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Abstract: Using data from the most recent large scale UK household longitudinal survey (UKHLS), we explore the effects of political ideology on charitable behaviour, specifically monetary donations and time volunteered. The UKHLS contains detailed information on political preferences, in terms of: political affiliation; the strength of support for political parties; the level of interest in politics and the party an individual would vote for tomorrow. We employ a number of modelling frameworks including static and dynamic models and double hurdle models, which allow political influences to have differing effects across the decision to donate and the amount of money or time donated. The consistent finding across the different estimators is that being aligned to a stated political party is positively associated with donating time and money. In addition, we find that political liberalism has a larger effect on both types of philanthropic behaviour than political conservatism. The largest effects across specifications are generally for alignment with the Green Party. However, further analysis reveals that, during the period of the UK Coalition Government and after its collapse when the Conservative Party gained power, the effect of political affiliation to the Green Party on monetary donations is substantially reduced, whereas the opposite effect is found for the amount of time volunteered.

Keywords: Monetary donations; Political affiliation; Volunteering.

JEL classification: C24; D64; H41; N3.

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1. Introduction and Background

We investigate the effect of political ideology on donating behaviour in the UK, in terms of the amount of money donated to charity and the amount of time volunteered. Recent figures from the Charities Aid Foundation (2016a) estimates total donations by adults in 2015 at £9.6 billion for the UK, whilst Giving USA (2016) estimate total charitable contributions in the U.S. in 2015 at $373.25 billion. Hence, it is not surprising that an extensive economics literature on charitable donations exists, which has focused on the decision to donate money.[1] Hours of unpaid labour volunteered by individuals in 2012 in the UK are estimated at 2.29 billion, equating to an average of around 8 hours per week worth £25.6 billion to the economy (ONS 2013).[2] However, in contrast to the literature on monetary donations, there is a much smaller body of research investigating the amount of time volunteered, i.e. the supply of unpaid labour. Contributions include Mencik and Weisbrod (1987), Freeman (1997) and Brown and Taylor (2018).[3]

With respect to reasons why individuals choose to donate time and/or money, the economics literature has generally adopted a utility maximising framework, where utility is an increasing function of monetary donations to charity and/or time volunteered. It is possible to think of two primary mechanisms by which donating time or money may increase utility, with both operating through the impure altruistic motive. The first is *warm glow*, which arises as a feel good factor from donating, see Andreoni (1989, 1990) and Ribar and Wilhelm (2002), whilst the second operates through perceived social image, the *prestige motive*, whereby social

[1] Andreoni (2006) and Andreoni and Payne (2013) provide extensive surveys of the influences on charitable donations. Common findings are that monetary donations are influenced by income (Auten et al., 2002) and that they fluctuate over the lifecycle (Glenday et al., 1986). For the U.S., Mencik and Weisbrod (1987) found that, in common with monetary donations, price and income effects were important factors determining the number of hours of unpaid labour volunteered. Furthermore, the literature has also considered the impact of tax deductibility and the associated price and income effects, e.g. Bönke et al. (2013).

[2] The figures are based on individuals who volunteer at least once per annum.

[3] Whilst not the focus of this paper, a number of studies have also explored whether monetary and time donations are substitutes or complements, e.g. Bauer et al. (2013), Brown and Lankford (1992) and Brown and Taylor (2018), where findings generally support complementarity.

approval is sought by the individual, see Bénabou and Tirole (2006), Ellingsen and Johannesson (2009) and Cappellari et al. (2011).

We contribute to the small literature on the relationship between political ideology and charitable behaviour, where the evidence to date is predominantly for the U.S. and is mixed.[4] For the U.S., Brooks (2005, 2006) argues that political conservatism is an important factor in determining philanthropic behaviour. Indeed, his results show that politically conservative individuals are more likely to donate both time and money to charitable causes. He hypothesises that, in the U.S., this arises, as the factors likely to drive charitable behaviour, e.g. religion and attending religious services, are more consistent with the lifestyles and outlook of conservative rather than liberal individuals. Kaikati et al. (2017) analyse qualitative data at the individual level obtained from staff and students in a mid-western U.S. university. Their findings are consistent with Brooks (2005, 2006) indicating that conservatives tend to be more generous when facing a liberal audience than when making donating decisions in private. In contrast, Forbes and Zampelli (2013) and Yen and Zampelli (2014) report findings for the U.S. suggesting that liberals donate more than people with other political affiliations.[5] Werfel (2018) uses a number of large-scale experiments in the U.S. to investigate whether government spending crowds out charitable giving. The analysis reveals that charitable giving can reduce support for government spending among liberal respondents. Moreover, he finds that liberals are more inclined to support those causes related to the arts, while moderates and conservatives are more likely to support human services.

Other studies have found no statistically significant relationship between political affiliation and donations of time and/or money. For example, Forbes and Zampelli (2014)

[4] Although not directly related to the analysis herein, using a national sample of Catholic church donations per week in the U.S. at the parish level, Hungerman et al. (2018) find that a presidential campaign stop can increase total donations to the parish by around 2 percent.

[5] In the context of the U.S. congress, Haas and Morton (2018) note that people expect liberals and democrats to be more generous, whilst conservatives and republicans are more moral.

analyse the decision to volunteer during the past year and find that the political identity of an individual, i.e. whether conservative or liberal, has no impact on the likelihood of volunteering. Luccasen et al. (2017) use a real donation experiment in the U.S. to explore links between contributions to poverty-relief charities and perceptions of federal transfers to low income households. They also ask participants to self-identify political affiliation and find that there is little correlation between political ideology and giving to charity.

All of the aforementioned U.S. studies, which examine the role of political ideology, are based upon cross-section data or data from experiments, and are not able to account for unobserved individual specific effects.[6] In contrast, we analyse a nationally representative panel dataset, *Understanding Society*, the UK Household Longitudinal Study (UKHLS), to investigate the relationship between political ideology and charitable behaviour from an empirical perspective. We are aware of no other empirical study for the UK, which has analysed the relationship between political affiliation and charitable behaviour. Our econometric modelling strategy allows for the fact that donations of money and time are not continuous outcomes. Monetary donations are censored and the distribution of hours volunteered is a count outcome. Our estimation approach takes these aspects of the distributions into account. Both types of donating behaviour are modelled within a random effects framework allowing for individual specific effects. In addition, exploiting the longitudinal nature of our data, we estimate dynamic models of charitable behaviour to allow for the habitual aspect to donating behaviour. Given that a large number of individuals do not donate money to charity and/or volunteer time, we also estimate double-hurdle models to explore which part of the distribution,

[6] Wiepking (2010) uses data from the Giving in the Netherlands Panel Study, where respondents record their political values on a five-point scale from 'very right' through to 'very left' wing. She considers the likelihood of giving to a large number of different types of charitable organisations. Using a conditional logit framework, she finds that those individuals with political tendencies aligned towards the left have a higher probability of donating to international organisations and a lower probability of donating from door-to-door solicitation. There are no significant effects of political alignment to the left on the probability of donating to charitable causes, which are faith based, or which have a focus on: children; culture; community/welfare; health/disability; and environment/animal protection.

if any, political affiliation influences, i.e. the probability of undertaking charitable behaviour and/or the non-zero amount of money/time donated. Finally, we investigate the effect of the political party in power when the individual was interviewed as our sample covers three periods: when the Labour Party was in power, the subsequent Coalition Liberal Democrat-Conservative Government, and, most recently, the Conservative Government. We explore whether the association between political affiliation and donating behaviour varies over the different periods of government. In what follows, Section 2 introduces the data used in the analysis, Section 3 describes the empirical methodology, the results are presented and discussed in Section 4 and Section 5 concludes.

2. Data

We use data from *Understanding Society*, the UK Household Longitudinal Study (UKHLS), to investigate the relationship between political ideology and the proportion of annual income donated to charity over the past year and the number of hours of unpaid labour volunteered during the last four weeks. The UKHLS is designed to capture life in the UK and how it is changing over time.[7] Participants live in Scotland, Wales, Northern Ireland and England. The survey contains information about people's social and economic circumstances, attitudes, behaviours and health. In the first wave, over 50,000 individuals were interviewed between 2009 and 2011. Correspondingly, in the latest available wave (wave 8) over 39,000 individuals were interviewed between 2016 and 2018. Interviews for waves 2, 4 and 6 contain information on the monetary amount donated to charity over the last twelve months and the number of hours volunteered during the past four weeks. In addition, there are a number of questions relating to political ideology.[8] We construct an unbalanced panel of individuals over the three

[7] The survey builds on its predecessor, the British Household Panel Survey (BHPS), which covered the period 1991 to 2008.

[8] Although wave 8 also contains information on charitable donations of time and money, it does not contain questions regarding political ideology.

waves, where the sample size comprises 28,142 individuals aged 16 and over, who are observed between 1 and 3 times yielding total observations of 62,228.

With respect to political ideology, initially individuals are asked in the interview whether they support a particular political party and if they feel closer to one party in particular. If the individual responds 'yes' to either of the aforementioned questions, they are then asked: to state which political party they are closest to as well as the strength of support for the stated political party. Those individuals who do not support a political party or do not feel close to any one particular group are asked to state the political party that they would vote for tomorrow. Finally, all individuals are asked to state their level of interest in politics. Our sample covers England only and the following political parties: Conservative; Labour; Liberal Democrats; and the Green Party.[9]

We estimate models of the amount of money donated to charity in the past 12 months as a proportion of the individual's annual total income (from employment, benefits and other sources), and we also model the number of hours volunteered during the last four weeks. Each outcome is conditioned on an extensive set of socio-economic covariates, $\boldsymbol{X}_{it}$, as well as information on political ideology, $\boldsymbol{PA}_{it}$. The modelling approach is detailed in Section 3 below.

The set of covariates included in $\boldsymbol{X}_{it}$ is informed by the existing literature and includes the following: Gender; ethnicity; age, specifically aged 16-24, aged 25-34, aged 35-44, aged 45-54 and aged 55-64 (over 65 is the reference category); the number of children in the household aged 2 or under, aged between 3-4, aged 5-11 and aged 12-15; the number of adults in the household; married or cohabiting; highest educational qualification, i.e. degree (undergraduate or postgraduate), other higher qualification (e.g. teaching or nursing), Advanced (A) level, General Certificate of Secondary Education (GCSE), where no education

[9] For the analysis, only these four political parties are consistently available in each wave.

is the omitted category;[10] the natural logarithm of monthly labour income; the natural logarithm of monthly non-labour income; the natural logarithm of monthly savings; labour force status, specifically employed, self-employed, or unemployed (all other labour market states constitute the reference category);[11] housing tenure, whether the home is owned outright, owned via a mortgage or privately rented (all other types of tenure make up the omitted category); whether the individual attends religious services once a month or more frequently (with less than once a month and never as the omitted category); religious denomination, Church of England, Roman Catholic, other Christian, Muslim, or other religion (no religion is the reference category). We also control for self-reported health status, specifically excellent health, good health or fair health (with poor and very poor health as the reference category); measures of cognitive ability,[12] specifically word recall (respondents were asked to remember a list of 10 words and repeat them back to the interviewer immediately),[13] numeric ability (a series of short number puzzles to measure the use of numbers in everyday life),[14] verbal fluency (the number of animals that the respondent can correctly name in a minute); the Big Five personality traits,[15] i.e. agreeableness, conscientiousness, extraversion, neuroticism and openness to experience. The final set of controls are eleven region of residence controls (with London as the reference category) and wave controls.

