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Charitable behaviour and political affiliation: Evidence for the UK

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ABSTRACT

We explore the effect of political party alignment on the likelihood of undertaking charitable behaviour, as captured by making monetary donations and volunteering, as well as on the amount of money donated and the number of hours volunteered. Using data from the most recent large scale UK household longitudinal survey, this is one of the first studies to explore the relationship between political affiliation and charitable behaviour using panel data. Being affiliated to the Labour Party relative to being affiliated to the Conservative Party (the most right wing political party in our analysis) is negatively associated with both the probability of donating money to charity and the proportion of income donated to charity. In contrast, these effects are found to be positive in the case of the Liberal Democrats and the Green Party. With respect to volunteering, we find that, whilst affiliations with the Labour Party and the Liberal Democrats relative to being affiliated to the Conservative Party are negatively associated with the probability of being a volunteer, affiliations with the Labour Party and the Liberal Democrats are positively associated with the number of hours volunteered conditional on being a volunteer.

1. Introduction and background

1.1. Motivation

Over the past two to three decades, the UK and the U.S., as well as many advanced industrialised economies, have experienced a rise in political partisanship, [Snower and Bosworth \(2021\)](#). Recent research has shown that political ideology has become a powerful social identity that does not only shape an individual's policy opinions and voting patterns, but it is also prominent in an individual's non-political behaviour. For example, political ideology is found to impact: consumption behaviour ([Nunberg, 2006](#)); health behaviour ([Chan 2019](#), [Subramanian et al., 2009](#)); willingness to vaccinate ([Baumgaertner et al., 2018](#)); views about climate change ([McCright et al., 2016](#), [Clements, 2012](#)); perceptions of the threat of COVID-19 ([Calvillo et al., 2020](#), [Geana et al., 2021](#)); and what to name children ([Oliver et al., 2016](#)).

Political affiliation has recently been highlighted as an important factor in explaining differences in charitable behaviour. The extent of charitable behaviour in terms of donations of money and time spent volunteering is substantial in many countries. With respect to the scale of donating behaviour, the [Charities Aid Foundation \(2019\)](#) estimates total donations in 2017 at £10.3 billion for the UK, whilst [Giving USA \(2018\)](#) estimates total charitable contributions in the U.S. in 2017 at

\$410.02 billion. In terms of volunteering, the [Office for National Statistics \(ONS\) \(2017\)](#) estimates that in 2015 1.9 billion hours of unpaid labour were volunteered in the UK equating to a value of £22.6 billion, whilst for the U.S. Americans volunteered 6.9 billion hours with an estimated value of \$167 billion (see [Corporation for National and Community Service, 2018](#)). Hence, research aimed at enhancing our understanding of the determinants of charitable behaviour should be of interest across many countries, given that such behaviour has significant consequences for the economy, in terms of its contribution to GDP, and for society, in terms of the social value created.

The small literature, which has identified a significant impact of political party preferences on donating behaviour, relates this impact to three factors: religious identity; preferences for government redistribution; and communication of economic status, see [Brooks \(2006\)](#), [Margolis and Sances \(2017\)](#) and [Yang and Liu \(2021\)](#). Conservatives are more likely to belong to a religion and be involved in organised religious groups compared to liberals, who are more likely to belong to the secular category. Given that religiosity is an important and significant predictor of giving, [Brooks \(2006\)](#) argues that conservatives are more generous than liberals. An ideological explanation for the difference in generosity between conservatives and liberals is related to the belief that government redistribution and charity are substitutes. Specifically, liberals believe that it is the government's responsibility to solve social

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problems, whereas conservatives are more generous because they believe that individuals' efforts are more effective. The impact of political affiliation on giving can also be explained by the desire to signal economic status. Unlike liberals, who favour status signals that are high in cultural capital, conservatives are more likely to have the desire to signal economic status in their consumer behaviour. The two factors that contribute to favouring more explicit signs of economic capital are being wealthier and having a higher tolerance of economic inequality (Oliver et al., 2016; Margolis and Sances, 2017; Yang and Liu, 2021). Therefore, as charitable behaviour is just like any other consumer behaviour, conservatives will donate more as this will be regarded as a sign of economic capital. This theoretical explanation for the difference in generosity between conservatives and liberals has not been examined empirically using data from the UK, and findings from the U.S. are somewhat mixed and inconclusive, as discussed in detail below.

We contribute to this small literature, where the evidence to date is predominantly for the U.S., by examining the relationship between political affiliation and charitable behaviour in the UK, and by exploring whether this relationship varies over the different periods of government in power. In general, studies have explored whether greater generosity is associated with the political left or right. We use longitudinal data for the UK, with our measures of political affiliation covering left and right wing parties and, as such, our findings can be related to the existing studies for other countries. Specifically, we investigate the effect of political affiliation on donating behaviour in terms of the amount of money donated to charity and the amount of time volunteered.

1.2. Contribution

Understanding the association between political ideology and giving of time and money is crucial for charities as they seek to identify who to target in their fundraising or volunteering campaigns. Examining this association for the first time using data from the UK will contribute to the existing literature, which is of particular importance, given the increasing role of political ideology in defining people's moral and societal values. Furthermore, all existing studies to date (with the exception of Margolis and Sances, 2017), which examine the role of political engagement based on questions regarding either ideology or affiliation, use cross-section data, bespoke samples, or data from experiments. Therefore, crucially these studies have not been able to account for unobserved individual specific effects. In contrast, we contribute to the existing literature by analysing a nationally representative panel dataset, Understanding Society, the UK Household Longitudinal Study (UKHLS), covering the period 2010 to 2020, to investigate the relationship between political affiliation and charitable behaviour using panel data accounting for unobserved individual heterogeneity. In addition, we are aware of no other empirical study for the UK, which has analysed the relationship between political affiliation and charitable behaviour. Hence, our findings also serve to expand the international evidence. In contrast to existing studies on charitable behaviour and political preferences, our econometric modelling strategy allows for the fact that donations of money and time are not continuous outcomes. Monetary donations are essentially a corner solution at zero donations and the distribution of hours volunteered is a count outcome, the estimation approach adopted herein takes these aspects of the two distributions into account. Given our use of panel data, both types of donating behaviour are modelled within a correlated random effects framework allowing for individual specific effects, following Wooldridge (2010). We also analyse marginal effects at the extensive margin, i.e. the probability of undertaking charitable behaviour, as well as at the intensive margin analysing the amount of money and time donated, hence differentiating between the two parts of the distributions (e.g. Yen and Zampelli, 2014; Kessler et al., 2019).

Finally, our use of panel data allows us to investigate the effect of the political party in power at the time the individual was interviewed and how individuals react to a change in government. Margolis and Sances

(2017) argue that conservatives donate more than liberals to signal economic status. Therefore, given that the party in power will positively impact supporters' subjective economic perceptions, having a conservative government will influence conservatives' charitable behaviour as they see themselves possessing more economic capital to signal. Alternatively, having a conservative government might reinforce conservatives' ideological opposition to the government's role in income redistribution and their support for the charitable sector as an alternative to government service provision. Therefore, exploring whether the association between political ideology and giving of time and money varies over the different periods of government in power is important. This is because if the relationship does vary across different government regimes, then it will potentially result in a significant change in the amount of donations and the pool of volunteers available for the numerous organisations that run on limited resources. Specifically, our study covers three periods: when the Labour Party (i.e. a left wing party) was in power; the subsequent Coalition Liberal Democrat-Conservative Government, a coalition between a centre to left wing party and a right wing party; and when the Conservative Government (a right wing party) was in power either as a minority or majority government. From a broader social policy perspective, the Coalition Government championed a 'Big Society' in which volunteering and involvement in social action were encouraged, along with charitable giving and philanthropy. Moreover, an ideological aversion to a large state may be associated with larger private provision of public goods. Hence, we explore whether the association between political affiliation and donating behaviour varies over the different periods of government in power during the sample period.

1.3. Literature

With respect to the existing literature, 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 and argues that this behaviour is rooted in the idea that political ideology, not political partisanship, drives giving.

