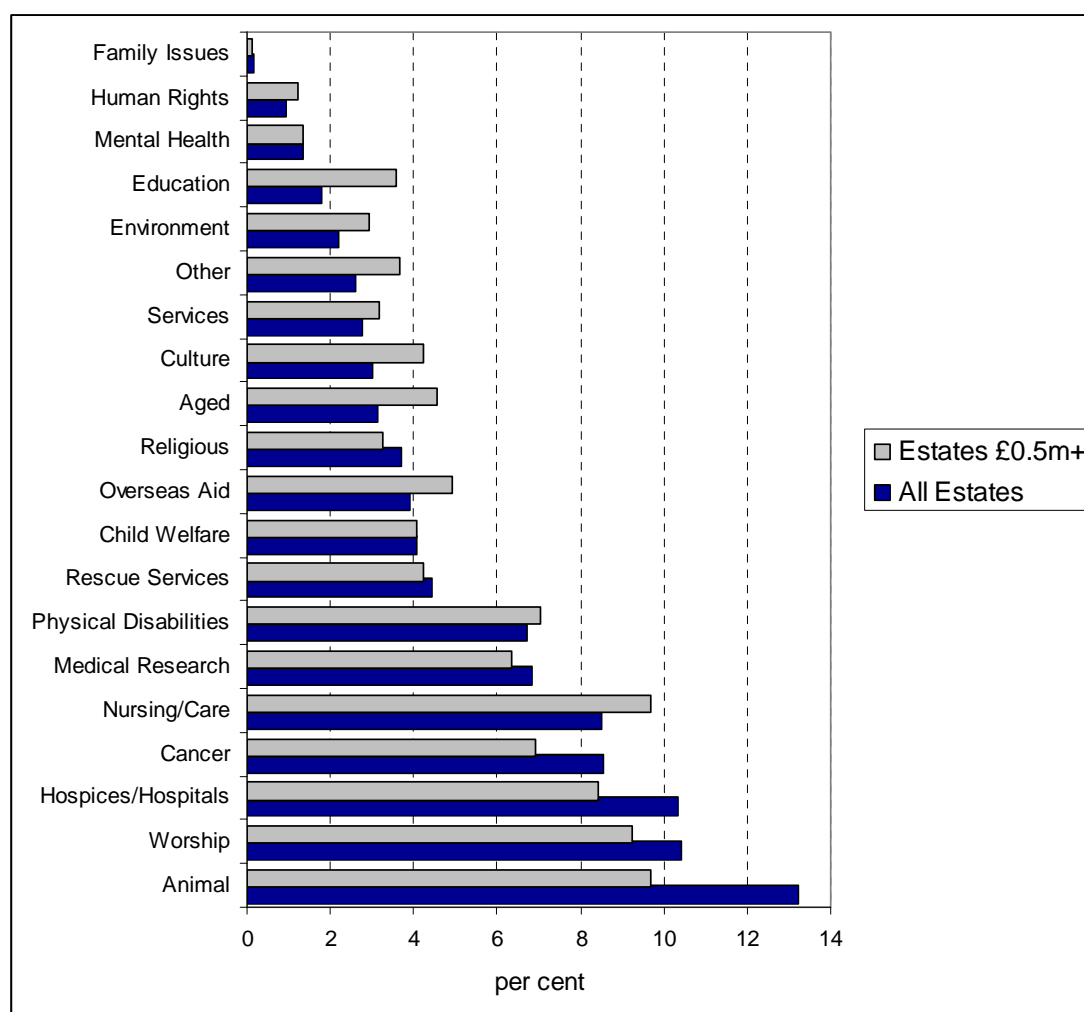
Note: the sample size is 107,639 charitable bequests from 33,487 estates (Population B). The last dark bar shows that of all these bequests, 13.3 per cent were made to animal welfare charities.