Summary statistics are given in Table 1A for the dependent variables, where Panel A focuses on the amount donated to charity as a proportion of total income and Panel B focuses

[10] GCSE level qualifications are taken after eleven years of formal compulsory schooling and approximate to the U.S. honours high school curriculum. The A level qualification is a public examination taken by 18 year olds over a two-year period studying between one to four subjects and is the main determinant of eligibility for entry to higher education in the UK.
[11] This includes retirement, family care, full time students and the long-term sick or disabled.
[12] The measures of cognitive skill are standardised to mean zero and unit standard deviation.
[13] For full details of the tests, see McFall (2013).
[14] A similar test of cognitive ability has been used by Banks et al. (2010).
[15] To mitigate against the potential problem of life cycle effects influencing personality traits and the subsequent measurement error this might induce, following the existing literature, we condition each personality trait on a polynomial in age. The resulting residuals are standardised (zero mean and unit standard deviation) and used as indicators of personality traits net of life cycle influences (see, for example, Nyhus and Pons, 2005, Brown and Taylor, 2014, and Aidt and Rauh, 2018).

on the number of hours volunteered.[16] The top part of Panel A reports the descriptive statistics for all individuals regardless of whether they make a monetary donation to charity. The average monetary amount donated to charitable causes during the past year is £161. Charitable donations over the past year as a proportion of annual income are, on average, low, at around 1%. It can be seen from Table 1A Panel A that around 68% of the sample made a monetary donation to charity during the past year. Based on donators only, the proportion of annual income donated to charity increases to 1.5%, see final row of Table 1A Panel A. Turning to the number of hours of unpaid labour volunteered, the top part of Panel B reports the descriptive statistics. Across all individuals, the average number of hours volunteered over the last four weeks is just under 2 hours 30 minutes. It can be seen from Table 1A Panel B that around 16% of the sample volunteered over the last month. The number of hours volunteered amongst those who volunteer is, on average, 15, see final row of Table 1A Panel B. Figures 1 and 2 show the distributions of the two dependent variables for those who donate to charity and volunteers, respectively.

In Table 1B, summary statistics are provided for the explanatory variables, where around 44% are male, 39% are aged between 35 and 54, 24% have a degree as their highest level of educational attainment, over 70% own their house either outright or with a mortgage, around 19% of individuals attend a religious service at least once a month and the average level of monthly labour (non-labour) income equates to £1,413 (£708) and monthly savings are £129.

Table 1C provides summary statistics relating to the main covariates of interest, i.e. political affiliation, $\boldsymbol{PA}_{it}$, where the labour party is characterised by the highest proportion of individuals responding that they feel closest to this party at 27%. The final two columns of the table provide correlation coefficients between each political affiliation variable and the two

[16] All monetary variables are deflated to 2009 constant prices.

outcome variables of interest, where some differences across political party affiliation are apparent.[17]

3. Methodology

We model charitable donations as a proportion of income denoted by don_{it} as a censored outcome via a random effects tobit specification, as is common in the literature (e.g. Andreoni and Payne, 2013), across individuals $i = 1,2,\dots,28142$ and time $t = 1,2,3$ as follows:

$$don_{it}^{*} = \boldsymbol{X}_{it}'\boldsymbol{\beta} + \boldsymbol{PA}_{it}'\boldsymbol{\gamma} + \alpha_i + \epsilon_{it} \quad (1a)$$

$$don_{it} = \max[0, don_{it}^{*}] \quad (1b)$$

where $\boldsymbol{X}_{it}$ is a vector of covariates, $\boldsymbol{PA}_{it}$ is a vector of political affiliation variables, α_i is an individual specific random error and ϵ_{it} is a white noise error term. Following Brown and Taylor (2018), when modelling the number of hours volunteered, vol_{it}, we treat this as a count outcome and adopt an exponential functional form, where the expected value of volunteering conditional on the covariates is given as:

$$E[vol_{it}|\boldsymbol{X}_{it}, \boldsymbol{PA}_{it}, \alpha_i] = \exp(\boldsymbol{X}_{it}'\boldsymbol{\beta} + \boldsymbol{PA}_{it}'\boldsymbol{\gamma} + \pi_i) \quad (2a)$$

where $\pi_i = \log(\alpha_i)$. Assuming that volunteering has a Poisson distribution with expectation

$$\lambda_{it} = \exp(\boldsymbol{X}_{it}'\boldsymbol{\beta} + \boldsymbol{PA}_{it}'\boldsymbol{\gamma} + \pi_i) \quad (2b)$$

then the probability mass function of vol_{it} conditional on the covariates and individual specific effect is given as follows:

$$\text{prob}\{vol_{it} = v|\boldsymbol{X}_{it}, \boldsymbol{PA}_{it}, \alpha_i\} = \exp(-\lambda_{it})\lambda_{it}^{v}/v! \quad (2c)$$

For both outcomes, the key parameters of interest are given in the vector $\boldsymbol{\gamma}$ in terms of whether the political affiliation variables: (i) have a positive (or negative) effect on monetary donations

[17] Amongst those individuals who state the political party they feel closest to, 13% switch party affiliation over the sample period. The highest (lowest) percentage of switching political party alignment is for Labour (Green) Party at 7% (2%). Considering all individuals, 34% switch from having no party affiliation to feeling aligned to a stated party (where the dominant category is the Labour Party). These patterns and the relative stability of political preferences are consistent with the evidence provided in Aidt and Rauh (2018).

and/or time volunteered; and (ii) are larger for political conservatives, as found by Brooks (2006), or for liberals, as reported by Yen and Zampelli (2013).

For both dependent variables (see Table 1A), there are a large number of individuals who do not donate money and/or volunteer. Hence, we also model donations and volunteering using a double-hurdle approach following Cragg (1971). Specifically, we model the two part-process of the distribution in order to assess the following: (i) whether the political affiliation covariates only affect the probability of donating money (volunteering time); (ii) whether the political affiliation variables are only associated with the proportion of income donated to charity (number of hours volunteered) conditional on donating (volunteering); or (iii) whether the political affiliation variables are associated with both parts of the distribution, i.e. the probability (selection) and the amount (the outcome, i.e. money or time). The hurdle model is defined by the relationship $Y_{it} = (S_{it} \times Y_{it}^{*})$, where Y_{it} is the observed outcome of the dependent variable, i.e. the proportion of income donated to charity, don_{it}, or the amount of time volunteered, vol_{it}:

$$S_{it} = 1(\boldsymbol{X}_{1it}'\boldsymbol{\beta}_1 + \boldsymbol{PA}_{it}'\boldsymbol{\gamma}_1 + \varepsilon_{1it} > 0) \quad (3a)$$

$$Y_{it}^{*} = \boldsymbol{X}_{2it}'\boldsymbol{\beta}_2 + \boldsymbol{PA}_{it}'\boldsymbol{\gamma}_2 + \varepsilon_{2it} \quad (3b)$$

The selection variable, S_{it}, equals one if the dependent variable is not bounded (i.e. the individual donates money or volunteers time and is zero otherwise), where $\boldsymbol{X}_{1it}$ is a vector of covariates, which influence the probability of making a monetary donation or volunteering time. The continuous outcome is a latent variable Y_{it}^{*} and is observed only if $S_{it} = 1$, i.e. if the individual donates money or volunteers. For the proportion of income donated to charity, the outcome equation (3b) is a linear model, whilst, for the number of hours volunteered, equation (3b) is exponential, where $\boldsymbol{X}_{2it}$ is a vector of explanatory variables associated with this part of the distribution.[18]

[18] In the double hurdle framework, the standard errors are clustered at the individual level.

To identify the model, following Pudney (1989) and Yen and Zampelli (2014), we enter the budget constraint variables, namely income and savings, only in the outcome equation (3b). In a similar vein, following existing literature, see Ben-Ner et al. (2004a,b), Hauser (2000) and James (2011), which suggests that cognitive skills and personality traits influence the probability of engaging in charitable behaviour, we enter cognitive skills and personality traits only in the selection equation (3a).[19] In addition, there are common control variables in $\boldsymbol{X}_{1it}$ and $\boldsymbol{X}_{2it}$, as defined above in Section 2.[20] The parameters of particular interest are $\boldsymbol{\gamma}_1$ and $\boldsymbol{\gamma}_2$ in terms of the sign, statistical significance, and the respective magnitudes.

4. Results

The results discussion is organised into three sub-sections. Firstly, we focus on the relationship between political affiliation and the amount of money donated and time volunteered, estimating random effects tobit and count models, respectively. Secondly, we explicitly model the donating decision and the amount of money/time donated via a double hurdle approach, which allows for the two-part nature of the distribution of charitable behaviour. Finally, we explore the impact of the changes in government, which occurred over the sample period, on the association between political affiliation and charitable behaviour.

4.1. The amount of money and time donated

Table 2 presents the results from modelling both monetary donations (first column) and time volunteered (second column), conditional on the covariates in $\boldsymbol{X}_{it}$, and which political party the individual feels closest to, $\boldsymbol{PA}_{it}$. Monetary donations are modelled via a random effects

[19] For example, Ben-Ner et al. (2004a,b) found that personality traits are associated with a higher probability of donating. With respect to cognitive skills, Hauser (2000) showed an association between volunteering and verbal proficiency, whilst James (2011) found that higher cognitive ability was associated with a higher probability of charitable giving.

[20] It is important to acknowledge that the tobit and the count models detailed above include zero and non zero values in the estimations. The findings indicate whether the explanatory variables influence the expected value of the dependent variable, which could be operating at zero and/or positive values of the dependent variable. In contrast, the double hurdle approach allows us to evaluate the effects at the two different parts of the distribution of the dependent variable.

tobit estimator with marginal effects reported,[21] whilst hours volunteered are based upon a random effects Poisson count model with coefficients reported.[22] Before focusing on the political variables of interest, we briefly discuss how other covariates are associated with donations of time and money.