Yang and Liu (2021) deploy meta-analysis of 31 original studies to examine the inconsistency of the findings in the existing literature regarding the association between political ideology and charitable giving. Their results confirm the findings of Brooks (2005, 2006) that political conservatives are significantly more charitable than liberals at an overall level. The findings of Margolis and Sances (2017), using three U.S. national surveys including a two-wave panel study, indicate that Republicans and self-identified conservatives give more to charity than Democrats and self-identified liberals.¹ However, Margolis and Sances (2017) argue that, in contrast to Brooks (2006), partisan differences in charitable giving are related to religious differences among partisans rather than ideological disagreements.

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. Consistent evidence is also found in community based studies. For instance, Paarlberg et al. (2019) use data over the period 2012 to 2013 from the U.S. Internal Revenue Service's (IRS) Individual Master File, which provides aggregate information from individual and household income tax returns at the county level. Their analysis shows that the counties with a higher proportion of

¹ Margolis and Sances (2017) is the first study to use panel data analysis to examine differences in overall giving between partisans at the individual level. Paarlberg et al. (2019) also used longitudinal data but at the county level, rather than individual (donor) level.

individuals who vote Republican report higher charitable donations. Employing a natural field experiment, [Karlán and List \(2007\)](#) report that the political ideology of a community can influence the likelihood of responding to a direct mail solicitation. In particular, the more conservative is an individual's community, the more likely they are to respond.

In contrast, [Yen and Zampelli \(2014\)](#) for the U.S. find no evidence that conservatives are more charitable than individuals associated with other political affiliations. Furthermore, when they interact political ideology with the degree of religiosity, they found that non-religious giving declines the more important religion is in the life of a politically conservative individual. Other studies have found no statistically significant relationship between political affiliation and donations of time and/or money. For example, [Forbes and Zampelli \(2014\)](#) 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 affiliation and giving to charity.

The mixed evidence in the existing literature on the role of political preferences potentially arises for a number of different reasons.² Firstly, the findings depend on how charitable giving is actually measured in the data, i.e. whether it is split into religious and non-religious causes (e.g. [Brooks, 2005](#); [Vaidyanathan et al., 2011](#)), focused only on non-religious giving ([Ribar and Wilhelm, 1995](#); [Manesi et al., 2019](#); [Mocan and Tekin 2007](#)) or combined into total donations (e.g. [Luccasen et al., 2017](#)). For example, [Ribar and Wilhelm \(1995\)](#) used U.S. state-level data to examine the determinants of charitable contributions to international relief and development and found that donations are larger in states with more politically liberal residents. [Vaidyanathan et al. \(2011\)](#) found that politically conservative individuals give significantly more to religious congregations than the politically liberal, while they found no statistically significant difference in non-religious giving between liberals and conservatives. [Manesi et al. \(2019\)](#) examine the predictors of charitable giving to victims of typhoon Haiyan, a major natural disaster that hit the Philippines in 2013, using a sample of 643 U.S. participants in an online survey. They report that participants who tend to identify themselves as liberal were more likely to donate compared to those being more conservative and they attributed this to the link between liberal ideology, sympathy for people in need, and adherence to prosocial values. Similarly, [Mocan and Tekin \(2007\)](#) found that individuals who classify themselves as liberal have higher propensities to be an organ donor in the U.S. and Europe compared to those who are on the right of the political spectrum.

Secondly, there are differences in whether the focus is on the extensive margin, i.e. the probability of donating, or the intensive margin, i.e. the amount given conditional on donating (e.g. [Yen and Zampelli, 2014](#)), or the overall amount donated to charity. For example, the tobit results of [Forbes and Zampelli \(2013\)](#) are consistent with those of [Brooks \(2005, 2006\)](#). However, they report no significant differences in the level of religious giving between liberals and conservatives when using the double hurdle approach. Similarly, the findings of [Yen and Zampelli \(2014\)](#) show that, using a multivariate sample selection model, a religious conservative individual is less likely to volunteer and less likely to donate money for non-religious purposes and that the level of donation for non-religious purposes is smaller than that for an individual who is politically very liberal for whom religion does not matter at all.

Thirdly, there are differences in how donations are measured, i.e.

whether as the natural logarithm (e.g. [Brooks, 2005](#); [Margolis and Sances, 2017](#)), the dollar amount given to charity (e.g. [Luccasen et al., 2017](#)), the number of charities supported (e.g., [Farmer et al., 2020](#)), or the share of income donated (e.g. [McClelland and Brooks, 2004](#); [Wiepking, 2007](#)). For example, [Farmer et al. \(2020\)](#) show that liberals and conservatives donate similar overall amounts of money; however, liberals tend to give to a greater number of charities, while conservatives concentrate their giving to fewer non-profit organisations. In addition, the difference in the dependent variables leads to differences in the estimation techniques adopted, i.e. OLS, tobit or double hurdle models (e.g. [Brooks, 2005](#); [Luccasen et al., 2017](#); [Yen and Zampelli, 2014](#)).

Finally, there are differences in the measurement of political engagement, i.e. ideology (e.g. [Brooks, 2005](#); [Kaikati, 2017](#)) versus party affiliation (e.g. [Luccasen et al., 2017](#)), or the intensity of ideology (e.g. [Forbes and Zampelli, 2013](#)). For example, [Forbes and Zampelli \(2013\)](#) found that Republicans gave more than Democrats to both religious and secular causes when using the Republican/Democrat typology. However, using the conservative-liberal scale, they found that very conservative individuals donated more to religious causes and moderately liberal individuals donated more to secular causes.

2. Data

We use data from *Understanding Society*, the UK Household Longitudinal Study (UKHLS), [University of Essex \(2020\)](#), to investigate the relationship between political affiliation 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. 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 10 at the time of writing) over 34,318 individuals were interviewed between 2018 and 2020. Interviews for waves 2, 4, 6, 8 and 10 contain self-reported information on the monetary amount donated to charity over the last twelve months and the number of hours volunteered during the past four weeks. Specifically, the respective questions regarding money and time donations are as follows: 'approximately how much money in total have you given to charities or other organisations in the last 12 months?' and 'in the last 4 weeks approximately how many hours have you spent doing unpaid or voluntary work for any organisation?' In addition, in various waves there are a number of questions relating to political affiliation. We use information on political affiliation available in waves 1, 3, 5, 7 and 9 and match this to the same individuals who provide details on philanthropic behaviour.³ This yields an unbalanced panel of individuals aged 16 and over, who are observed between one (29,446 individuals) and five (2,914 individuals) times yielding total observations of 67,679. On average, individuals are observed three times in the panel.

With respect to political affiliation, initially individuals are asked: 'now I have a few questions about your views on politics. Generally speaking do you think of yourself as a supporter of any one political party?' and 'do you think of yourself as a little closer to one political party than to the others?' If the individual responds 'yes' to either of these questions, they are then asked to state 'which political party are you closest to?' Our sample covers England only and respondents who state one of the following political parties: Conservative (the most right wing and oldest party in our analysis founded in 1834); Labour (left wing with strong ties to the trade

² [Yang and Liu \(2021\)](#) show using moderator analysis, that the measure of charitable giving, the type of charitable giving and controlling for religiosity are potential moderators that can account for the variation in the effects found in their meta-analysis.

³ From a modelling perspective, this approach serves to reduce the potential for reverse causality, since, as argued by [Angrist and Pischke \(2009\)](#), political affiliation predates the outcome variables of interest. If the outcomes of interest and the political party affiliation are measured contemporaneously then there is the potential for reverse causality. We return to this below.