Figure 4B. Percentage of testate estates with charitable bequests containing bequests to each cause
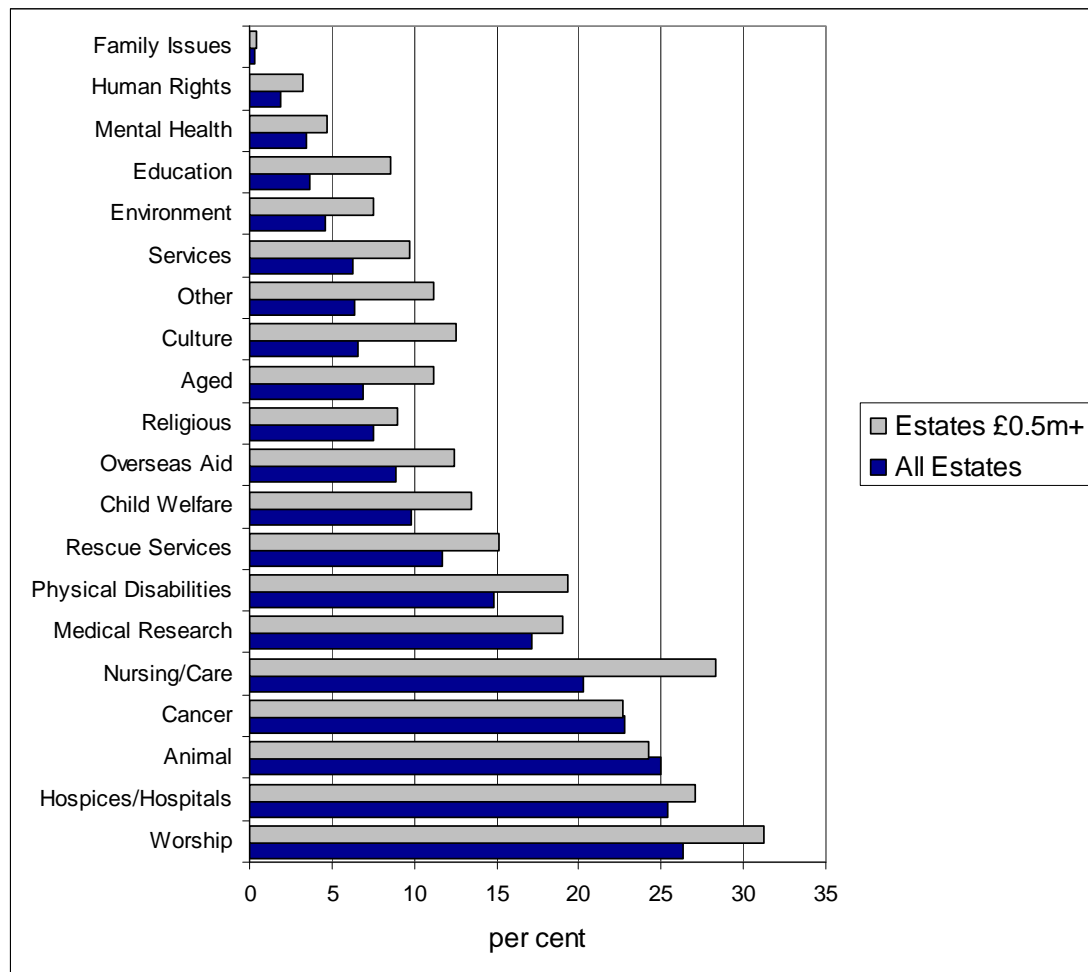
Note: the sample size is 33,487 estates containing a charitable bequest (Population B). The last dark bar shows that of these estates, 26.4 per cent contained a bequest to the cause 'worship'.

Figure A1. Mean cash bequest (where value known) and estate size (estates below £2m)
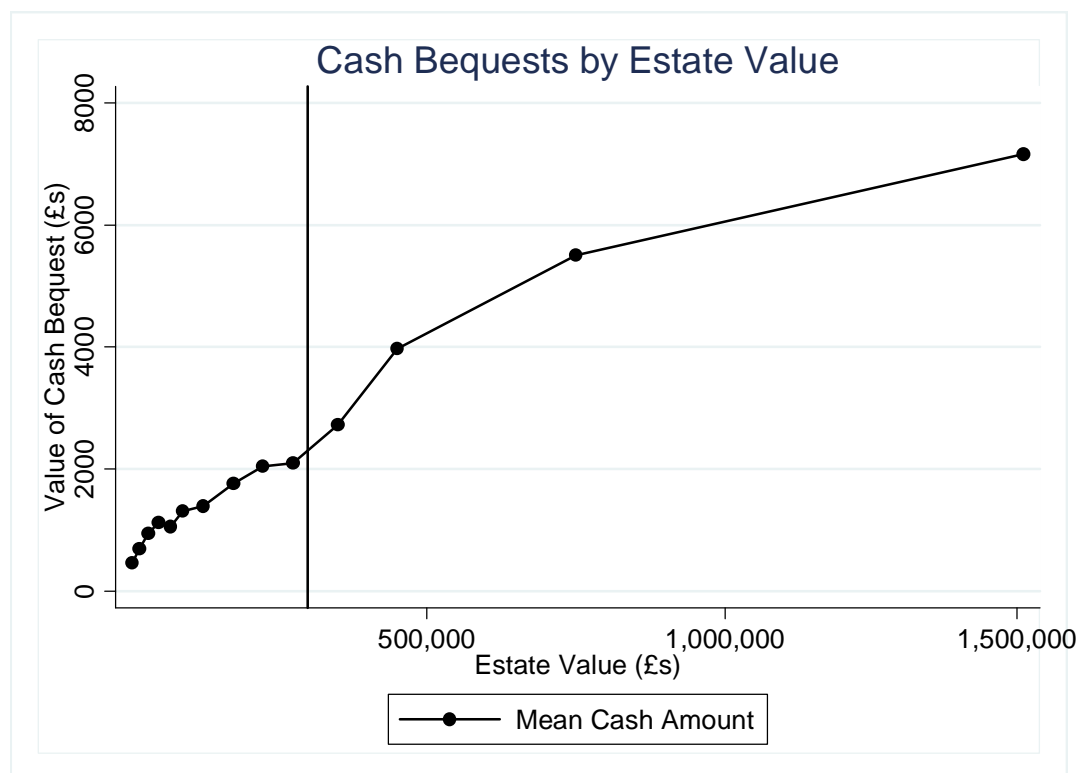
Note: the mean bequest in each range of estate size is plotted against the mid-point of the range. The vertical line is at £300,000, the threshold for 2007/8 above which IHT may be payable.