The age effects are consistent with the evidence reported in the existing literature, such as Lankford and Wyckoff (1991), Auten and Joulfaian (1996) and Schokkaert (2006) for monetary donations, and Mencik and Weisbrod (1987) and Freeman (1997) for volunteering time. As commonly found in the literature, being male is inversely associated with donations as a proportion of income and hours volunteered, at approximately 50 per cent and 17 per cent lower than females, respectively. For time volunteered, the composition of the family is important, where having children aged 2 or under is inversely associated with hours volunteered. Indeed, individuals with children in this age group volunteer 58 per cent fewer hours relative to individuals without dependent children. Increasing levels of educational attainment have a positive monotonic relationship with both the proportion of income donated to charity and the number of hours volunteered, which is consistent with the findings in the existing literature, see, for example, Schokkaert (2006) and Cappellari et al. (2011).

In terms of the monetary controls, we find that the effects of labour, non-labour income and monthly savings are generally statistically significant yet inelastic, which is consistent with the findings of Auten et al. (2002) for monetary donations. The share of income donated to charitable causes is inversely associated with the level of income (from both labour and non-labour sources). This finding accords with the existing literature, see, for example, List (2011), and the recent evidence from the Charities Aid Foundation (2016a) UK Giving report, which

[21] These marginal effects are based on the expected value of the dependent variable (for both censored and uncensored observations), given a vector of covariates and parameters, for a unit change in a covariate.

[22] Focusing on the number of hours volunteered, omitting subscripts from equation (2) for brevity, and defining $\boldsymbol{w} = (\boldsymbol{X}', \boldsymbol{PA}')'$, $\boldsymbol{\phi} = (\boldsymbol{\beta}, \boldsymbol{\gamma})$, then adding 1 to the k^{th} independent variable in $\boldsymbol{w}$ (i.e., a unit change), the functional form of the model implies: $\frac{E\{vol|\boldsymbol{w},(w_k+1),\epsilon\}}{E\{vol|\boldsymbol{w},w_k,\epsilon\}} = \frac{E\{vol|w_1,w_2,\ldots,(w_k+1),\epsilon\}}{E\{vol|w_1,w_2,\ldots,w_k,\epsilon\}} = \exp(\phi_k)$. Given that the outcome of interest is a count variable, the normalized effect $\exp(\phi_k)$ is the Incidence Rate Ratio (IRR) for a one-unit change in w_k.

suggests that those individuals with a lower income, such as the retired, contribute to charity out of accumulated wealth rather than their current income. However, labour and non-labour income have opposing effects on time volunteered, where a 1% increase in labour (non-labour) income decreases (increases) the time spent volunteering by 2.4 (2.3) per cent. Monthly savings are positively associated with both types of charitable behaviour, increasing the proportion of income donated to charity by around 9 per cent and the number of hours of unpaid labour volunteered by just under 3 per cent.

With respect to labour market status, being self-employed or employed is positively associated with the proportion of income donated to charity as compared to those not in the labour force (predominately retirees). Conversely, when focusing on donations of time, not surprisingly being employed is associated with fewer hours volunteered relative to those not in the labour market, which potentially reflects the opportunity cost of time in that employees' leisure hours are likely to be more constrained, see Freeman (1997). In accordance with the existing U.S. literature, such as Feldman (2010), homeownership, explicitly stating a religious denomination, or being an active member of a religious group are all positively associated with donations of money and time. This latter finding is consistent with Bauer et al. (2013), who jointly model the probability of making a monetary donation and volunteering time for a group of European countries. Their analysis reveals that being a church member positively influences the likelihood of undertaking both types of charitable behaviour.

The measures of cognitive ability are found to be positively associated with the proportion of income given to charitable causes, which is consistent with James (2011). Interestingly, numeric cognitive ability has the largest effect in terms of magnitude, which might reflect the possibility that such individuals may more accurately predict future lifetime income and, hence, may be more willing and prone to donate to charity. With respect to the Big Five personality traits, agreeableness, extraversion and openness to experience are all

positively related to the proportion of annual income donated to charitable causes. Conscientiousness is inversely related to charitable donations and volunteering, which is consistent with the results of Donnelly et al. (2012), who report that highly conscientious individuals are more able to manage their money through greater levels of financial self-control.

We now turn to the main variables of interest associated with political affiliation. In accordance with results for the U.S. from Yen and Zampelli (2014), our findings are not in line with the hypothesis put forward by Brooks (2005, 2006) that political conservatives are more charitable than liberals.[23] In terms of the magnitude of the estimated parameters, we find the following effects for each political party. Compared to not supporting a specific political party or not feeling closer to any one party, we find that feeling closest to the Green Party is associated with donating approximately 73 per cent more of annual income to charitable causes and volunteering 54 per cent more hours. Being affiliated with the Liberal Democrats, in comparison to not supporting a specific political party, is associated with donating around 48 per cent more of their annual income to charity and volunteering 35 per cent more hours. The corresponding figures for Conservatives are also positive, although much smaller at 37 per cent and 22 per cent, respectively. Finally, the smallest effects are found for being aligned with the Labour Party, where, compared to not stating support for a specific party, the respective magnitudes fall to 32 per cent and 18 per cent. These effects relating to political affiliation remain after including a large number of controls such as religion and frequency of attending religious services, which are likely to be related to political outlook, see Brooks (2006).[24]

[23] It is debatable how comparable the results herein are to the U.S. literature, due to differences in the political system and that on average U.S. and European citizens differ when it comes to policy preferences, with the former being more conservative, e.g. Alesina and Angeletos (2005) and Luttmer and Singhal (2011).

[24] We have been careful to refer to associations rather than causal relationships. In particular, political affiliation may be endogenous due to reverse causation with donating behaviour. We have explored whether our results hold under a more stringent conditioning framework accounting for potential endogeneity bias. The UKHLS contains some households with two or more generations of adults. By focusing on a sample of young adults (aged 16 or above), we model their donating behaviour on their political affiliation, which has been instrumented by whether their parents changed their political affiliation between waves. The results for a sample of 1,800 children (2,235

The results presented so far are based on a static panel estimation framework. Following Wooldridge (2005), we examine the robustness of the political affiliation effects in a dynamic version of the model, i.e. where a lagged dependent variable is included, given that charitable behaviour may be habitual (e.g. Meer, 2013). The regression model is of the form:

$$Y_{it} = \psi Y_{it-1} + \boldsymbol{X}'_{it}\boldsymbol{\beta} + \boldsymbol{P}\boldsymbol{A}'_{it}\boldsymbol{\gamma} + \alpha_i + \epsilon_{it}$$

$$\alpha_i = \alpha_0 + \alpha_1 Y_{i0} + \bar{\boldsymbol{X}}'_i\boldsymbol{\pi} + \omega_i$$

where Y_{it} is the outcome of interest (i.e. the proportion of income donated to charity, don_{it}, or the amount volunteered, vol_{it}). The individual specific effect α_i is conditioned on the initial state, Y_{i0}, i.e. the amount donated (time or money) when first observed in the panel, and the group means of time varying covariates, $\bar{\boldsymbol{X}}_i$.[25] State dependence is ascertained in terms of the statistical significance of Y_{it-1} and the magnitude of ψ.

The results are shown in Table 3, which is structured in the same way as Table 2, where, for brevity, only the lagged dependent variable and political affiliation variables are shown. There is clear evidence of persistence in charitable giving of money and time, which is consistent with the findings of Smith et al. (1995), Rosen and Sims (2011) and Meer (2013). Moreover, the effects of the political party the individual feels closest to remain in terms of the statistical significance and magnitude of the effects. Affiliation with the Green Party and affiliation with the Liberal Democrats have the largest positive effects on donating behaviour relative to those who do not state an affiliation. This is consistent with the fact that many views of these two parties are complementary, i.e. they compete for voters of a similar profile (see Birch, 2009). Affiliation with the Conservative Party and affiliation with the Labour Party have smaller effects on donating behaviour, but these remain positive relative to having no stated

observations), matched to their parents, reveals that, relative to no party affiliation, the effects of being affiliated to the Green Party and Liberal Party have the dominant effects on both donations of time and money, which is consistent with the above findings.

[25] Wooldridge (2005) shows that this framework is appropriate for a number of non-linear estimators.

political affiliation. In summary, when accounting for dynamics in donating behaviour, relative to those who do not state a political affiliation, having an alignment to a particular party remains positive and statistically significant as found in the static model. Finally, the effects of Labour Party affiliation are larger than those of Conservative Party affiliation, relative to those who do not express a political affiliation.

We now further explore the robustness of our findings related to the political affiliation variables. In Table 4 Panels A to D, we examine: (i) the strength of support for the stated political party; (ii) the sample of individuals who do not state a political affiliation but who state the party they would vote for tomorrow; (iii) the level of interest that the individual has in politics; and (iv) the political party they feel closest to interacted with their level of interest in politics.[26] Considering Table 4 Panel A, in comparison to individuals who do not state support for a political party, the effects on donating behaviour of being affiliated with the Green Party or the Liberal Democrats are still greater than the corresponding effects of being affiliated with the Labour Party or the Conservatives. However, surprisingly, the degree of support does not uniformly have a monotonic effect on the level of charitable behaviour across political parties. For example, the largest effects for those who feel closest to the Conservative Party are for individuals who do not have very strong support for the party. In contrast, for the Liberal Democrats, the strength of support for the party has a positive monotonic effect on donations of both time and money, which is increasing in the level of support.

In Table 4 Panel B, we focus on the sub-sample of 15,355 individuals who state that they do not support a political party and do not feel close to any one particular group. These individuals are asked to state the political party that they would vote for tomorrow. Consistent with the evidence presented so far, the analysis of this sub-sample reveals that the largest effects

[26] Given that allowing for dynamics did not alter our findings, we return to the static framework for the additional robustness analysis.

on both donations of time and money stem from those individuals who would vote for the Liberal Democrats and the Green Party compared to individuals who would not vote tomorrow or do not state who they would vote for. In general, these effects are positive with the exception of those who would vote for the Labour Party tomorrow and time volunteered. Interestingly, there is no association between whether the individual would vote for the Conservative Party tomorrow and the amount of time donated.