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 (£)	174.95	555.14	0	49,275
Charitable donations as a proportion of annual income (%)	0.98	2.86	0	50
OBSERVATIONS	67,679			
Sample of those who donate:				
Charitable donations over past 12 months (£)	250.39	649.76	1	49,275
Charitable donations as a proportion of annual income (%)	1.40	3.34	0.001	50
OBSERVATIONS (% non-zero)	47,287 (69.87%)			
PANEL B: Number of hours volunteered, vol_{it}				
	MEAN	STD. DEV.	MIN	MAX
Number of hours volunteered during past 4 weeks	2.52	9.71	0	200
OBSERVATIONS	67,679			
Sample of those who volunteer:				
Number of hours volunteered during past 4 weeks	14.40	19.15	1	200
OBSERVATIONS (% non-zero)	11,855 (17.52%)			

Table 1B
Summary statistics – Political explanatory variables, dependent variables and gender

	MEAN		
	don_{it}	vol_{it}	MALE
<i>which political party closest to</i> , PA_{it-1}			
Conservative = 0.40	1.06	2.58	0.49
Labour = 0.47	0.84	2.13	0.47
Liberal Democrat = 0.10	1.20	3.87	0.44
Green Party = 0.03	1.30	3.67	0.41
INDIVIDUALS (N)	29,446		
OBSERVATIONS (NT)	67,679		

union movement promoting social democracy and democratic socialism founded in 1900); Liberal Democrat (centre to left wing which promotes liberalism and federalism founded in 1988); and the Green Party (left wing and the youngest party in our analysis, which promotes green politics, eco-socialism and republicanism founded in 1990). Finally, whilst other parties exist for part of the sample period, such as UKIP, they are not present in every wave or are country specific and so individuals stating an affiliation to such parties are omitted from the analysis, only the four aforementioned parties are consistently available in each wave for England.⁴ In addition, each of the above parties are represented in the House of Commons of the United Kingdom.

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). 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, X_{it} , as well as information on political affiliation measured in the previous wave, PA_{it-1} . The modelling approach is detailed in Section 3 below.

To aid comparison with existing studies, the set of covariates included in 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 3-4, aged 5-11 and aged 12-15; the number of adults in the household;

⁴ The omission of such country specific parties from the analysis means that our findings can be related to the findings for other countries, which aids generalisation to other settings.

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 is the omitted category; the natural logarithm of monthly labour income; the natural logarithm of monthly non-labour income; the natural logarithm of monthly savings;⁵ labour force status, specifically employed full-time, employed part-time, self-employed, or unemployed (all other labour market states constitute the reference category);⁶ 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). The final set of covariates are eleven region of residence controls (with London as the reference category) and binary indicators for year of interview.

Summary statistics are presented 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 on the number of hours volunteered.⁷ The top part of Panel A reports the descriptive statistics for all individuals regardless of whether they donate to charity. The average monetary amount donated to charitable causes during the past year is £175. 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 70% of the sample made a monetary donation to charity during the past year. Based on donors only, the proportion of annual income donated to charity increases to 1.4%, 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 relating to volunteering. Across all individuals, the average number of hours volunteered over the last four weeks is just over 2 hours 30 minutes. It can be seen from Table 1A Panel B that around 18% of the sample volunteered over the last month. The number of hours volunteered amongst those who volunteer is, on average, 14, see final row of Table 1A Panel B.

Table 1B presents summary statistics relating to the main covariate

⁵ For all monetary variables, we add one before taking the natural logarithm.

⁶ This includes retirement, family care, full time students and the long-term sick or disabled.

⁷ All monetary variables are deflated to 2009 constant prices.

Table 1C
Transition matrix of political party affiliation over time

		←—————→			
		<i>t</i>			
		Conservative	Labour	Liberal Democrat	Green
↑ <i>t-1</i> ↓	Conservative	95.46%	2.56%	1.61%	0.37%
	Labour	3.84%	92.51%	2.36%	1.29%
	Liberal Democrat	12.05%	18.75%	65.43%	3.77%
	Green	4.61%	29.17%	6.35%	59.88%

of interest, political affiliation, PA_{it-1} , where the Labour Party is characterised by the highest proportion of respondents revealing that they feel closest to this party at 47%.⁸ The average donating behaviour in terms of the share of income donated to charity and the number of hours volunteered across political party affiliation are also shown in the table. Clearly, both types of charitable behaviour have a higher mean if individuals feel closest to the Green Party (Liberal Democrat Party), donating 1.3% (1.2%) of their annual income to charitable causes and volunteering 3.67 (3.87) hours of unpaid labour.⁹

Table 1C presents a transition matrix of political party affiliation between waves. Around 8% switch affiliation over the entire period. The lead diagonal shows the proportion of the sample who do not switch party status, with over 90% of those who support the Labour Party or the Conservative Party not changing allegiance. The highest percentage of switching political party alignment is for the Green Party at approximately 40%. These patterns and the relative stability of political preferences over time are consistent with the evidence provided by Aidt and Rauh (2018).¹⁰

3. Methodology

To aid comparison with existing findings, in accordance with the existing literature (e.g. Andreoni and Payne, 2013; Brown et al., 2012; Yörük, 2009; and Wilhelm, 2008), we model charitable donations as a proportion of income, denoted by don_{it} , as a censored outcome with a corner solution at zero donations via a correlated random effects tobit specification, across individuals $i = 1, 2, \dots, 29,446$ and time $t = 1, 2, 3, 4, 5$ as follows:

$$don_{it}^* = X'_{it}\beta + PA'_{it-1}\gamma + \alpha_i + \epsilon_{it} \tag{1a}$$

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

⁸ We have compared the percentage of respondents in the UKHLS sample identifying with each political party to estimates of voting intentions in the UK based upon a YouGov survey (the data can be accessed from <https://www.statista.com/statistics/985764/voting-intention-in-the-uk/>), where the figures for Conservative, Labour, Liberal Democrats and the Green Party are: 39%; 35%; 9% and 5%, respectively. Also, in terms of votes received in the UK elections over the period 2010-2019, the statistics for Conservative, Labour and Liberal Democrats are: 40%; 33% and 12%, respectively. Hence, it would appear that the UKHLS data is nationally representative in terms of political alignment, but it should be noted that affiliation to the Labour Party appears to be over-estimated.

⁹ A limitation of the UKHLS data is that we do not have information on the type of organisation that people donated to or volunteered for.

¹⁰ Summary statistics for all other covariates, given in X_{it} , are shown in the Appendix, see Table A1.

where X_{it} is a vector of covariates, PA_{it-1} is a vector of political affiliation variables, α_i is an individual specific error and ϵ_{it} is a white noise error term. Marginal effects are reported in the results section for the likelihood of making a monetary donation, the extensive margin, i.e. $\text{prob}(don_{it}) > 0$, and the proportion of income donated to charity, the intensive margin, i.e. $E(don_{it} | don_{it} > 0)$.¹¹

Following the literature (e.g. Brown and Taylor, 2018; Freire, et al., 2017; Kinsbergen et al., 2013; and Son and Wilson, 2012), we treat the number of hours volunteered, vol_{it} , as a count outcome. Modelling hours volunteered via an ordinary linear specification would imply that an increase in hours from zero to one hour is equivalent to that of an increase from one hour to two hours. This would clearly be inappropriate given that volunteering more hours is a rare event, as can be seen from Table 1B. As such, we adopt an exponential functional form with unit-mean errors, ϵ_i , as follows:

$$vol_{it} = \exp(X'_{it}\beta + PA'_{it-1}\gamma + \pi_i)\epsilon_i \tag{2a}$$

where the expected value of volunteering conditional on the covariates is given as:

$$E[vol_{it} | X_{it}, PA_{it-1}, \alpha_i] = \exp(X'_{it}\beta + PA'_{it-1}\gamma + \pi_i) \tag{2b}$$

where $\pi_i = \log(\alpha_i)$. Assuming that volunteering is characterised by a poisson distribution with expectation:

$$\lambda_{it} = \exp(X'_{it}\beta + PA'_{it-1}\gamma + \pi_i) \tag{2c}$$

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

$$\text{prob}\{vol_{it} = v | X_{it}, PA_{it-1}, \alpha_i\} = \exp(-\lambda_{it})\lambda_{it}^v / v! \tag{2d}$$

Equation (2) is modelled as a correlated random effects poisson model. Omitting subscripts from equation (2), for brevity, and defining $w = (X', PA')'$, $\psi = (\beta, \gamma)$, then adding 1 to the k^{th} independent variable in w (i.e., a unit change), the functional form of the model implies:

$$\frac{E\{vol | w, (w_k + 1), \epsilon\}}{E\{vol | w, w_k, \epsilon\}} = \frac{E\{vol | w_1, w_2, \dots, (w_k + 1), \epsilon\}}{E\{vol | w_1, w_2, \dots, w_k, \epsilon\}} = \exp(\psi_k)$$

We report marginal effects for the probability of being a volunteer, the extensive margin, i.e. $\text{prob}(vol_{it}) > 0$. In addition, given that the number of hours volunteered is a count variable, the normalized effect $\exp(\psi_k)$ is the Incidence Rate Ratio (IRR) for a one-unit change in w_k , which is also reported showing the effect of covariates on the total

¹¹ Wilhelm (2008) shows that the tobit estimator performs well relative to semi-parametric alternatives.