Table 1. Features of US Studies

Study	Type of data	Wealth elasticity (at mean values)	Estimation model	Control variables (apart from wealth and tax rate)	Number of causes analysed
McNees (1973)	Micro-data from c.5,000 matched estate and gift tax returns from 1957 and 1959; estates > $60,000		OLS applied to estates with positive bequests, linear specification	Dependency; % bequests in trusts; marital status; age (not significant).	
Boskin (1976)	Micro-data from c.5,000 matched estate and gift tax returns from 1957 and 1959 and c. 40,000 estate tax returns in 1970; estates > $60,000	0.46 linear (1957-9) 0.40 linear, 0.1 linear*log interaction (1970)	Tobit applied to all estates, linear specification	Unmarried; aged under 65; use of trust (1957-9); young with dependent; community property state (1957-9); % liquid assets (1970).	4 (1957-9 data only); Tobit for each cause
Feldstein (1976)	Time series of tabulations of estate tax returns (mean values by ranges); estates above filing threshold		OLS	None	
Barthold and Plotnick (1984)	Micro-data on c, 1,000 estates in excess of $40,000 in Connecticut probated in 1931, 1938 or 1944	0.44 log 0.15 linear	Tobit, linear and loglinear specifications	Age; gender; married; children; grandchildren; other relations; religion	4; multinomial logit of number of causes and Tobit for each cause
Joulfaian (1991)	Micro-data from c. 13,000 estate tax returns of decedents in 1986 with assets over $0.5m	0.23 log	Tobit, loglinear specification	Widow; single; divorced; age by ranges; shares of insurance and family business in wealth.	6; multinomial logit and poisson regression of number of causes

Table 1 continued

Auten and Joulfaian (1996)	Micro-data from c. 8,000 estate tax returns of decedents in 1982 with assets over $0.3m merged with 1980-82 income tax returns				
Joulfaian (2000)	Micro-data from estate tax returns of decedents in 1992 with assets over $0.6m	1.17 share model 0.25 log linear model	Tobit, of bequest and tax price, specification: Deaton/Muellbauer share equation.	Widow; single; divorced; age by ranges; share of family business in wealth; region.	
Bakija, Gale and Slemrod (2003)	Time series of tabulations by state/wealth level (5 categories), marital status; estates above filing threshold		Deaton/Muellbauer share equation, estimated by weighted two-stage LS	Year and state	

Table 2. Descriptive statistics on age and estate size

	All	**Men**	**Women**
Mean Age	79.0	76.1	81.5
Estate size (£s)			
Mean	221,338	231,848	212,910
10th Percentile	22,000	21,000	22,000
25th Percentile	58,900	53,000	64,000
Median	146,000	141,000	149,587
75th Percentile	255,000	255,500	254,000
90th Percentile	404,296	416,231	395,504
99th Percentile	1,345,789	1,474,567	1,237,808

Note: Sample size is 240,912 (Population A). The figures for 'All' include 1,722 observations for which gender is missing. Of the remainder, 45.6 per cent are men.

Table 3. Testacy, charitable bequeathing, and absolute bequeathing by estate size

Estate range (minimum value, £s)	% of Sample (cumulative)	% Testate	% of Testate making a Charitable Bequest	% of Charitable Legators leaving an Absolute Bequest	Mean Number of Bequests
5,000	2.4	52.9	10.7	57.3	2.3
10,000	11.7	71.8	12.5	65.3	2.4
25,000	18.9	75.6	12.4	58.5	2.6
40,000	25.3	78.1	12.7	56.5	2.7
60,000	31.0	79.3	12.4	64.3	2.7
80,000	36.7	81.5	11.5	66.0	2.8
100,000	51.1	85.5	12.2	68.6	2.8
150,000	64.0	89.6	13.8	71.0	2.9
200,000	74.0	91.8	15.3	74.1	3.1
250,000	82.5	92.5	17.3	75.3	3.0
300,000	89.8	93.7	22.0	78.7	3.6
400,000	93.4	94.7	27.0	80.1	3.8
500,000	98.2	95.4	32.9	83.1	4.2
1,000,000	99.5	96.3	41.2	84.8	4.9
2,000,000	99.8	97.0	43.1	88.7	5.0
3,000,000	100.0	98.6	51.0	79.2	4.8
All	100.0	85.1	16.3	72.7	3.2

Note: Sample size is 240,912 (Population A). The first number in the third column, 52.9, means that 52.9 per cent of individuals with estates worth between £5,000 and £9,999 are testate.