Returning to the full sample, we now focus on the level of interest that the individual has in politics. The results in Table 4 Panel C suggest an increasing positive monotonic relationship with both types of charitable behaviour for the level of interest that the individual states that they have in politics, relative to having no interest at all. In Panel D, we interact the level of interest that the individual states they have in politics with the party that they feel closest to. For each political party, the magnitude of the association with donations of time and money increases with the level of interest in politics, relative to those individuals who do not state an alignment to a political party. For example, focusing on the Conservative Party, for the proportion of income donated to charity (time volunteered) and, for those who are not very interested, fairly interested or very interested in politics, the increase in donations is 30, 40 and 60 per cent, respectively (21, 24 and 42 per cent, respectively), relative to not stating a political affiliation. The positive effects are particularly large for being very interested in politics and supporting the Green Party or the Liberal Democrats relative to having no political affiliation. These effects are larger than the comparable figures for either the Labour Party or the Conservative Party.[27]

[27] The above models were re-estimated conditioning donations (of time or money) at time *t* on the political affiliation variables measured in the previous wave, i.e. *t-1*. Conditioning on lagged political affiliation helps to mitigate the potential for reverse causality since, as argued by Angrist and Pischke (2009). The political affiliation variables now predate the outcome variable of interest. The results were essentially unchanged from the analysis reported in Tables 2 to 4. However, given the wording associated with the political affiliation questions, we interpret these as the respondent's *current view* (which may change over time) and, hence, prefer the contemporaneous specifications. Moreover, the introduction of lags reduces the length of the panel.

4.2. Modelling the two parts of the distribution – the double hurdle approach

Given that a large proportion of the sample do not make a monetary donation to charity and/or do not volunteer any hours of unpaid labour, as can be seen from Figures 1 and 2, we also estimate double hurdle models following Yen and Zampelli (2014). This allows us to explicitly model both parts of the distribution, where we allow the political variables to influence both the probability of donating, i.e. the hurdle, and the amount donated. The results are shown in Tables 5 and 6 for monetary and time donations, respectively. Each table has three columns reporting: (1) overall average marginal effects; (2) results for the hurdle, where coefficients and average marginal effects for the probability of donating are given; and (3) coefficients for the outcome, i.e. amount (money or time) conditional on donating. This approach allows us to compare the magnitudes of the effects of political affiliation across both the selection and the outcome, where the overall average marginal effect is a combination of the two respective parts of the model. Omitting i and t subscripts, this is given by:

$$\partial E(Y|\boldsymbol{X},\boldsymbol{PA})/\partial x_k = \partial\{\text{prob}(S=1|\boldsymbol{X}_1,\boldsymbol{PA}) \times E(Y|Y>0,\boldsymbol{X}_2,\boldsymbol{PA})\}/\partial x_k,$$

where the numerator is the derivative of the conditional mean. Each table is split into five panels, where Panel: (A) focuses on the party the individual is closest to; (B) relates to the strength of support for the stated political party; (C) focuses on the sub-sample of individuals who do not state a political affiliation but who state the party the individual would vote for tomorrow; (D) explores the level of interest in politics; and (E) explores the interaction between the level of interest in politics and the political party the individual feels closest to.

Table 5 shows the results of the hurdle model of charitable donations as a proportion of total income. Panel A presents overall marginal effects, which are very similar in terms of magnitude to those in Table 2 Panel A, where the outcome was modelled via a random effects tobit estimator. These similarities highlight the robustness of our findings. It is apparent that, in general, for each political party, the largest effect is on the hurdle part of the distribution, i.e.

the decision to donate money, rather than the outcome, i.e. the proportion of income donated. The exception is for those who feel closest to the Green Party, where the coefficient is larger for the proportion of income donated to charity conditional on giving. Feeling closest to the Conservative (Green) Party is associated with a 7.7 (10.6) per cent higher probability of making a monetary donation and, conditional on donating, these individuals give 15 (60) per cent more income to charitable causes than individuals who are not aligned to any particular party. In terms of the strength of support for the stated political party, Panel B presents the overall marginal effects. There is a monotonic relationship with the proportion of income donated to charity as the level of support increases. This would appear to stem from the effect on the outcome rather than selection into donating behaviour, i.e. comparing the magnitude of the coefficients between columns 2 and 3.

For those individuals who do not state a preference for any political party, but are asked who they would vote for tomorrow, the analysis from Panel C reveals that voting for the Liberal Party or the Green Party is positively associated with the amount donated as a proportion of income relative to those individuals who would not vote tomorrow. These effects are larger than the corresponding estimates found for the Conservative party. Consistent with the findings from Table 5 Panel A, the largest effects in terms of magnitude, when comparing coefficients across the two parts of the distribution, stem from the hurdle, i.e. donating money, rather than the outcome, i.e. the proportion of income donated conditional on donating (see Panel C). The level of interest that an individual has in politics has a positive association with donating behaviour, increasing monotonically in the level of interest (consistent with the evidence from the tobit analysis shown in Table 2), where again the dominant effect stems from the decision to donate, as can be seen from Panel D by comparing columns 2 and 3. Finally, Panel E reveals that, for each political party, across both parts of the distribution, the magnitude of the

association with donations of money increases with the level of interest in politics, relative to those individuals who do not state an alignment to a political party.

The double hurdle analysis for hours volunteered is shown in Table 6. In contrast to the positive association between political affiliation and monetary donations revealed across both parts of the distribution, i.e. on the probability of giving money and the proportion of income donated, in Table 5, the analysis of hours volunteered reveals opposing effects on the two parts of the distribution. Throughout each panel of Table 6, it can be seen that stating a political affiliation is positively associated with the probability of volunteering time, but reduces the number of hours volunteered (conditional on being a volunteer). For example, considering the political party an individual feels closest to (see Panel A), the overall marginal effects are positive, which is consistent with the analysis of Tables 2 to 4 and are larger for affiliation with the Liberal Democrats compared to affiliation with the Conservatives (indeed the overall effect is insignificant for the latter). Feeling closest to the Conservative (Liberal Democrat) Party is associated with being 2.4 (5.7) per cent more likely to volunteer relative to those not stating a political affiliation. However, conditional on providing unpaid labour, affiliation with the Conservatives is associated with volunteering around 12 per cent fewer hours than individuals who do not state an affiliation to a political party.

Turning to the strength of support for the stated party, see Table 6 Panel B, with the exception of being aligned with the Conservatives, the dominant category for the overall effect and the hurdle is for ‘very strong support’ (see columns 1 and 2). For the outcome part of the distribution, i.e. the number of hours volunteered, conditional on donating time, it is perhaps not surprising that expressing ‘not very strong support’ is associated with the largest negative effect on the amount of time donated. For the subset of the sample not stating support for any political party but who indicate the political party that they would vote for tomorrow, the only significant overall effect relates to the Labour Party with negative effects on both the

probability of volunteering and the amount of time given. Finally, considering the level of interest in politics (see Panels D and E), greater interest in politics has an overall positive influence on time volunteered and this stems from selection into volunteering behaviour.

4.3. Changes in Government, political affiliation and donating behaviour

In this sub-section, we investigate whether changes in government over the period of our sample influenced the relationship between political party alignment and donating behaviour. On 6th May 2010, a general election was held in the UK where prior to this date the Labour Party had been in power since 1997. After 11th May 2010, a coalition government was formed between the Conservative Party and the Liberal Democrat Party. The coalition agreement lasted for five years ending on 7th May 2015 when the Conservatives gained power replacing the Coalition Government. We adopt the following modelling framework to explore whether the political party in power affects the relationship between charitable behaviour and political party affiliation:

$$Y_{it} = \boldsymbol{X}_{it}'\boldsymbol{\beta} + \delta_1 coalition_{it} + \delta_2 conservative_{it} + \sum_{k=1}^{3} \pi_k PA_{kit} +$$

$$\sum_{k=1}^{3} \phi_k (PA_{kit} \times coalition_{it}) + \sum_{k=1}^{3} \theta_k (PA_{kit} \times conservative_{it}) + \alpha_i + \epsilon_{it}$$

where Y_{it} is the outcome of interest, i.e. the proportion of income donated to charity, don_{it}, or the number of hours volunteered, vol_{it}, modelled via a tobit or count estimator, respectively, incorporating random effects. We focus on individuals who state a political party affiliation in order to link political affiliation with the government in power. The sample is reduced to 18,832 individuals (37,215 observations) who state a political party affiliation, where the reference category is feeling affiliated to the Labour Party.[28] The following binary indicators are constructed: $coalition_{it} = 1$, if the date that the individual was interviewed on was after 11th May 2010 but before 7th May 2015 (i.e. the period of the Coalition Government, 85.3% of the

[28] The interpretation of the results is different to the previous analysis since the reference category has changed. We have selected affiliation with the Labour Party as the reference category as the Labour Party was in power at the start of our period of analysis.

sample were interviewed during this window), and $conservative_{it} = 1$ if the individual was interviewed after 7th May 2015 (7.9% of the sample were interviewed during this window). Hence, the reference period is when the Labour Party was in office, which corresponds to 6.8% of the sample. We also define political party affiliation controls: $PA_1 = 1$ if the individual identifies as being more closely affiliated to the Conservative Party; $PA_2 = 1$ if the individual identifies as being more closely affiliated to the Liberal Democrat Party; and $PA_3 = 1$ if the individual identifies as being more closely affiliated to the Green Party. During the period of the Labour Government, the role of political affiliation is ascertained by each of the π parameters (all relative to being affiliated to the Labour Party). During the period of the Coalition Government, the effect of affiliation to the Conservative (Liberal Democrat) Party is given by $\pi_1 + \phi_1$ ($\pi_2 + \phi_2$), relative to being affiliated to the Labour Party. The corresponding effects for when the Conservative Party came into government are given by $\pi_1 + \theta_1$ ($\pi_2 + \theta_2$).

The results of the empirical analysis are shown in Table 7, which is structured in the same way as Table 2, with the first column focusing on the proportion of income donated to charity and the second column focusing on the number of unpaid hours of labour volunteered. Additional controls include binary indicators for the day, month and year of interview. The change in government appears to have no direct statistically significant effect on monetary donations as the null hypothesis that $\delta_1 = 0$ and $\delta_2 = 0$ cannot be rejected. Conversely, time spent volunteering is positively associated with the Coalition Government and the Conservative Government being in power compared to the period when the Labour Party was in power. Considering the differential effects of political affiliation during the period of the coalition agreement and the period of the Conservative Government, some interesting findings emerge. Whilst the joint parameter tests are significant for each party affiliation during the Coalition Government, the only significant individual differential effect is for the Green Party. Specifically, compared to those people who are aligned to the Labour Party, during the period

of the Labour Government, feeling closest to the Green Party is associated with donating approximately 182 per cent more of annual income to charitable causes. However, during the period of the Coalition Government, this effect falls to 85 per cent, i.e. $(\hat{\pi}_3 + \hat{\phi}_3)$. In terms of time volunteered, the effect of being aligned to the Conservative Party is also moderated under the Coalition Government.