Table 2
Modelling charitable donations as a proportion of total income – Correlated random effects tobit model

<i>Political party closest to</i>	Probability of donating: $\text{prob}(don_{it}) > 0$				Proportion of income donated: $E(don_{it} don_{it} > 0)$			
	MARGINAL EFFECTS				MARGINAL EFFECTS			
	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)
Labour	-0.0518*** (12.37)	-0.0199*** (4.68)	-0.0193*** (4.57)	-0.0155*** (3.63)	-0.1699*** (12.30)	-0.0658*** (4.67)	-0.0647*** (4.57)	-0.0522*** (3.63)
Liberal Democrat	0.0294*** (3.67)	0.0226*** (3.58)	0.0152** (2.44)	0.0154** (2.48)	0.0801*** (3.66)	0.0777*** (3.51)	0.0524** (2.43)	0.0532** (2.46)
Green Party	0.0523*** (4.97)	0.0486*** (4.58)	0.0490*** (54.70)	0.0482*** (4.61)	0.1774*** (4.93)	0.1705*** (4.42)	0.1745*** (4.52)	0.1701*** (4.45)
Chi-sq. (d); p-value	213.99; p=0.000	1,950.75; p=0.000	4,312.62; p=0.000	4,449.65; p=0.000	213.99; p=0.000	1,950.75; p=0.000	4,312.62; p=0.000	4,449.65; p=0.000
Income and housing tenure ¹	X	✓	✓	✓	X	✓	✓	✓
Demographics ²	X	X	✓	✓	X	X	✓	✓
Region and year of interview	X	X	X	✓	X	X	X	✓
INDIVIDUALS (N)	29,446							
OBSERVATIONS (NT)	67,679							

Notes: t-statistics are shown in parenthesis. *** denotes significance at the 1% level. The base category is feeling close to the conservative political party. ¹ includes: the natural logarithm of monthly labour income, non-labour income and savings; and whether the home is owned outright, owned on a mortgage or privately rented (base category other type). ² includes: whether aged 16-24, 25-34, 45-54 or 55-64 (based category aged 65 or above); the number of children aged 2 or under, 3-4, 5-11 and 12-15; number of adults in household; whether married or cohabiting; labour market status – whether employed, self-employed, or unemployed (base category out of the labour market); highest educational qualification – whether degree, other higher qualification, A level, or GCSE (base category no qualifications); religious denomination – whether Church of England, Roman Catholic, Christian, Muslim, or other religion (base category no religion); and frequency of attending religious services. The degrees of freedom in columns 1, 2, 3 and 4 are $d=3$, $d=15$, $d=69$ and $d=86$ respectively. Correlated random effects tobit models are estimated throughout each specification.

number of hours volunteered.

For both outcomes, as stated above, we use a correlated random effects approach, and tobit and poisson models for monetary and time donations, respectively. This approach follows Wooldridge (2010) and Mundlak (1978) in terms of incorporating the mean of time varying covariates as additional controls in equations (1) and (2), so that the estimates approximate a fixed effects approach, where dependency is allowed between unobserved heterogeneity and observed covariates. Given that the length of the panel is relatively short, $t_{max} = 5$, this would seem more appealing than a fixed effects estimator,¹² due to the incidental parameters problem, which treats the heterogeneity as parameters to be estimated, where the number of time periods needed for the bias adjustments to work well is arguably larger than what we have in the current application.

For both outcomes, the key parameters of interest are given in the vector γ in terms of whether the political affiliation variables: (i) have a positive (or negative) effect on monetary donations and/or time volunteered; (ii) whether alignment to a particular political party has a larger influence at the extensive margin versus the intensive margin; and (iii) whether the association with charitable behaviour is larger for left wing political parties relative to the right wing Conservative Party, hence exploring the argument put forward by Brooks (2006) in the UK context.

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 correlated random effects tobit and count models, respectively. We then explore the robustness of our findings to alternative functional forms to account for unobserved fixed effects and reverse causality. In the final sub-section, we investigate the impact of the changes in government, which occurred over the sample period, on the association between political

affiliation and charitable behaviour. In the following analysis, the most right wing political party in the sample – the Conservative Party – is selected as the omitted category to enable an exploration of whether charitable behaviour differs across left wing and right wing political parties.

4.1. The amount of money and time donated

Throughout this sub-section, it is important to acknowledge that the point estimates refer to associations rather than causal relationships. In particular, although political affiliation is included as a lag in the modelling approaches, political preferences are largely stable and, hence, may be endogenous due to reverse causation with donating behaviour, which we return to below in our robustness analysis in Section 4.2.

Table 2 presents the results from modelling monetary donations in the last 12 months as a proportion of annual income, conditional on the covariates in X_{it} , and which political party the individual felt closest to in the previous wave, PA_{it-1} . Monetary donations are modelled via a random effects tobit estimator with marginal effects reported at the extensive margin, i.e. $\text{prob}(don_{it}) > 0$, shown in the left hand pane, and effects on the proportion of income donated to charity, the intensive margin, i.e. $E(don_{it}|don_{it} > 0)$, shown in the right hand pane of Table 2. Four specifications are estimated: (i) no controls apart from the political party the individual feels closest to are included; (ii) the second specification incorporates income and housing tenure; (iii) demographics are then added; and (iv), finally, in the most stringent specification, region of residence and year of interview binary indicators are included. This allows an investigation of whether the findings are robust to the potential “bad control” problem, see Angrist and Pischke (2009). For brevity, we focus our discussion on the political variables of interest (full results are provided in the appendix, see Table A2, first column). The impact of the other covariates such as age, income and education are consistent with the findings in the existing literature, see e.g. Lankford and Wyckoff (1991), Auten and Joulfaian (1996), Auten et al. (2002) and Schokkaert (2006).

Focusing initially on the extensive margin, the left hand pane of Table 2, i.e. $\text{prob}(don_{it}) > 0$, across all specifications, we find that,

¹² For robustness, we also compare our results to a standard linear fixed effects estimator, see Section 4.2.

Table 3
Modelling hours volunteered – Correlated random effects poisson model

	Probability of volunteering: $\text{prob}(\text{vol}_{it}) > 0$				Number of hours volunteered: $\text{exp}(\psi_k)$			
	MARGINAL EFFECTS				INCIDENCE RATE RATIO			
<i>Political party closest to</i>	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)
Labour	-0.0236*** (4.71)	-0.0317*** (6.36)	-0.0260*** (5.18)	-0.0202*** (4.06)	1.0989*** (4.75)	1.1373*** (6.41)	1.1116*** (5.19)	1.0863*** (4.06)
Liberal Democrat	-0.0282*** (6.01)	-0.0369*** (7.91)	-0.0316*** (6.72)	-0.0203*** (4.32)	1.1208*** (6.02)	1.1633*** (7.92)	1.1384*** (6.71)	1.0875*** (4.31)
Green Party	0.0055 (0.72)	-0.0055 (0.76)	-0.0010 (0.08)	0.0023 (0.32)	0.9797 (0.73)	1.0216 (0.76)	1.0023 (0.08)	0.9909 (0.32)
Chi-sq. (d); p-value	61.81; p=0.000	2,698.02; p=0.000	5,947.28; p=0.000	7,181.94 p=0.000	61.81; p=0.000	2,698.02; p=0.000	5,947.28; p=0.000	7,181.94; p=0.000
Income and housing tenure ¹	X	✓	✓	✓	X	✓	✓	✓
Demographics ²	X	X	✓	✓	X	X	✓	✓
Region and year of interview	X	X	X	✓	X	X	X	✓
INDIVIDUALS (N)	29,446							
OBSERVATIONS (NT)	67,679							