Table 4A. Testacy, charitable bequeathing and absolute bequeathing by age, men

Age Group (minimum value)	% of Sample (cumulative)	% Testate	% of Testate making a Charitable Bequest	% of Charitable Legators leaving an Absolute Bequest	Mean Number of Bequests
18	5.2	26.9	8.9	45.1	2.1
45	13.3	41.2	9.8	54.6	2.3
55	19.2	60.2	10.6	49.0	2.4
65	27.5	71.1	9.4	51.3	2.4
70	39.3	78.8	9.7	52.1	2.6
75	53.8	83.0	10.8	55.1	2.8
80	66.2	86.9	10.9	55.6	2.7
85	72.7	90.1	12.2	61.9	2.7
90	74.8	92.4	14.3	70.8	3.0
95	75.1	94.2	16.6	80.2	3.1
100	75.3	95.6	15.7	87.8	3.1
Missing	100.0	91.3	20.9	70.9	3.6
All		82.0	14.0	63.9	3.1

Note: Sample size is 128,968 (Population A for men). The first number in the third column, 26.9, means that 26.9 per cent of men between the ages of 18 and 44 were testate.

Table 4B. Testacy, charitable bequeathing and absolute bequeathing by age, women

Age Group (minimum value)	% of Sample (cumulative)	% Testate	% of Testate making a Charitable Bequest	% of Charitable Legators leaving an Absolute Bequest	Mean Number of Bequests
18	0.9	36.6	7.7	67.6	2.5
45	2.7	54.9	11.7	51.7	2.5
55	7.2	70.0	14.0	54.2	2.4
65	10.8	77.2	12.2	62.5	2.9
70	16.3	81.2	11.8	62.0	2.7
75	26.1	84.2	12.6	68.6	2.9
80	40.7	87.4	14.3	71.4	2.9
85	57.5	89.8	15.3	78.9	3.0
90	70.1	92.6	17.3	84.1	3.0
95	75.7	94.0	20.6	86.4	3.0
100	76.9	95.6	26.5	89.6	3.0
Missing	100.0	94.9	27.6	81.8	4.0
All		87.8	18.3	78.0	3.3

Note: Sample size is 133,092 (Population A for women). The first number in the third column, 36.6, means that 36.6 per cent of women between the ages of 18 and 44 were testate.

Table 5. Charitable bequeathing by type of bequest

Estate range (minimum value, £s)	% of Charitable Bequests made as:					Row Total	% of Bequests (cumulative)
	Absolute Effects	Absolute Pecuniary	Absolute Residual	Conditional Pencuniary	Conditional Residual		
5,000	4.0	23.5	16.3	20.8	35.3	100.0	0.7
10,000	2.7	33.2	9.9	26.2	28.0	100.0	5.1
25,000	2.0	32.6	12.6	17.9	35.0	100.0	8.9
40,000	1.4	31.6	14.3	18.2	34.5	100.0	12.8
60,000	1.4	37.4	12.3	18.8	30.1	100.0	16.1
80,000	1.2	35.9	10.6	23.0	29.2	100.0	19.5
100,000	1.5	41.9	8.3	21.8	26.5	100.0	28.7
150,000	1.6	42.2	7.9	23.5	24.9	100.0	39.1
200,000	1.4	43.7	8.4	24.1	22.4	100.0	48.9
250,000	1.3	48.6	7.6	22.1	20.3	100.0	58.1
300,000	1.5	48.4	7.0	26.4	16.7	100.0	70.1
400,000	1.3	49.5	6.5	26.3	16.4	100.0	77.9
500,000	1.2	51.4	6.0	26.9	14.5	100.0	91.9
1,000,000	1.5	55.2	5.0	25.6	12.7	100.0	97.6
2,000,000	2.1	56.9	2.0	29.0	10.0	100.0	98.7
3,000,000	1.6	59.2	4.8	22.7	11.7	100.0	100.0
All	1.5	45.0	24.0	8.0	21.5	100.0	

Notes to Table 5:

Sample size is 107,639 bequests from 33,482 estates (Population B). The first number in the second column, 4.0, means that 4 per cent of all bequests left by individuals with estates worth between £5,000 and £9,999 left an Absolute Effects bequest. Absolute Effects bequests are bequests of items unconditionally, Absolute Pecuniary bequests are bequests of cash, financial assets or real property left unconditionally, Absolute Residual bequests are a share of the estate after all bequests (charitable and non-charitable) left unconditionally, Conditional Pecuniary bequests are bequests of cash, financial assets or real property left conditionally, and Conditional Residual bequests are a share of the estate after all bequests (charitable and non-charitable) left conditionally.