Following the collapse of the Coalition Government after the May 2015 general election, the results reveal that the association between feeling closest to the Conservative (Green) Party and the proportion of income donated to charity is dramatically reduced compared to the period when the Labour Party was in government. Interestingly, the effect of feeling closest to the Conservative Party whilst the Conservatives were in government has a negative effect on monetary donations to charity of around 17 percentage points, i.e. $(\hat{\pi}_1 + \hat{\theta}_1) = (0.2627 - 0.4354) = -0.173$. The findings for monetary donations after the collapse of the Coalition Government contrast with those found when considering the amount of time volunteered. During the period of the Labour Government, there was no influence of alignment to the Green Party (relative to feeling closest to the Labour Party) on hours volunteered. However, post-election after the Liberal Democrats lost their place in government, the effect of alignment with the Green Party becomes statistically significant increasing time volunteered by around 56 per cent, i.e. $\exp(\hat{\pi}_3 + \hat{\theta}_3)$. Interestingly, the analysis of Table 7 reveals that the only time that political alignment to the Liberal Democrat Party has an influence on donations of time and money is during the period of the Labour Government and, perhaps surprisingly, not during the period of the Coalition Government.

5. Conclusion

We have explored how political ideology influences donations of time and money, after conditioning on a wide range of covariates. As far as we are aware, this is the first paper for the UK to explore this issue, as well as being the first in the literature to employ longitudinal

data. The small existing literature based on evidence for the U.S. has revealed conflicting evidence, with Brooks (2005) reporting that conservatives donate more than liberals, whilst Yen and Zampelli (2014) find the opposite result, and Luccasen et al. (2017) find no relationship between giving and political ideology. Our analysis, which is robust to using a number of estimation strategies, reveals that being affiliated to the Liberal Democrats has a greater effect on charitable behaviour than being affiliated to the Conservatives. Interestingly, affiliation with the Green Party relative to having no affiliation generally has the largest effect on donations of time and money. However, the extent of the association between monetary donations as a proportion of income and alignment to the Green Party was substantially moderated during the period of the UK Coalition Government and its successor the Conservative Government (after the Coalition Government collapsed), relative to the period of when the Labour Party was in power.

Given the fundamentally important role that charities play in supporting a vast range of national and international causes, understanding what drives people to make charitable donations is an important area of research. Such considerations may also influence the policy agenda in terms of, for example, fiscal policy and tax relief, when considering monetary donations. This is also apparent when considering the supply of unpaid labour, i.e. time donations. Prior to the 2015 UK general election, the government had intended that such activity should be recognised by amending the Working Time Regulations to entitle people to 28 days of paid vacation and 3 days of paid volunteering, although subsequently after the election and the change in Government, this pledge was not met. Clearly, understanding what influences volunteering and donating behaviour at the individual level is important, given the contribution of donations of time and money to the UK economy. For example, unpaid volunteering has recently been estimated at £25.6 billion (ONS, 2013) and monetary donations to charity are approximately 0.7% of annual GDP (Charities Aid Foundation, 2016b). We hope

that our empirical findings will stimulate further research into the motivations behind charitable behaviour.

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FIGURE 1: Charitable donations (donators only) as a proportion of total income

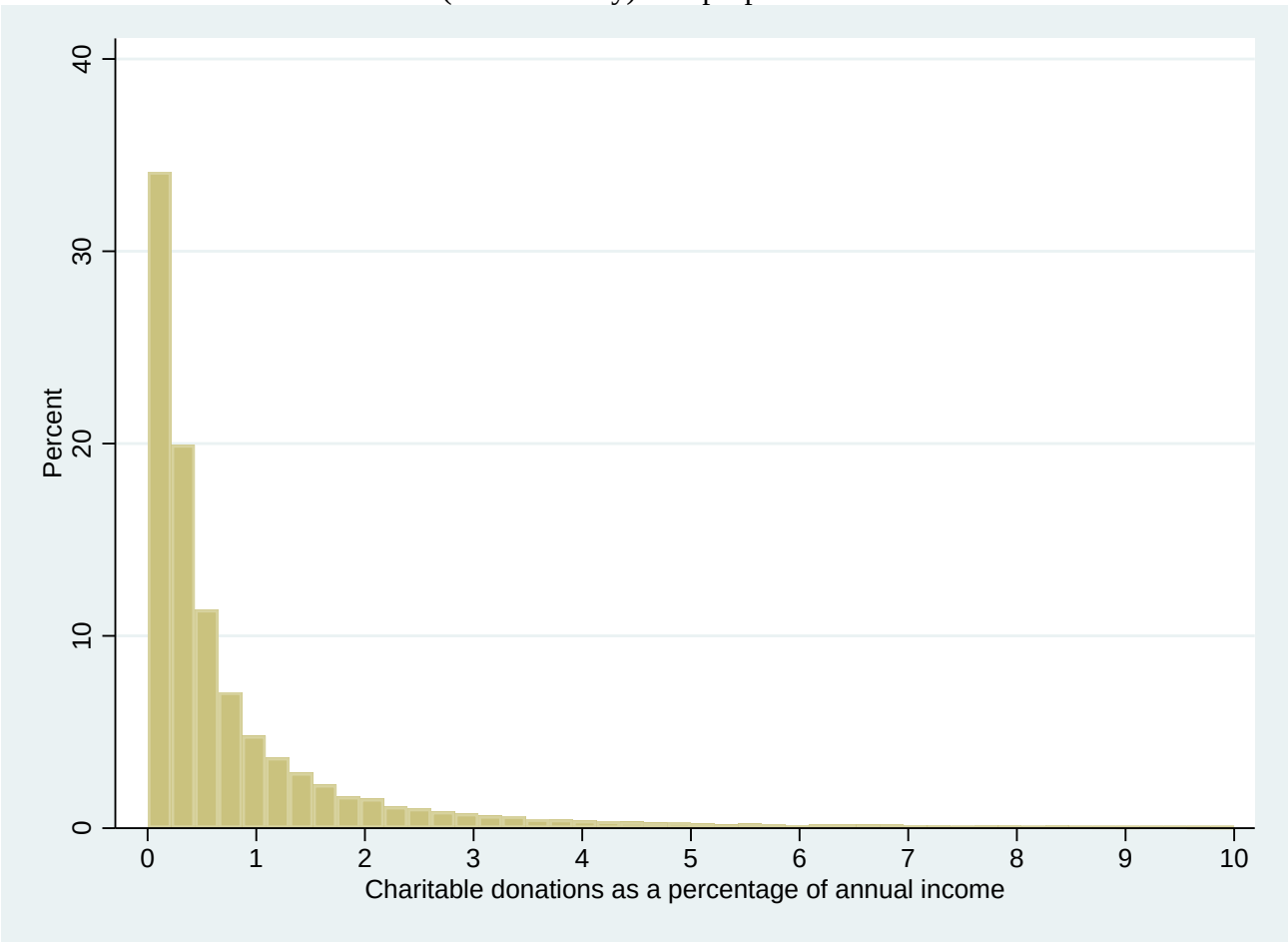

FIGURE 2: Number of hours volunteered (volunteers only)

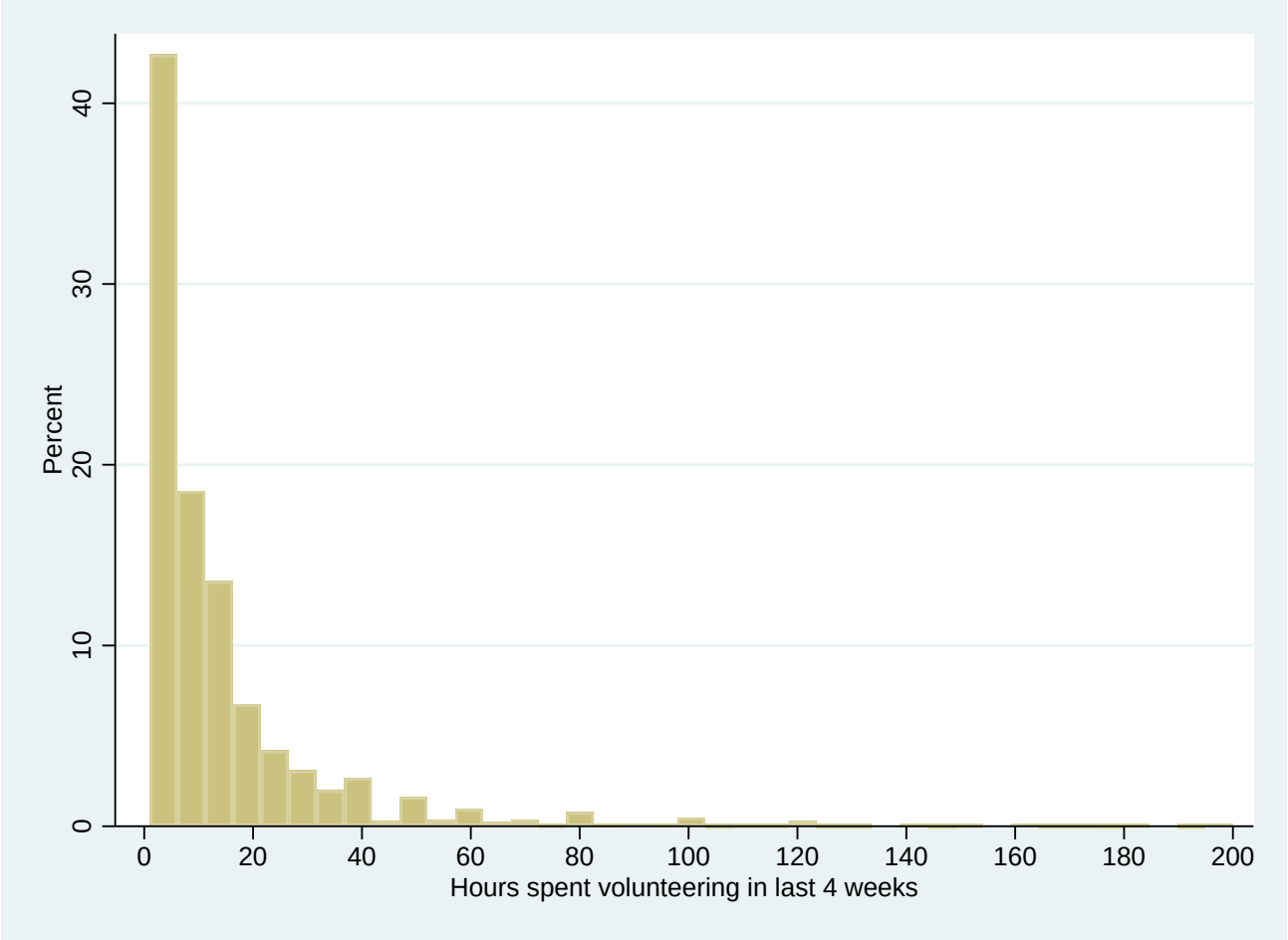

TABLE 1A: Summary statistics dependent variables

PANEL A: Charitable donation as a proportion of annual income, don_{it}

	MEAN	STD. DEV.	MIN	MAX
Charitable donations over past 12 months (£)	160.909	496.08	0	11,546
Charitable donations as a proportion of annual income (%)	1.004	4.13	0	10
OBSERVATIONS		62,228		