Notes: t-statistics are shown in parenthesis. *** denotes significance at the 1% level. The base category is feeling close to the conservative political party. ¹ includes: the natural logarithm of monthly labour income, non-labour income and savings; and whether the home is owned outright, owned on a mortgage or privately rented (base category other type). ² includes: whether aged 16-24, 25-34, 45-54 or 55-64 (based category aged 65 or above); the number of children aged 2 or under, 3-4, 5-11 and 12-15; number of adults in household; whether married or cohabiting; labour market status – whether employed, self-employed, or unemployed (base category out of the labour market); highest educational qualification – whether degree, other higher qualification, A level, or GCSE (base category no qualifications); religious denomination – whether Church of England, Roman Catholic, Christian, Muslim, or other religion (base category no religion); and frequency of attending religious services. The degrees of freedom in columns 1, 2, 3 and 4 are $d=3$, $d=15$, $d=69$ and $d=86$ respectively. Correlated random effects poisson models are estimated throughout each specification.

compared to the most right wing political party in our sample – the Conservative Party which forms the omitted category – stating a political affiliation to either the Liberal Democrat Party or the Green Party, both of which are relatively newly established political parties, is positively associated with the probability of donating. In contrast, being aligned to the Labour Party, a long established left wing party, is associated with a reduction in the probability of donating by 1.6 percentage points compared to being affiliated to the Conservative Party. Interestingly, the effect of affiliation with the left wing Green Party has a larger positive effect than that of affiliation to the centre to left wing Liberal Democrat Party (relative to the Conservative Party). Specifically, Liberal Democrats have a 1.5 percentage point higher probability of donating money than individuals who feel close to the Conservative Party, whilst the corresponding figure for the Green Party is 4.8 percentage points. Moreover, the difference between the point estimates is statistically significant. Focusing on the intensive margin, see the right hand pane of Table 2, the proportion of income donated to charity, $E(\text{don}_{it} | \text{don}_{it} > 0)$, reveals that, compared to feeling close to the Conservative Party, being aligned with the Labour Party is associated with a fall in the proportion of annual income donated to charity by 0.05 per cent. Conversely, compared to supporting the Conservative Party, we find that feeling closest to the Liberal Democrats or the Green Party is associated with approximately a 0.05 and a 0.17 per cent increase in the share of annual income donated to charitable causes, respectively.

These findings at both the extensive and intensive margins relating to the effects of political affiliation remain after including a large number of controls such as religious denomination and frequency of attending religious services, where an individual’s religiosity is likely to be related to their political attitudes, e.g. see Brooks (2006) and Cohen-Zada et al. (2016). Interestingly, the marginal effects are relatively similar in magnitude between columns 2 and 3 of Table 2 for both the extensive and intensive margins, where the latter column incorporates demographic controls, which include religion and frequency of attending religious events. Affiliation with the Green Party (a left wing party with the lowest membership figures) has the largest positive effects on donating behaviour relative to those who are affiliated to the Conservative Party. A positive effect from the centre to left wing Liberal Democrat Party is also found (albeit smaller in magnitude at both the extensive and intensive margins), which is consistent with the fact that

many views of these two parties are likely to be complementary, i.e. they compete for voters of a similar profile (see Birch, 2009). However, it is not the case that affiliations with more left wing political parties unanimously have both a higher likelihood of donating to charity and also, conditional on donating, give a higher proportion of income to charitable causes, as evidenced by the negative marginal effects associated with affiliation to the Labour Party.

In Table 3, the results of estimating equation (2) are shown, where in the left hand pane the marginal effects for the probability of being a volunteer are shown, the extensive margin, i.e. $\text{prob}(\text{vol}_{it}) > 0$, and in the right hand pane the Incidence Rate Ratios (IRR) are reported, i.e. $\text{exp}(\psi_k)$. Across the four specifications, the results are generally consistent, although the magnitude of the estimates decreases as additional controls are incorporated. However, contrary to the results for monetary donations to charity, when focusing on the likelihood of volunteering, i.e. $\text{prob}(\text{vol}_{it}) > 0$, compared to being affiliated with the Conservative Party, feeling aligned to the Liberal Democrats is associated with a decrease in the probability of volunteering by around 2 percentage points, an effect, which is similar in magnitude to that estimated for the Labour Party. Notably, there is no statistically significant effect from being aligned to the Green Party, which has the dominant marginal effect on the extensive margin for monetary donations, and this statistical insignificance is not driven by the introduction of covariates as the point estimate is insignificant across all columns.

Turning to the IRR in the right hand pane, feeling close to the Liberal Democrats or the Labour Party relative to the Conservatives is associated with an increase in the number of hours volunteered. For example, alignment to the Liberal Democrats is associated with an approximately 8.8 per cent increase in the number of hours volunteered. In contrast to monetary donations, feeling close to the Labour Party, compared to the Conservative Party, has a positive association with hours volunteered with an increase of around 8.6 per cent. Again, as found at the extensive margin and in contrast to monetary donations, there is no statistically significant association with alignment to the Green Party and volunteering. The impacts of the other covariates, such as age, gender, religion, employment and education, are generally consistent with the findings in the existing literature, e.g. Dury et al. (2015), Son and Wilson (2012) and Bauer et al. (2013). However, the results related to income, number of children in the household and homeownership differ to

Table 4
Robustness analysis – political party closest to

PANEL A: Functional form – linear fixed effects									
CHARITABLE DONATIONS					VOLUNTEERING				
		Probability of donating		Proportion of income donated		Probability of volunteering		Number of hours volunteered	
		prob(don_{it}) > 0		E($don_{it} don_{it} > 0$)		prob(vol_{it}) > 0		E($vol_{it} vol_{it} > 0$)	
		COEF	t-stat	COEF	t-stat	COEF	t-stat	COEF	t-stat
Labour		-0.0131***	(2.76)	-0.1395***	(3.43)	-0.0080**	(2.13)	0.7193*	(1.67)
Liberal Democrat		0.0385***	(5.51)	0.0326	(0.56)	-0.0447***	(7.98)	1.1582***	(3.72)
Green Party		0.0538***	(4.57)	0.2483***	(2.52)	-0.0576***	(6.07)	1.3662	(1.40)
R-squared		0.0748		0.0463		0.0259		0.0311	
INDIVIDUALS (N)		29,446		22,317		29,446		6,774	
OBSERVATIONS (NT)		67,679		47,287		67,679		11,855	
PANEL B: Political party conditional on change in affiliation over time									
CHARITABLE DONATIONS					VOLUNTEERING				
		Probability of donating		Proportion of income donated		Probability of volunteering		Number of hours volunteered	
		prob(don_{it}) > 0		E($don_{it} don_{it} > 0$)		prob(vol_{it}) > 0		E($vol_{it} vol_{it} > 0$)	
		M.E.	t-stat	M.E.	t-stat	M.E.	t-stat	IRR	t-stat
Labour		-0.0260***	(5.09)	-0.0852***	(5.09)	-0.0311***	(5.33)	1.1360***	(5.43)
Liberal Democrat		0.0119*	(1.77)	0.0406*	(1.76)	-0.0175***	(3.09)	1.0733***	(3.08)
Green Party		0.0332***	(2.81)	0.1156***	(2.75)	0.0158*	(1.86)	0.9402*	(1.88)
Chi-sq. (86); p-value		2,963.24; p=0.000				3,174.58; p=0.000			
INDIVIDUALS (N)		29,446				29,446			
OBSERVATIONS (NT)		37,343				37,343			
PANEL C: Lagged first difference model									
CHANGE IN PROPORTION OF INCOME DONATED TO CHARITY, ($don_{it} - don_{it-1}$)					CHANGE IN NUMBER OF HOURS VOLUNTEERED, ($vol_{it} - vol_{it-1}$)				
		COEF	t-stat			COEF	t-stat		
$\tilde{\Delta}$ Labour		-0.0051	(0.05)			1.1714***	(3.47)		
$\tilde{\Delta}$ Liberal Democrat		0.1842***	(2.69)			0.8098**	(2.23)		
$\tilde{\Delta}$ Green Party		0.2283**	(2.45)			0.3288	(0.86)		
R-squared		0.0295				0.0131			
OBSERVATIONS (NT)		32,876				32,876			