Table 6. Probit baseline results for estate size, gender and age: marginal effects

	Testacy	Charitable Bequest if Testate	Absolute Bequest if Bequeathing
w10	5.890*	0.452	-0.724
	(0.202)	(0.368)	(1.163)
w20	0.711*	0.272	-0.545
	(0.136)	(0.209)	(0.653)
w30	0.469*	-0.481*	1.871*
	(0.106)	(0.154)	(0.485)
w40	0.746*	0.157	0.364
	(0.120)	(0.163)	(0.520)
w50	0.833*	0.447	0.851
	(0.133)	(0.164)	(0.520)
w60	0.393*	0.257	0.007
	(0.129)	(0.144)	(0.454)
w70	0.541*	0.363*	0.459
	(0.116)	(0.119)	(0.371)
w80	-0.401*	0.314	1.069*
	(0.112)	(0.109)	(0.333)
w85	0.336	0.458*	1.318*
	(0.141)	(0.127)	(0.377)
w90	0.071	0.417*	0.038
	(0.101)	(0.083)	(0.236)
w95	0.102	0.278*	0.194
	(0.064)	(0.049)	(0.133)
w99	0.036	0.087*	0.096*
	(0.014)	(0.009)	(0.024)
w100	0.025	0.012*	-0.017*
	(0.010)	(0.003)	(0.005)
male	-0.023*	-0.040*	-0.120*
	(0.001)	(0.002)	(0.005)
18-44	-0.525*	-0.043*	-0.063
	(0.009)	(0.011)	(0.050)
45-64	-0.239*	-0.006	-0.105*
	(0.004)	(0.004)	(0.015)
65-74	-0.081*	-0.019*	-0.057*
	(0.003)	(0.003)	(0.012)
75-79	-0.033*	-0.009	-0.016
	(0.003)	(0.003)	(0.011)

Table 6 continued

85-90	0.026*	0.013*	0.064*
	(0.002)	(0.003)	(0.008)
>90	0.061*	0.047*	0.144*
	(0.002)	(0.003)	(0.007)
Missing Age	0.010*	0.030*	-0.030*
	(0.003)	(0.004)	(0.010)
Schwarz criterion	0.0031	0.0032	0.0056
Observations	239,088	203,657	33,425
Pseudo-R2	0.151	0.0401	0.0680
Log Likelihood	-85,142	-87,279	-18,246

Notes:
1. Sample size is slightly smaller than for earlier tables: observations have been dropped for which gender is missing (1,722 persons), age is younger than 18 (44 persons) or wealth greather than £20m (59 persons).
2. Results are marginal effects that are estimated at the mean characteristics of the sample used in estimation. Estimated standard errors in brackets.
3. Estate size is entered in the model in millions; 'w10' shows the marginal effect of wealth for estates below the 10th percentile. Hence for persons with wealth at his level, a £10,000 increase in estate size is estimated to increase the probability of testacy by 5.89 percentage points (ceteris paribus), evaluating at mean characteristics.
4. The Schwarz criterion is the p-value corresponding to the critical value of the t-distribution used to judge whether an estimated effect is statistically significant, equal to $\sqrt{\log_e(N)}$. Significance is indicated by *.

Table 7. Probit results for region with controls for estate value, age and gender: marginal effects

	Testacy	Charitable Bequest if Testate	Absolute Bequest if Bequeathing
North East	-0.041*	-0.018*	0.056*
	(0.005)	(0.006)	(0.017)
North West	-0.037*	-0.006	0.026
	(0.004)	(0.004)	(0.012)
Yorkshire	-0.017*	0.001	0.029
	(0.004)	(0.005)	(0.013)
West Midlands	-0.024*	-0.001	0.020
	(0.004)	(0.004)	(0.013)
East of England	0.002	-0.007	-0.004
	(0.004)	(0.004)	(0.013)
London	-0.079*	-0.019*	0.018
	(0.005)	(0.004)	(0.013)
South East	0.010*	0.001	-0.002
	(0.003)	(0.004)	(0.012)
South West	0.023*	0.018*	-0.005
	(0.003)	(0.004)	(0.012)
Missing	-0.035*	-0.022*	0.040*
	(0.004)	(0.004)	(0.011)
Scotland	-0.032*	-0.057*	0.056*
	(0.004)	(0.004)	(0.013)
Wales	-0.053*	-0.026*	0.059*
	(0.005)	(0.005)	(0.014)
Foreign	-0.049*	-0.063*	-0.732*
	(0.011)	(0.009)	(0.013)
Schwarz criterion	0.0031	0.0032	0.0056
Observations	239,088	203,657	33,425
Log Likelihood	-84,469	-86,984	-18,096
Pseudo R2	0.158	0.0433	0.0757