IF NOT EQUAL TO ZERO	MEAN	STD. DEV.	MIN	MAX
Charitable donations over past 12 months (£)	235.26	585.08	1	11,546
Charitable donations as a proportion of annual income (%)	1.468	4.93	0.001	10
OBSERVATIONS (% non-zero)		42,562 *(68.40%)*		

PANEL B: Number of hours volunteered, vol_{it}

	MEAN	STD. DEV.	MIN	MAX
Number of hours volunteered during past 4 weeks	2.389	9.97	0	200
OBSERVATIONS		62,228		

IF NOT EQUAL TO ZERO	MEAN	STD. DEV.	MIN	MAX
Number of hours volunteered during past 4 weeks	15.038	20.88	1	200
OBSERVATIONS (% non-zero)		9,884 *(15.88%)*		

TABLE 1B: Summary statistics explanatory variables, $\boldsymbol{X}_{it}$

	MEAN	STD. DEV.	MIN	MAX
Aged 16-24	0.0789	0.2697	0	1
Aged 25-34	0.1450	0.3521	0	1
Aged 35-44	0.1946	0.3959	0	1
Aged 45-54	0.1972	0.3979	0	1
Aged 55-64	0.1668	0.3728	0	1
Male	0.4398	0.4964	0	1
Number of children aged 2 or under	0.1014	0.3387	0	6
Number of children aged 3-4	0.0726	0.2726	0	3
Number of children aged 5-11	0.2523	0.5944	0	7
Number of children aged 12-15	0.1468	0.4166	0	5
Number of adults in household	2.1936	0.9724	0	12
Married or cohabiting	0.5509	0.4974	0	1
GCSE	0.1867	0.3897	0	1
A level	0.0777	0.2677	0	1
Degree	0.2389	0.4264	0	1
Other higher qualification	0.0894	0.2978	0	1
Employee	0.5151	0.4997	0	1
Self employed	0.0812	0.2732	0	1
Unemployed	0.0390	0.1937	0	1
Home owned outright	0.3309	0.4705	0	1
Home owned on a mortgage	0.3980	0.4895	0	1
Home privately rented	0.0807	0.2723	0	1
White British	0.5423	0.4982	0	1
Frequency of attending religious services	0.1888	0.3907	0	1
Church of England	0.2622	0.4398	0	1
Roman Catholic	0.0745	0.2625	0	1
Christian	0.0375	0.1901	0	1
Muslim	0.0440	0.2050	0	1
Other religion	0.0928	0.2902	0	1
Health excellent	0.1525	0.3595	0	1
Health good	0.6193	0.4856	0	1
Health fair	0.1273	0.3333	0	1
Word recall	0	1	-3.6995	2.1631
Numeric ability	0	1	-3.2334	1.2505
Verbal fluency	0	1	-3.1236	8.3020
Agreeableness	0	1	-4.4689	1.3164
Conscientiousness	0	1	-4.0293	1.3723
Extraversion	0	1	-2.7537	1.8498
Neuroticism	0	1	-1.7762	2.3908
Openness to experience	0	1	-2.6985	1.8743
Natural logarithm of monthly labour income	4.5914	3.6460	0	9.7667
Natural logarithm of monthly non-labour income	4.5647	2.9137	0	9.7667
Natural logarithm of monthly savings	2.0942	2.5833	0	11.3015
INDIVIDUALS (N)		28,142		
OBSERVATIONS (NT)		62,228		

TABLE 1C: Summary statistics – political explanatory variables, $\boldsymbol{PA}_{it}$

	MEAN	STD. DEV.	ρ_1	ρ_2
which political party closest to				
Conservative	0.2502	0.4331	0.0333*	0.0311*
Labour	0.2675	0.4427	0.0019	-0.0102
Liberal democrat	0.0635	0.2438	0.0268*	0.0412*
Green party	0.0168	0.1286	0.0201*	0.0160*
No party stated (reference category)	0.4020	0.4902	-0.0496*	-0.0429*
political party closest to & strength of support				
Conservative very strong support	0.0162	0.1266	0.0066	0.0117*
Conservative fairly strong support	0.0900	0.2862	0.0196*	0.0277*
Conservative not very strong support	0.1437	0.3508	0.0225*	0.0116*
Labour very strong support	0.0287	0.1670	-0.0038	0.0154*
Labour fairly strong support	0.0978	0.2970	0.0054	-0.0102
Labour not very strong support	0.1408	0.3478	-0.0004	-0.0115*
Liberal very strong support	0.0022	0.0472	0.0090*	0.0127*
Liberal fairly strong support	0.0157	0.1244	0.0198*	0.0277*
Liberal not very strong support	0.0455	0.2084	0.0175*	0.0287*
Green party very strong support	0.0010	0.0321	0.0011*	0.0132*
Green party fairly strong support	0.0071	0.0839	0.0155*	0.0140*
Green party not very strong support	0.0087	0.0928	0.0135*	0.0050
level of interest in politics				
Very interested	0.1164	0.3207	0.0329*	0.0536*
Fairly interested	0.3714	0.4832	0.0356*	0.0299*
Not very interested	0.2792	0.4486	-0.0079*	-0.0287*
Not at all interested (reference category)	0.2330	0.4228	-0.2001*	-0.4237*
INDIVIDUALS (N)		28,142		
OBSERVATIONS (NT)		62,228		

	MEAN	STD. DEV.	ρ_1	ρ_2
political party would vote for tomorrow				
Conservative	0.1634	0.3697	0.0262*	0.0179*
Labour	0.2278	0.4194	-0.0005	-0.0360*
Liberal democrat	0.0840	0.2765	0.0363*	0.0223*
Green party	0.0653	0.2471	0.0100*	0.0191*
No party stated (reference category)	0.4601	0.4984	-0.0441*	-0.0048
INDIVIDUALS (N)		15,355		
OBSERVATIONS (NT)		24,882		

Notes: (i) ρ_1 (ρ_2) are pairwise correlation coefficients between each of the political variables and charitable donation as a proportion of annual income (number of hours volunteered); (ii) * denotes statistically significant at the 5 per cent level.

TABLE 2: Modelling charitable donations as a proportion of total income and hours volunteered

	DONATION ÷ ANNUAL INCOME		HOURS VOLUNTEERED	
	ME	*t-stat*	COEF	*t-stat*
Aged 16-24	-0.6570	*6.68*	-0.3318	*4.18*
Aged 25-34	-0.2747	*3.29*	-0.4831	*7.13*
Aged 35-44	-0.0073	*0.09*	-0.3567	*5.74*
Aged 45-54	0.0656	*0.91*	-0.1633	*2.97*
Aged 55-64	0.1448	*2.44*	-0.1008	*2.35*
Male	-0.5183	*13.19*	-0.1760	*5.58*
Number of children aged 2 or under	-0.0002	*0.01*	-0.5409	*10.70*
Number of children aged 3-4	-0.0797	*1.41*	-0.0657	*1.35*
Number of children aged 5-11	0.0028	*1.09*	0.1232	*5.04*
Number of children aged 12-15	0.0201	*1.51*	0.0958	*3.19*
Number of adults in household	-0.0235	*1.20*	-0.0243	*1.48*
Married or cohabiting	0.2960	*7.40*	0.1172	*3.53*
GCSE	0.2477	*4.79*	0.1882	*4.33*
A level	0.5378	*7.50*	0.3045	*5.30*
Degree	0.5587	*10.50*	0.5518	*13.30*
Other higher qualification	0.2912	*4.52*	0.4105	*8.09*
Employee	0.3138	*3.84*	-0.2531	*4.25*
Self employed	0.7391	*8.22*	0.1430	*2.26*
Unemployed	-0.3120	*3.43*	-0.0100	*0.14*
Home owned outright	0.5839	*10.61*	0.3238	*7.29*
Home owned on a mortgage	0.5218	*10.60*	0.1559	*3.77*
Home privately rented	-0.3736	*5.11*	-0.2018	*2.95*
White British	0.1780	*3.13*	0.1082	*2.36*
Frequency of attending religious services	0.8953	*18.60*	0.7366	*21.37*
Church of England	0.1212	*2.67*	0.2088	*5.72*
Roman Catholic	0.1227	*1.73*	-0.0173	*0.29*
Christian	0.6995	*7.42*	0.5409	*8.16*
Muslim	0.7986	*8.14*	-0.0516	*0.59*
Other religion	0.4414	*6.57*	0.3011	*6.05*
Health excellent	0.4953	*7.62*	0.4263	*7.86*
Health good	0.4672	*8.68*	0.3730	*7.90*
Health fair	0.2573	*4.03*	0.2091	*3.80*
Word recall	0.1385	*6.64*	0.0891	*5.28*
Numeric ability	0.2891	*13.75*	0.1949	*11.39*
Verbal fluency	0.1541	*7.53*	0.1238	*7.58*
Agreeableness	0.0426	*2.24*	-0.0269	*1.71*
Conscientiousness	-0.0317	*1.84*	-0.0367	*2.35*
Extraversion	0.0561	*3.01*	0.0824	*5.49*
Neuroticism	0.0324	*1.72*	-0.0124	*0.81*
Openness to experience	0.0955	*4.93*	0.1144	*7.23*
Natural logarithm of monthly labour income	-0.2617	*22.68*	-0.0236	*2.93*
Natural logarithm of monthly non-labour income	-0.1451	*20.13*	0.0233	*3.97*
Natural logarithm of monthly savings	0.0894	*14.39*	0.0284	*6.07*
which political party closest to				
Conservative	0.3681	*8.50*	0.2022	*5.89*
Labour	0.3233	*7.97*	0.1692	*5.05*
Liberal democrat	0.4779	*7.19*	0.2973	*6.33*
Green party	0.7276	*6.17*	0.4340	*5.46*
Wald $\chi^2(58)$; p-value	4,615.88; p=0.000		3,724.82; p=0.000	
INDIVIDUALS (N)	28,142			
OBSERVATIONS (NT)	62,228			

Notes: (i) other controls include region and year dummies; (ii) charitable donations as a proportion of income are estimated via a tobit model with random effects where the table reports marginal effects (ME); (iii) the number of hours volunteered are modelled as a count outcome with random effects where the table reports coefficients (COEF).