Notes: M.E. denotes marginal effect; COEF denotes coefficients; IRR denotes incidence rate ratio. t-statistics are shown in parenthesis. *, **, *** denotes significance at the 10%, 5% and 1% level respectively. The base category is not feeling close to any political party. In Panel A linear fixed effects models are estimated conditioned upon the following time varying controls: the natural logarithm of monthly labour income, non-labour income and savings; highest educational qualification – whether degree, other higher qualification, A level, or GCSE (base category no qualifications); and whether aged 16-24, 25-34, 45-54 or 55-64 (based category aged 65 or above). In Panel B correlated random effects tobit and poisson models are estimated respectively, with the full set of control variables (as per notes to Tables 2 and 3). In Panel C we condition on following time varying controls in difference form: the natural logarithm of monthly labour income, non-labour income and savings; age as a continuous variable and highest educational qualification – whether degree, other higher qualification, A level, or GCSE (base category no qualifications). In Panel C the notation $\tilde{\Delta} = (x_{it-1} - x_{it-2})$.

those typically found in the existing literature, e.g. Rotolo et al. (2010) and Lancee and Radl (2014).^{13,14} In general, these conflicting results are related to the issues discussed in the literature section.¹⁵ See Table A2, second column, in the appendix for the full results.¹⁶

To summarise, with respect to monetary donations, alignment to the

¹³ Interestingly, in contrast to findings for the U.S., see Pho (2008), our results suggest that volunteering is not a normal good because participation decreases with labour income (see Table A2).

¹⁴ Consistent with our results, some studies report a negative effect of parenthood on volunteering, e.g. Sundeen (1990) reports a negative relationship for single parents, a similar result is found by Nesbit (2012) for parents of young children.

¹⁵ See Wilson (2012), for an excellent review of the literature.

¹⁶ We have also interacted income and political ideology. To do so, we re-estimated the models and combined labour and non-labour income. The results are shown in the Appendix Fig. A1, for donations as a proportion of income and number of hours volunteered at the extensive and intensive margins (panes A & B and C & D, respectively). For monetary donations, there are clearly non-linear effects for affiliation to the Green Party, where it is apparent that as income rises the probability of donating initially increases with income, but then falls, before increasing again at the top of the income distribution. For the proportion of income donated, until the median income level is reached, the percentage of income given to charity falls as income increases. Considering volunteering, from panes C and D, it is apparent that there are no significant differences between the political parties. The probability of volunteering (number of hours volunteered) increases (decreases) as income rises.

Liberal Democrats (centre to left wing) and the Green Party (left wing) are positively associated with charitable behaviour at both the extensive and intensive margins, relative to being aligned with the right wing Conservative Party. However, our findings related to monetary donations and affiliation with the Labour Party, a long established party with roots in the trade union movement, suggest the opposite and accord with the hypothesis put forward by Brooks (2005,2006) for the U.S. that political conservatives are more charitable than liberals.

In addition, our findings suggest that it is important to distinguish between donations of money and time. For time volunteered, at the intensive margin, those affiliated with the Labour Party and Liberal Democrats donate more hours relative to those affiliated with the Conservative Party, which is consistent with the findings for the U.S. of Yen and Zampelli (2014). However, it is important to acknowledge the caveats with such cross-country comparisons. This is not only due to differences in data type, such as cross sectional versus longitudinal data, and estimation techniques, but also because of disparities in the political system.

4.2. Robustness analysis

So far, we have shown that the results are generally robust to the choice of covariates and are not driven by the “bad control” problem (Angrist and Pischke, 2009). In this sub-section, we consider alternative specifications to investigate the robustness of our findings in the context of: (i) the issue of omitted variable bias under an alternative functional

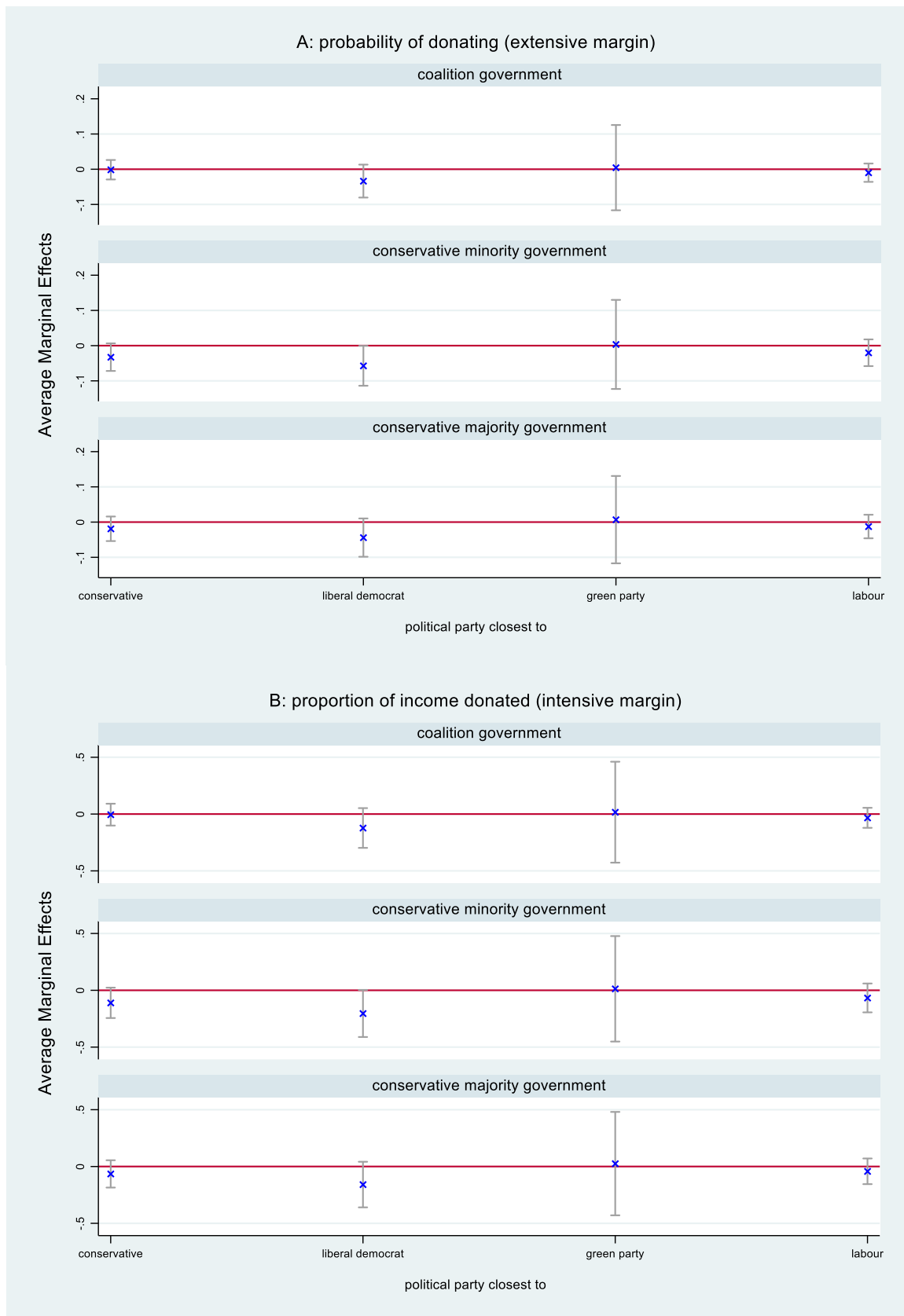


Fig. 1. Modelling the effect of changes in government on charitable donations.
 Notes: The vertical axis in each sub-plot shows average marginal effects. 95 percent confidence intervals are shown in grey. Each sub-plot adds a reference line in red on the vertical axis at zero to highlight effects that are different to zero. The base category is the period when the Labour Government was in power.