Notes: see Table 6

Table 8. Charitable bequeathing by region

Region	% of Sample	Median Estate Size (£s)	% Testate	% of Testate making a Charitable Bequest	% of Charitable Legators making an Absolute Bequest
North East	2.9	107,000	80.0	13.5	73.9
North West	9.9	125,840	82.2	15.5	72.2
Yorkshire	6.8	124,000	84.0	16.2	71.9
East Midlands	6.1	132,000	85.9	16.0	68.4
West Midlands	7.6	134,000	83.3	16.1	71.1
East of England	8.5	173,000	88.4	17.0	70.7
London	7.5	225,000	82.1	17.9	75.8
South East	13.3	198,000	89.8	19.4	72.8
South West	10.0	178,000	90.9	20.2	71.6
Missing	13.5	124,000	83.7	14.7	75.9
Scotland	9.0	114,781	81.7	11.2	77.5
Wales	4.4	127,000	80.7	13.7	75.7
Foreign	0.6	74,423	79.9	9.2	1.0
All	100.0	146,000	84.6	16.3	72.7

Note: Sample size is 240,912 (Population A). There are 32,648 missing values for region. The first number in the fourth column, 80.0, means that 80 per cent of individuals residing in the North East are testate.

Table 9. Probit results with region and LSOA income deprivation: marginal effects

	Testacy	Charitable Bequeathing	Absolute Bequeathing
w10	4.898*	0.274	-1.322
	(0.232)	(0.454)	(1.354)
w20	0.662*	0.516	-0.214
	(0.155)	(0.258)	(0.765)
w30	0.466*	-0.313	2.196*
	(0.122)	(0.191)	(0.567)
w40	0.637*	-0.066	0.434
	(0.137)	(0.202)	(0.604)
w50	0.466*	0.309	0.860
	(0.149)	(0.200)	(0.598)
w60	0.313	0.112	0.126
	(0.141)	(0.173)	(0.519)
w70	0.447*	0.395	0.738
	(0.126)	(0.142)	(0.424)
w80	-0.327	0.463*	0.994
	(0.120)	(0.129)	(0.377)
w85	0.229	0.447*	1.229*
	(0.151)	(0.150)	(0.423)
w90	0.108	0.500*	0.127
	(0.107)	(0.097)	(0.263)
w95	0.070	0.253*	0.190
	(0.068)	(0.057)	(0.149)
w99	0.020	0.108*	0.098*
	(0.015)	(0.011)	(0.027)
w100	0.033	0.000	0.014
	(0.013)	(0.004)	(0.010)
18-44	-0.525*	-0.038	-0.079
	(0.011)	(0.014)	(0.058)
45-64	-0.234*	-0.004	-0.089*
	(0.005)	(0.005)	(0.017)
65-74	-0.074*	-0.019*	-0.065*
	(0.004)	(0.004)	(0.014)
75-79	-0.032*	-0.009	-0.013
	(0.003)	(0.004)	(0.013)

Table 9 continued

85-90	0.021*	0.011	0.064*
	(0.003)	(0.004)	(0.010)
>90	0.052*	0.042*	0.148*
	(0.002)	(0.004)	(0.008)
Missing Age	0.002	0.022*	-0.014
	(0.003)	(0.004)	(0.012)
North East	-0.024*	-0.019*	0.044
	(0.005)	(0.006)	(0.018)
North West	-0.024*	-0.006	0.019
	(0.004)	(0.004)	(0.013)
Yorkshire	-0.010	0.002	0.027
	(0.004)	(0.005)	(0.013)
West Midlands	-0.014*	-0.001	0.016
	(0.004)	(0.005)	(0.013)
East of England	0.000	-0.006	-0.002
	(0.003)	(0.004)	(0.013)
London	-0.053*	-0.018*	0.002
	(0.004)	(0.004)	(0.014)
South East	0.005	0.002	0.005
	(0.003)	(0.004)	(0.012)
South West	0.021*	0.020*	-0.005
	(0.003)	(0.004)	(0.012)
Male	-0.020*	-0.040*	-0.116*
	(0.002)	(0.002)	(0.006)
LSOA Income Deprivation	-2.590*	-0.149	4.872*
	(0.072)	(0.114)	(0.348)
Schwarz criterion	0.003	0.004	0.006
Observations	173,274	149,303	26,217
Pseudo-R2	0.166	0.0387	0.0767
Log likelihood	-58,071	-66,691	-14,343

Notes: Sample used in estimation is from England and Wales only. See also notes to Table 6.