TABLE 3: Modelling charitable donations as a proportion of total income and hours volunteered – allowing for dynamics

	DONATION ÷ ANNUAL INCOME		HOURS VOLUNTEERED	
	ME	*t-stat*	COEF	*t-stat*
Lagged dependent variable	0.0516	*5.44*	0.0167	*14.03*
which political party closest to				
Conservative	0.2431	*4.39*	0.1352	*3.56*
Labour	0.3354	*6.53*	0.1608	*4.28*
Liberal democrat	0.3394	*3.64*	0.2444	*4.41*
Green party	0.7017	*4.86*	0.5363	*6.51*
Wald $\chi^2(85)$; p-value	4,218.40; p=0.000		6,575.46; p=0.000	
INDIVIDUALS (N)	20,208			
OBSERVATIONS (NT)	32,558			

Notes: (i) other controls as in Table 2 and the mean of time varying covariates; (ii) charitable donations as a proportion of income are estimated via a tobit model with random effects where the table reports marginal effects (ME); (iii) the number of hours volunteered are modelled as a count outcome with random effects where the table reports coefficients (COEF).

TABLE 4: Modelling charitable donations as a proportion of total income and hours volunteered

PANEL A: Strength of support for stated political parted	DONATION ÷ ANNUAL INCOME		HOURS VOLUNTEERED	
	ME	*t-stat*	COEF	*t-stat*
political party closest to & strength of support				
Conservative very strong support	0.2636	*2.17*	0.2079	*2.38*
Conservative fairly strong support	0.3611	*6.68*	0.1865	*4.18*
Conservative not very strong support	0.3946	*7.36*	0.2183	*5.72*
Labour very strong support	0.2391	*2.51*	0.2961	*4.32*
Labour fairly strong support	0.3566	*6.38*	0.1740	*3.87*
Labour not very strong support	0.3151	*6.59*	0.1485	*3.77*
Liberal very strong support	0.7957	*2.54*	0.8920	*5.27*
Liberal fairly strong support	0.5910	*4.97*	0.4212	*5.50*
Liberal not very strong support	0.4295	*5.77*	0.2305	*4.39*
Green party very strong support	0.7061	*1.60*	0.5093	*2.11*
Green party fairly strong support	0.9034	*5.16*	0.4919	*4.48*
Green party not very strong support	0.5955	*3.83*	0.3795	*3.48*
Wald $\chi^2(65)$; p-value	4,622.03; p=0.000		3,752.63; p=0.000	
INDIVIDUALS (N)	28,142			
OBSERVATIONS (NT)	62,228			

PANEL B: Party would vote for tomorrow	DONATION ÷ ANNUAL INCOME		HOURS VOLUNTEERED	
	ME	*t-stat*	COEF	*t-stat*
political party would vote for tomorrow				
Conservative	0.3367	*5.72*	0.0277	*0.44*
Labour	0.2034	*3.77*	-0.1258	*1.99*
Liberal democrat	0.5171	*6.91*	0.3121	*4.13*
Green party	0.3977	*4.76*	0.4315	*5.15*
Wald $\chi^2(58)$; p-value	1,975.18; p=0.000		1,423.23; p=0.000	
INDIVIDUALS (N)	15,355			
OBSERVATIONS (NT)	24,882			

Notes: (i) other controls as in Table 2; (ii) charitable donations as a proportion of income are estimated via a tobit model with random effects where the table reports marginal effects (ME); (iii) the number of hours volunteered are modelled as a count outcome with random effects where the table reports coefficients (COEF); (iv) Panel B is based upon a sub-sample of individuals who do not support a particular political party and who are not closer to one political party than others.

TABLE 4 (cont.): Modelling charitable donations as a proportion of total income and hours volunteered

PANEL C: Level of interest in politics	DONATION ÷ ANNUAL INCOME		HOURS VOLUNTEERED	
	ME	*t-stat*	COEF	*t-stat*
level of interest in politics				
Very interested	0.8178	*13.42*	0.6063	*12.76*
Fairly interested	0.6485	*14.40*	0.3565	*9.05*
Not very interested	0.4145	*9.38*	0.2090	*5.25*
Wald $\chi^2(58)$; p-value	4,727.38; p=0.000		3,826.05; p=0.000	
INDIVIDUALS (N)	28,142			
OBSERVATIONS (NT)	62,228			

PANEL D: Level of interest in politics and political party closest to	DONATION ÷ ANNUAL INCOME		HOURS VOLUNTEERED	
	ME	*t-stat*	COEF	*t-stat*
political party closest to × political interest				
Conservative × very interested	0.6017	*6.93*	0.3501	*5.83*
Conservative × fairly interested	0.3970	*7.68*	0.2175	*5.49*
Conservative × not very interested	0.2998	*4.85*	0.1877	*3.94*
Labour × very interested	0.5573	*7.40*	0.5402	*10.28*
Labour × fairly interested	0.3585	*7.10*	0.1581	*3.87*
Labour × not very interested	0.1829	*2.97*	0.0108	*0.20*
Liberal × very interested	0.6336	*4.13*	0.5706	*6.21*
Liberal × fairly interested	0.6058	*6.86*	0.3390	*5.71*
Liberal × not very interested	0.3610	*3.31*	0.2518	*3.22*
Green party × very interested	1.0321	*4.39*	0.5805	*4.17*
Green party × fairly interested	0.8646	*5.30*	0.4843	*4.54*
Green party × not very interested	0.3651	*1.60*	0.3685	*2.18*
Wald $\chi^2(67)$; p-value	4,669.55; p=0.000		3,859.12; p=0.000	
INDIVIDUALS (N)	28,142			
OBSERVATIONS (NT)	62,228			

Notes: (i) other controls as in Table 2; (ii) charitable donations as a proportion of income are estimated via a tobit model with random effects where the table reports marginal effects (ME); (iii) the number of hours volunteered are modelled as a count outcome with random effects where the table reports coefficients (COEF).

TABLE 5: Hurdle model of charitable donations as a proportion of total income

PANEL A: Political party closest to	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
Conservative	0.2131	*13.53*	0.2327	*15.49*	0.0767	*15.62*	0.1549	*8.87*
Labour	0.1854	*12.57*	0.2241	*16.22*	0.0740	*16.36*	0.1280	*7.61*
Liberal democrat	0.3508	*12.05*	0.2930	*11.78*	0.0951	*12.41*	0.2696	*9.99*
Green party	0.7884	*10.37*	0.3292	*7.16*	0.1059	*7.76*	0.6005	*12.36*
Wald $\chi^2(49)$; p-value				15,250.92; p=0.000				
INDIVIDUALS (N)				0.1922				
OBSERVATIONS (NT)				62,228				

PANEL B: Strength of support for stated political parted	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
Conservative very strong support	0.2911	*6.22*	0.1992	*4.42*	0.0640	*4.43*	0.2525	*4.99*
Conservative fairly strong support	0.2356	*10.58*	0.2498	*11.60*	0.0803	*11.63*	0.1662	*6.93*
Conservative not very strong support	0.2025	*10.77*	0.2259	*12.71*	0.0726	*12.76*	0.1379	*6.79*
Labour very strong support	0.2431	*6.64*	0.2300	*6.79*	0.0740	*6.80*	0.1834	*4.60*
Labour fairly strong support	0.2253	*10.47*	0.2350	*11.85*	0.0756	*11.89*	0.1605	*6.88*
Labour not very strong support	0.1605	*8.58*	0.2144	*12.60*	0.0689	*12.64*	0.0941	*4.62*
Liberal very strong support	0.5455	*4.41*	0.1449	*1.22*	0.0466	*1.22*	0.5715	*4.27*
Liberal fairly strong support	0.4303	*9.29*	0.3902	*8.03*	0.1255	*8.05*	0.3319	*6.73*
Liberal not very strong support	0.3011	*10.42*	0.2670	*9.46*	0.0868	*9.47*	0.2335	*7.54*
Green party very strong support	0.8133	*4.67*	0.7017	*3.24*	0.2256	*3.24*	0.6428	*3.58*
Green party fairly strong support	0.6826	*9.94*	0.3748	*5.31*	0.1205	*5.31*	0.6317	*8.65*
Green party not very strong support	0.5852	*9.32*	0.2589	*4.19*	0.0832	*4.19*	0.5685	*8.45*
Wald $\chi^2(57)$; p-value				15,284.98; p=0.000				
INDIVIDUALS (N)				28,142				
OBSERVATIONS (NT)				62,228				

PANEL C: Party would vote for tomorrow	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
Conservative	0.1584	*7.21*	0.2498	*10.00*	0.0885	*10.13*	0.1174	*3.80*
Labour	0.0801	*4.28*	0.1697	*7.79*	0.0607	*7.86*	0.0398	*1.36*
Liberal democrat	0.2308	*7.44*	0.3103	*9.49*	0.1091	*9.72*	0.1867	*4.77*
Green party	0.2866	*7.76*	0.3312	*9.11*	0.1160	*9.47*	0.2470	*5.69*
Wald $\chi^2(49)$; p-value				6,199.43; p=0.000				
INDIVIDUALS (N)				15,355				
OBSERVATIONS (NT)				24,882				

TABLE 5 (cont.): Hurdle model of charitable donations as a proportion of total income

PANEL D: Level of interest in politics	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
Very interested	0.5675	*21.85*	0.4519	*21.10*	0.1490	*21.89*	0.4464	*18.03*
Fairly interested	0.3285	*21.70*	0.3778	*24.97*	0.1267	*24.47*	0.2483	*12.96*
Not very interested	0.1825	*12.38*	0.2349	*15.49*	0.0811	*15.38*	0.1407	*7.08*
Wald $\chi^2(48)$; p-value			15,887.29; p=0.000					
INDIVIDUALS (N)			28,142					
OBSERVATIONS (NT)			62,228					

PANEL E: Level of interest in politics and political party closest to	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
political party closest to × political interest								
Conservative × very interested	0.4231	*13.03*	0.3716	*11.13*	0.1191	*11.16*	0.3325	*9.65*
Conservative × fairly interested	0.2286	*11.82*	0.2658	*14.17*	0.0852	*14.23*	0.1519	*7.31*
Conservative × not very interested	0.1558	*6.49*	0.1475	*6.51*	0.0473	*6.51*	0.1179	*4.53*
Labour × very interested	0.4305	*15.32*	0.3302	*11.96*	0.1058	*12.00*	0.3588	*12.02*
Labour × fairly interested	0.2270	*11.82*	0.2809	*15.55*	0.0900	*15.64*	0.1437	*6.92*
Labour × not very interested	0.0875	*3.56*	0.1492	*6.81*	0.0478	*6.82*	0.0380	*1.41*
Liberal × very interested	0.6543	*11.12*	0.4366	*6.93*	0.1399	*6.94*	0.5730	*9.23*
Liberal × fairly interested	0.3888	*11.46*	0.3305	*9.44*	0.1059	*9.46*	0.3103	*8.60*
Liberal × not very interested	0.1972	*4.64*	0.2177	*5.24*	0.0698	*5.24*	0.1360	*2.96*
Green party × very interested	0.7832	*8.56*	0.4639	*4.73*	0.1487	*4.73*	0.7111	*7.33*
Green party × fairly interested	0.6629	*10.28*	0.3812	*5.70*	0.1222	*5.71*	0.6067	*8.87*
Green party × not very interested	0.5020	*5.53*	0.2627	*2.91*	0.0842	*2.91*	0.4706	*4.81*
Wald $\chi^2(57)$; p-value			15,787.44; p=0.000					
INDIVIDUALS (N)			28,142					
OBSERVATIONS (NT)			62,228					

Notes: (i) other controls as in Table 2, with the exception that monetary variables (labour income, non-labour income and saving) enter the outcome equation only and cognitive and non-cognitive (i.e. the Big Five personality traits) enter the hurdle equation only; (ii) column (1) shows the overall average marginal effects (AMEs); column (2) shows the coefficients in the selection equation and the AMEs which show the impact upon the probability of donating; and column (3) shows the coefficients on the amount donated, conditional on donating.