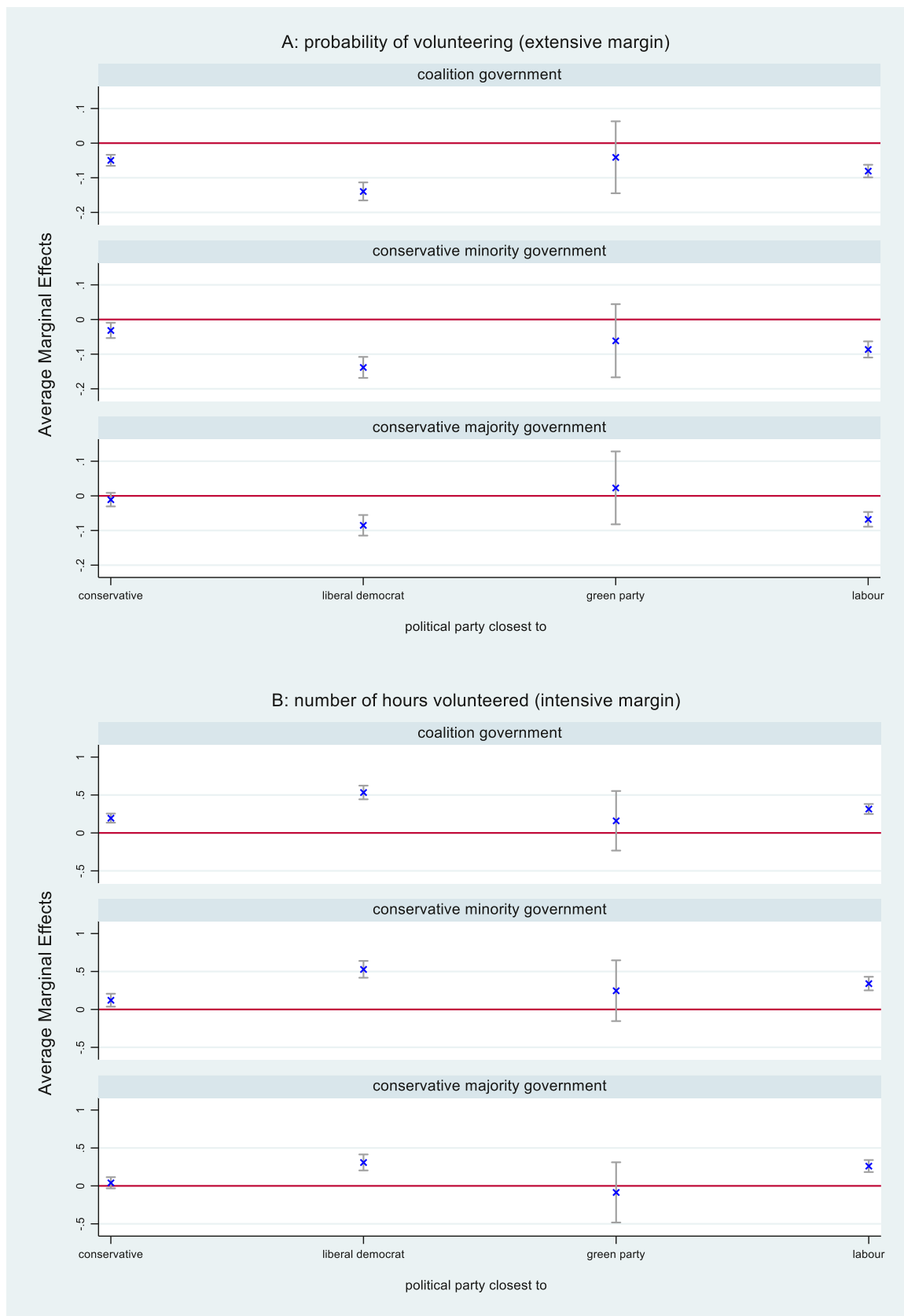


Fig. 2. Modelling the effect of changes in government on time volunteered.

Notes: The vertical axis in each sub-plot shows average marginal effects. 95 percent confidence intervals are shown in grey. Each sub-plot adds a reference line in red on the vertical axis at zero to highlight effects that are different to zero. The base category is the period when the Labour Government was in power

form; and (ii) the problem of reverse causality.

Turning firstly to omitted variable bias, the estimates reported in Tables 2 and 3 potentially suffer from endogeneity arising from unobserved fixed effects (although we have attempted to account for this in a correlated random effects framework), which might bias the estimates due to unobserved factors associated with both donating behaviour and political party affiliation. Given that we have an unbalanced panel of data, to investigate this issue, we estimate linear probability models with fixed effects, i.e. the extensive margin, and linear models with fixed effects conditional on donating, i.e. the intensive margin.¹⁷ The results are presented in Table 4 Panel A, where the left hand pane focuses on monetary donations and the right hand pane focuses on volunteering. With respect to the probability of donating money, the findings mirror those of Table 2, in that, relative to feeling aligned to the right wing Conservative Party, supporting the Liberal Democrats and the Green Party is positively associated with the likelihood of donating money, where the latter has the dominant effect in terms of magnitude, and, as found previously, alignment to the Labour Party is inversely associated with the probability of donating to charity. Turning to the intensive margin, i.e. the proportion of income donated to charity conditional on donating, the results are consistent with those of Table 2, although the coefficient for the Liberal Democrats is now statistically insignificant. Turning to the right hand pane of Table 4 Panel A, considering volunteering at the extensive margin, feeling aligned to any political party relative to the Conservative Party is inversely associated with the probability of volunteering, as found in Table 3. However, at the intensive margin, only alignment with the Liberal Democrats is associated with an increase in the number of hours volunteered.

As political preferences are relatively stable over time, see Table 1C, reverse causality may remain an issue despite lagging political party alignment. Hence, in order to further explore the robustness of our findings within a more stringent setting, we re-estimate Eqs. (1) and (2) but condition on a change in political party affiliation over time. The results are presented in Table 4 Panel B, where the panel structure is identical to Panel A. The analysis generally accords with our previous findings. For example, focusing on charitable donations, feeling aligned to the Labour Party (relative to Conservatives) is associated with a reduction in the probability of donating and the proportion of income donated by around 2.6 percentage points and 8.5 per cent, respectively. The corresponding effects for the Green Party at the extensive and intensive margins are an increase of 3.3 percentage points and 12 per cent, respectively. Turning to volunteering, as found in Table 3, feeling aligned to the Labour Party or Liberal Democrats, relative to the Conservative Party, is associated with a lower probability of volunteering at 3.1 and 1.8 percentage points, respectively. In contrast, at the intensive margin, the corresponding figures for the increase in the number of hours of volunteered are 13.6 and 7.3 per cent, respectively. For both monetary and time donations, these results suggest that, conditional on a change in party affiliation over time, new supporters of the Labour Party and Liberal Democrats (relative to new Conservative Party supporters) have a larger association in terms of magnitude with both the likelihood and proportion of income donated to charity (volunteered) than those with stable political preferences.¹⁸

Finally, to further explore the robustness of our findings to allowing for the potential for reverse causality and unobserved heterogeneity simultaneously, we also estimate a lagged first difference (LFD) model, where the general form is as follows, see Vaisey and Miles (2017):

$$(y_{it} - y_{it-1}) = (\mu_t - \mu_{t-1}) + \gamma(PA_{it-1} - PA_{it-2}) + (\epsilon_{it} - \epsilon_{it-1})$$

¹⁷ Outcomes are conditioned on the following time varying controls: the natural logarithm of monthly labour income, non-labour income and savings; age; and highest educational qualification.

¹⁸ The differences in the corresponding marginal effects compared to those in Tables 2 and 3 are also statistically significant.