Table 10. Charitable bequeathing to different causes, by gender and estate size

Cause	% of All Estates with a Bequest to the cause		% of Small Estates (<£40,000) with a Bequest to the cause		% of Large Estates (£0.5m+) with a Bequest to the cause		Ratio	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**	**Men**	**Women**
Animal	20.3	27.7	23.7	26.1	17.6	28.7	0.7	1.1
Worship	23.0	28.4	16.5	23.6	30.0	32.2	1.8	1.4
Phys. Disabilities	12.8	16.0	11.6	12.5	15.6	22.0	1.3	1.8
Hospice/Hospital	24.0	26.2	22.6	22.4	23.3	29.6	1.0	1.3
Religious	6.6	8.1	5.1	7.9	8.9	9.1	1.7	1.1
Child Welfare	9.0	10.4	7.6	7.7	11.9	14.5	1.6	1.9
Rescue Services	11.0	12.0	10.0	7.7	12.8	16.8	1.3	2.2
Medical Research	16.5	17.5	14.2	14.9	16.8	20.5	1.2	1.4
Nursing/Care	19.7	20.7	15.4	14.5	25.7	30.2	1.7	2.1
Overseas Aid	8.5	9.2	5.6	6.0	12.2	12.5	2.2	2.1
Cancer	22.6	22.8	22.3	21.0	21.0	23.8	0.9	1.1
Aged	6.9	7.0	5.3	5.8	11.7	10.9	2.2	1.9
Family Issues	0.3	0.3	0.3	0.3	0.4	0.5	1.3	1.7
Human Rights	2.0	1.8	1.1	1.0	3.4	3.1	3.1	3.0
Environment	4.7	4.5	2.5	2.2	6.9	7.9	2.8	3.6
Mental Health	3.8	3.3	2.8	2.7	5.2	4.4	1.9	1.6
Culture	7.4	6.1	4.0	2.7	12.2	12.8	3.0	4.7
Education	5.1	2.8	2.9	1.2	11.3	6.8	3.9	5.4
Services	7.8	5.4	5.7	3.4	10.7	9.0	1.9	2.6
Others	8.1	5.3	4.9	2.9	14.6	8.8	3.0	3.1

Notes: Sample size is 33,482 individuals (Population B). Causes are ordered on the difference between the rates for men and women in the second and third columns (all estates figures): the causes higher in the table are those causes favoured more by women. The first number in the second column, 6.9, means that 6.9 per cent of men leaving a charitable bequest left a bequest to a charity working with the aged. The column 'Ratio' shows are the ratio of the percentage of persons with estates of £0.5m bequeathing to the cause divided by the percentage of persons with estates of below £40,000 bequeathing to the cause. Values greater than 1.0 mean that the percentage of people leaving a bequest to that cause (conditional on leaving any charitable bequest) is higher for large estates than for small estates.

Table 11A. Charitable bequeathing to different causes, by estate size

Estate range (minimum value, £s)	Mean number of causes	Animal	Cancer	Hospice/ Hospital	Medical Research
5,000	1.7	28.8	18.8	20.0	10.6
10,000	1.8	23.8	22.8	20.9	14.6
25,000	1.9	25.7	20.9	25.0	15.4
40,000	2.0	26.4	21.3	24.4	16.9
60,000	2.0	22.7	22.1	23.6	15.8
80,000	2.1	25.1	22.1	24.0	14.4
100,000	2.0	25.3	22.6	24.2	16.1
150,000	2.1	25.3	23.6	25.4	17.0
200,000	2.3	25.1	22.5	26.3	17.1
250,000	2.2	23.2	22.7	25.3	17.2
300,000	2.5	25.5	23.4	26.2	18.1
400,000	2.7	26.9	24.9	27.9	19.6
500,000	2.8	24.4	23.0	27.0	19.2
1,000,000	3.2	25.1	22.5	27.1	19.2
2,000,000	3.3	22.1	21.7	27.9	18.8
3,000,000	2.9	18.8	19.1	26.3	16.7
All	2.3	24.9	22.8	25.3	17.1
Ratio		1.0	1.1	1.2	1.3
Mean Age		80.8	81.1	82.1	81.5

Notes: Sample size is 33,482 individuals (Population B). The first number in the third column, 28.8, means that 28.8 per cent of people with estates worth between £5,000 and £9,999 and who left a charitable bequest, left at least one bequest to a charity working with animals.

Table 11B. Charitable bequeathing to different causes, by estate size

Estate range (minimum value, £s)	Religious	Family Issues	Worship	Physical Disabilities	Mental Health
5000	6.7	0.3	18.5	8.2	2.7
10,000	6.6	0.3	21.6	12.9	2.6
25,000	7.0	0.2	20.6	12.1	2.8
40,000	6.8	0.2	21.4	12.7	3.1
60,000	7.4	0.4	25.8	12.4	3.9
80,000	7.3	0.2	25.4	13.4	3.0
100,000	7.9	0.2	23.4	12.5	2.4
150,000	6.6	0.3	25.7	13.3	2.8
200,000	7.6	0.3	27.2	14.7	3.3
250,000	7.1	0.3	26.5	14.6	3.8
300,000	7.7	0.3	28.7	16.1	4.1
400,000	7.8	0.4	29.0	16.8	4.1
500,000	8.8	0.3	30.2	18.9	4.4
1,000,000	9.8	0.4	32.4	20.8	5.3
2,000,000	10.0	1.7	34.2	19.2	6.3
3,000,000	7.8	1.0	37.9	18.8	5.1
All	7.6	0.3	26.4	14.8	3.5
Ratio	1.3	1.5	1.5	1.6	1.7
Mean Age	84.5	77.0	86.0	85.4	81.8

Note: see Table 11A.