TABLE 6: Hurdle model of number of hours volunteered

PANEL A: Political party closest to	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
Conservative	0.1108	*1.10*	0.1107	*5.40*	0.0242	*5.33*	-0.1080	*3.48*
Labour	0.0149	*0.15*	0.0952	*4.86*	0.0206	*4.81*	-0.1284	*4.12*
Liberal democrat	0.7294	*4.21*	0.2470	*8.22*	0.0573	*7.63*	-0.0548	*1.22*
Green party	0.7130	*2.38*	0.2930	*5.75*	0.0694	*5.16*	-0.1183	*1.57*
Wald $\chi^2(49)$; p-value				416.96; p=0.000				
INDIVIDUALS (N)				28,142				
OBSERVATIONS (NT)				62,228				

PANEL B: Strength of support for stated political parted	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
Conservative very strong support	0.2977	*1.14*	0.1051	*1.94*	0.0233	*1.94*	-0.0176	*0.21*
Conservative fairly strong support	0.1895	*1.41*	0.1163	*4.25*	0.0258	*4.25*	-0.0796	*1.94*
Conservative not very strong support	0.0460	*0.41*	0.1106	*4.77*	0.0245	*4.77*	-0.1333	*3.85*
Labour very strong support	0.6313	*2.93*	0.2474	*5.78*	0.0548	*5.78*	-0.0713	*1.11*
Labour fairly strong support	-0.1641	*1.25*	0.0892	*3.36*	0.0198	*3.36*	-0.1939	*4.71*
Labour not very strong support	0.0139	*0.12*	0.0697	*3.00*	0.0155	*3.00*	-0.0905	*2.48*
Liberal very strong support	2.1709	*4.43*	0.6527	*4.95*	0.1447	*4.95*	0.0287	*0.28*
Liberal fairly strong support	0.8491	*3.65*	0.3241	*6.32*	0.0719	*6.33*	-0.0840	*1.17*
Liberal not very strong support	0.5166	*3.07*	0.1955	*5.82*	0.0433	*5.82*	-0.0487	*0.92*
Green party very strong support	1.8231	*2.05*	0.5218	*2.87*	0.1157	*2.87*	0.0605	*0.23*
Green party fairly strong support	1.0199	*2.84*	0.3609	*4.80*	0.0800	*4.80*	-0.0616	*0.58*
Green party not very strong support	0.1983	*0.63*	0.2100	*3.16*	0.0465	*3.16*	-0.2053	*2.07*
Wald $\chi^2(57)$; p-value				430.88; p=0.000				
INDIVIDUALS (N)				28,142				
OBSERVATIONS (NT)				62,228				

PANEL C: Party would vote for tomorrow	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
Conservative	-0.0265	*0.18*	0.0366	*1.10*	0.0065	*1.09*	-0.0712	*1.25*
Labour	-0.4498	*3.60*	-0.0596	*1.82*	-0.0101	*1.84*	-0.1798	*3.18*
Liberal democrat	0.2460	*1.27*	0.1560	*3.82*	0.0297	*3.64*	-0.1130	*1.67*
Green party	0.3166	*1.47*	0.1898	*4.21*	0.0368	*3.94*	-0.1294	*1.73*
Wald $\chi^2(49)$; p-value				226.28; p=0.000				
INDIVIDUALS (N)				15,355				
OBSERVATIONS (NT)				24,882				

TABLE 6 (cont.): Hurdle model of number of hours volunteered

PANEL D: Level of interest in politics	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
Very interested	0.8823	*5.60*	0.3382	*13.53*	0.0881	*13.02*	-0.1849	*4.19*
Fairly interested	0.2245	*1.98*	0.1973	*8.93*	0.0416	*9.20*	-0.1858	*4.93*
Not very interested	-0.0473	*0.43*	0.1129	*5.17*	0.0228	*5.23*	-0.1892	*4.93*
Wald $\chi^2(48)$; p-value				432.19; p=0.000				
INDIVIDUALS (N)				28,142				
OBSERVATIONS (NT)				62,228				

PANEL E: Level of interest in politics and political party closest to	(1) OVERALL		(2) HURDLE				(3) OUTCOME	
	AME	*tstat*	COEF	*tstat*	AME (pr=1)	*tstat*	COEF	*tstat*
political party closest to × political interest								
Conservative × very interested	0.5592	*3.08*	0.2364	*6.15*	0.0523	*6.15*	-0.0863	*1.58*
Conservative × fairly interested	0.0795	*0.67*	0.1213	*5.00*	0.0268	*4.99*	-0.1334	*3.68*
Conservative × not very interested	0.1169	*0.82*	0.1020	*3.50*	0.0225	*3.50*	-0.0906	*2.11*
Labour × very interested	0.7854	*4.82*	0.3480	*10.27*	0.0769	*10.27*	-0.1433	*3.00*
Labour × fairly interested	-0.0638	*0.53*	0.0827	*3.42*	0.0183	*3.42*	-0.1416	*3.76*
Labour × not very interested	-0.2981	*1.90*	0.0023	*0.07*	0.0005	*0.07*	-0.1311	*2.62*
Liberal × very interested	1.4428	*5.00*	0.4710	*7.20*	0.1041	*7.20*	-0.0311	*0.36*
Liberal × fairly interested	0.8398	*4.43*	0.2752	*7.02*	0.0609	*7.02*	-0.0195	*0.33*
Liberal × not very interested	0.3089	*1.24*	0.1884	*3.88*	0.0417	*3.88*	-0.1275	*1.65*
Green party × very interested	1.5527	*3.25*	0.4674	*4.76*	0.1033	*4.76*	0.0211	*0.15*
Green party × fairly interested	0.5535	*1.66*	0.3392	*4.96*	0.0750	*4.96*	-0.2308	*2.33*
Green party × not very interested	0.2775	*0.60*	0.1657	*1.60*	0.0366	*1.59*	-0.1096	*0.74*
Wald $\chi^2(57)$; p-value				426.94; p=0.000				
INDIVIDUALS (N)				28,142				
OBSERVATIONS (NT)				62,228				

Notes: (i) other controls as in Table 2, with the exception that monetary variables (labour income, non-labour income and saving) enter the outcome equation only and cognitive and non-cognitive (i.e. the Big Five personality traits) enter the hurdle equation only; (ii) column (1) shows the overall average marginal effects (AMEs); column (2) shows the coefficients in the selection equation and the AMEs which show the impact upon the probability of volunteering; and column (3) shows the coefficients on the number of hours volunteered, conditional on volunteering.

TABLE 7: Modelling charitable donations as a proportion of total income and hours volunteered – the effect of changes in government.

	DONATION ÷ ANNUAL INCOME		HOURS VOLUNTEERED	
	ME	*t-stat*	COEF	*t-stat*
which political party closest to				
Conservative (PA_1)	0.2627	*1.26*	0.3039	*2.57*
Liberal democrat (PA_2)	0.5066	*2.21*	0.2265	*2.46*
Green party (PA_3)	1.8162	*4.06*	-0.3304	*0.80*
interactions				
$PA_1 \times coalition$	-0.0780	*0.46*	-0.2296	*1.92*
$PA_2 \times coalition$	-0.2977	*1.25*	-0.0013	*0.01*
$PA_3 \times coalition$	-0.9631	*3.55*	0.7036	*1.67*
$PA_1 \times conservative$	-0.4354	*1.94*	-0.4259	*2.76*
$PA_2 \times conservative$	-0.4485	*1.26*	-0.2518	*1.13*
$PA_3 \times conservative$	-1.0774	*2.69*	0.7751	*2.68*
which political party in government				
$coalition$	-0.0484	*0.36*	0.2712	*2.75*
$conservative$	0.1261	*0.62*	0.2558	*1.82*
Wald $\chi^2(109)$; p-value	2,605.68; p=0.000		2,328.45; p=0.000	
$H_0: \pi_1 = \phi_1 = 0$; $\chi^2(2)$; p-value	6.30; p=0.043		8.92; p=0.012	
$H_0: \pi_2 = \phi_2 = 0$; $\chi^2(2)$; p-value	10.21; p=0.006		18.73; p=0.000	
$H_0: \pi_3 = \phi_3 = 0$; $\chi^2(2)$; p-value	18.19; p=0.000		17.77; p=0.000	
$H_0: \pi_1 = \theta_1 = 0$; $\chi^2(2)$; p-value	3.84; p=0.147		8.20; p=0.017	
$H_0: \pi_2 = \theta_2 = 0$; $\chi^2(2)$; p-value	4.92; p=0.086		2.17; p=0.337	
$H_0: \pi_3 = \theta_3 = 0$; $\chi^2(2)$; p-value	26.94; p=0.000		5.37; p=0.068	
INDIVIDUALS (N)	18,832			
OBSERVATIONS (NT)	37,215			

Notes: (i) other controls as in Table 2 with the addition of day of interview, month of interview and year dummies; (ii) charitable donations as a proportion of income are estimated via a tobit model with random effects where the table reports marginal effects (ME); (iii) the number of hours volunteered are modelled as a count outcome with random effects where the table reports coefficients (COEF).