Table 11C. Charitable bequeathing to different causes, by estate size

Estate range (minimum value, £s)	Child Welfare	Rescue Services	Nursing/ Care	Aged	Overseas Aid	Services
5000	8.2	7.0	15.2	7.3	6.7	4.2
10,000	7.7	7.5	14.8	5.0	5.7	3.9
25,000	7.7	10.2	14.7	5.9	6.0	4.7
40,000	7.4	9.7	16.9	6.2	7.4	4.2
60,000	7.8	8.2	16.8	5.1	7.4	4.9
80,000	8.7	9.9	17.2	6.3	8.8	4.8
100,000	7.9	10.0	17.3	5.7	7.2	4.7
150,000	8.4	11.1	17.5	4.9	7.8	4.9
200,000	9.9	11.0	18.9	6.4	8.5	6.1
250,000	9.6	12.6	19.4	5.5	8.4	6.4
300,000	11.2	13.6	24.1	7.1	10.1	7.7
400,000	12.4	13.1	23.7	8.7	11.8	7.3
500,000	12.2	14.7	26.8	10.0	11.9	8.8
1,000,000	16.8	15.9	32.0	14.0	14.7	11.6
2,000,000	16.3	19.2	35.8	15.0	10.4	12.1
3,000,000	12.3	14.7	25.9	11.9	10.6	10.6
All	9.9	11.6	20.3	6.9	8.9	6.3
Ratio	1.8	1.8	1.9	2.0	2.1	2.3
Mean Age	83.2	83.1	82.9	86.7	82.5	84.0

Note: see Table 11A.

Table 11D. Charitable bequeathing to different causes, by estate size

Estate range (minimum value, £s)	Human Rights	Others	Environment	Culture	Education
5000	1.2	3.9	2.4	3.0	1.2
10,000	1.0	3.2	2.4	2.9	2.1
25,000	1.2	4.0	2.0	3.5	1.7
40,000	1.1	5.6	4.1	3.7	1.8
60,000	0.4	4.5	3.0	5.6	2.5
80,000	1.5	5.4	2.7	4.7	2.0
100,000	1.5	4.6	3.0	4.2	2.1
150,000	1.2	5.1	3.9	4.6	2.5
200,000	1.9	5.7	4.0	5.8	2.4
250,000	1.7	6.1	4.6	6.0	2.9
300,000	2.4	6.5	5.5	7.6	3.9
400,000	2.3	8.2	7.4	9.6	5.3
500,000	3.1	9.2	7.1	11.1	7.3
1,000,000	3.7	13.3	9.5	15.5	11.6
2,000,000	1.3	20.8	6.3	16.7	11.3
3,000,000	4.8	19.1	5.5	14.3	10.2
All	1.8	6.4	4.6	6.6	3.7
Ratio	3.0	3.1	3.3	3.9	4.6
Mean Age	76.5	81.9	79.5	81.8	80.3

Note: see Table 11A.

Table A1. Distribution of cash bequests where the value is known

	Individual cash bequest (£s)	Total cash bequests (£s)
5th percentile	100	200
10th percentile	200	400
25th percentile	500	1,000
Median	1,000	3,000
75th percentile	3,000	10,000
90th percentile	10,000	31,000
95th percentile	10,000	60,000
Mean	3,594	14,470

Note: the second column gives the distribution of the values of the 25,417 individual cash bequests for which we know the value. The third column gives the distribution of total cash bequests (for which we know the value) in the 10,877 estates that contain these individual bequests.

Table A2. Average value of cash bequests where the value is known, by estate size

Estate range (minimum value, £s)	% of Charitable bequests that are absolute pecuniary	% of Absolute pecuniary bequests for which the value is recorded	Mean cash bequest (£s)	Median cash bequest (£s)
5,000	23.5	46.5	457	100
10,000	33.2	47.7	690	500
25,000	32.6	44.6	941	500
40,000	31.6	45.6	1,114	500
60,000	37.4	45.2	1,059	500
80,000	35.9	45.6	1,307	500
100,000	41.9	47.3	1,389	500
150,000	42.2	45.5	1,755	1,000
200,000	43.7	47.2	2,041	1,000
250,000	48.6	47.7	2,098	1,000
300,000	48.4	48.1	2,726	1,000
400,000	49.5	47.3	3,976	1,000
500,000	51.4	46.8	5,504	2,000
1,000,000	55.2	47.8	7,163	3,000
2,000,000	56.9	47.1	14,169	5,000
3,000,000	59.2	33.6	26,857	5,000
All	45.0	46.8	3,594	1,000

Notes: the mean and median values refer 25,417 individual cash bequests for which we know the value. See also Table A1.