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} . Since the model is a difference estimator, time invariant heterogeneity is removed, i.e. α_i . This approach also mitigates against reverse causality by allowing for a causal feedback process of political affiliation on donating behaviour through permitting correlation of political affiliation with future values of the error term.¹⁹ However, it is important to acknowledge that the model assumes that the first change is the cause of the second change and there is no contemporaneous effect of PA on y , i.e. the change in y between two points in time is a function of the specified difference of PA between two preceding points in time. The results are shown in Table 4 Panel C. In accordance with the previous findings, for donating time and money, there is evidence of a positive effect from affiliation to the centre to left wing Liberal Democrat Party (compared to being affiliated to the Conservative Party). Although alignment with the left wing Green Party is positively associated with monetary donations, no statistically significant effects are evident for time donations. Conversely, being affiliated with the Labour Party is positively associated with volunteering time but not monetary donations.

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 analysis influenced the relationship between political party affiliation and donating behaviour. On 6th May 2010, a general election was held in the UK, 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, a coalition between a right wing party and a centre to left wing party. The coalition agreement lasted for five years ending on 7th May 2015 when the Conservatives gained power thereby replacing the Coalition Government. The Conservative Party remained a majority government until 8th June 2017, when it became a minority government with 317 seats in parliament. This remained until 12th December 2019, when the Conservative Party once again became a majority 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, where we interact individual political ideology with the political regime in power:

$$y_{it} = X'_{it}\beta + \alpha_i + \delta_1 coalition_{it} + \delta_2 con_maj_{it} + \delta_3 con_min_{it} + \sum_{k=1}^3 \pi_k PA_{kit-1} + \sum_{k=1}^3 \phi_k (PA_{kit-1} \times coalition_{it}) + \sum_{k=1}^3 \theta_k (PA_{kit-1} \times con_maj_{it}) + \sum_{k=1}^3 \psi_k (PA_{kit-1} \times con_min_{it}) + \epsilon_{it}$$

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. The model is estimated as either a panel tobit or poisson specification with correlated random effects. The following binary indicators are constructed: $coalition_{it} = 1$, if the date that the individual was interviewed was after 11th May 2010 but before 7th May 2015 (i.e. the period of the Coalition Government, 53.6% of the sample were interviewed during this window); $con_maj_{it} = 1$ if the individual was interviewed during a period when the Conservative Government was the majority party, i.e. after 7th May 2015 until 8th June 2017 and then from 12th December 2019 onwards (19.6% of the sample were interviewed during this window); and $con_min_{it} = 1$ if the individual was interviewed during the

¹⁹ We also condition on the time varying covariates in difference form.

period when the Conservatives were a minority government, i.e. after 8th June 2017 until 12th December 2019 (23.5% of the sample were interviewed during this period). Hence, the reference period is when the Labour Party was in office, which corresponds to 3.3% of the sample.²⁰ We also define the following 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.

For ease of interpretation, the results of the analysis are shown in Figs. 1 and 2 for monetary donations and time volunteered, respectively. In each figure, there are two panels showing the average marginal effects for the extensive and intensive margins, respectively, along with 95 percent confidence intervals. The full set of controls are included and, in addition, binary indicators for the day, month and year of interview are incorporated. Turning to charitable donations as a proportion of total income in Fig. 1, in Panels A and B, there are three panes, which refer to the political party in power – the Coalition Government, the Conservation Government with a minority and the Conservative Government with a majority. The horizontal axis indicates political party affiliation. Focusing on Panel A and the probability of donating, during the period there are no significant differences across political preferences compared to the period when the Labour Government was in office, with the exception that, during the minority government of the Conservatives, those feeling closest to the Liberal Democrats had around a 5 percentage point lower probability of donating compared to the period of when Labour was in power. At the intensive margin (see Panel B), all effects are again generally statistically insignificant, with the exception of feeling close to the Liberal Democrat Party during the minority period of the Conservative Government, where the proportion of income donated to charity was approximately 0.2 percent lower than during the period of Labour Party was in power.

In terms of time volunteered, see Fig. 2 Panels A and B, regardless of political party affiliation, compared to when the Labour Party was in government, the probability of volunteering is lower (with the exception of feeling aligned to the Green Party). Moreover, feeling closest to the Liberal Democrats during the Coalition Government or when the Conservative Party was in power as a minority government have the largest moderating effects on the likelihood of volunteering at around 15 and 12 percentage points, respectively. Turning to the intensive margin, the opposite effect is apparent: regardless of which political party individuals feel aligned to, during either the Coalition or Conservative Governments, the number of hours volunteered is higher than under the Labour Government (although it is noticeably larger in magnitude for those feeling aligned to the Liberal Democrats at around 30 minutes).

5. Conclusion

Our analysis adds to the relatively sparse international literature on political party alignment and charitable behaviour and our findings suggest that it is important to distinguish between the effects of political affiliation on donations of money and donations of time. In general, our findings related to monetary donations and affiliation with the Labour Party are in line with the hypothesis put forward by Brooks (2005, 2006) for the U.S. that political conservatives are more charitable than liberals. However, with respect to monetary donations, alignment to the Liberal Democrats (centre to left wing) and the Green Party (left wing) are positively associated with charitable behaviour at both the extensive and intensive margins, relative to being aligned with the right wing Conservative Party. Interestingly, affiliation with the Green Party (a left

wing party) relative to affiliation to the Conservative Party has the largest effect on monetary donations at both the extensive and intensive margins. In contrast, feeling aligned to the Labour Party compared to the Conservative Party is associated with a greater number of hours of unpaid labour volunteered, with insignificant effects found for the Green Party.

We also consider the different periods of government in our sample and find that, compared to when the Labour Party was in government, the association between monetary donations and political party affiliation is statistically insignificant. In contrast, those feeling closest to the Liberal Democrats volunteered more hours during the Coalition Government (and Conservative minority government) compared to when the Labour Party was in power, which highlights the importance of accounting for the political context associated with the time period under consideration.

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Appendix

Table A1, A2, Fig. A1

Table A1

Summary statistics - explanatory variables, X_{it}

	MEAN	STD. DEV.	MIN	MAX
Aged 16-24	0.07	0.24	0	1
Aged 25-34	0.11	0.25	0	1
Aged 35-44	0.16	0.31	0	1
Aged 45-54	0.19	0.37	0	1
Aged 55-64	0.18	0.39	0	1
Male	0.47	0.50	0	1
Number of children aged 2 or under	0.07	0.29	0	6
Number of children aged 3-4	0.06	0.24	0	3
Number of children aged 5-11	0.22	0.57	0	5
Number of children aged 12-15	0.14	0.41	0	5
Number of adults in household	2.22	1.01	1	12
Married or cohabiting	0.58	0.49	0	1
GCSE	0.16	0.37	0	1
A level	0.08	0.28	0	1
Degree	0.29	0.46	0	1
Other higher qualification	0.10	0.30	0	1
Employee full-time	0.33	0.47	0	1
Employee part-time	0.13	0.33	0	1
Self employed	0.09	0.28	0	1
Unemployed	0.03	0.17	0	1
Home owned outright	0.40	0.49	0	1
Home owned on a mortgage	0.37	0.48	0	1
Home privately rented	0.06	0.24	0	1
White British	0.53	0.49	0	1
Frequency of attending religious services	0.22	0.41	0	1
Church of England	0.30	0.46	0	1
Roman Catholic	0.07	0.25	0	1
Christian	0.03	0.18	0	1
Muslim	0.03	0.16	0	1
Other religion	0.09	0.28	0	1
Natural logarithm of monthly labour income	4.19	3.72	0	9.73
Natural logarithm of monthly non-labour income	4.64	2.89	0	10.19
Natural logarithm of monthly savings	2.09	2.60	0	11.14
INDIVIDUALS (N)	29,446			
OBSERVATIONS (NT)	67,679			

²⁰ 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.

Table A2
Full results of estimating equations (1) and (2)

	DONATION (ANNUAL INCOME, don_{it})		HOURS VOLUNTEERED, vol_{it}	
	COEF	<i>t-stat</i>	COEF	<i>t-stat</i>
Aged 16-24	0.7028***	(2.61)	0.0836***	(1.33)
Aged 25-34	0.5775***	(2.87)	-0.3083***	(6.65)
Aged 35-44	0.6628***	(4.11)	-0.0656***	(1.85)
Aged 45-54	0.5638***	(4.51)	0.0061***	(0.25)
Aged 55-64	0.4625***	(5.60)	-0.0146***	(1.02)
Male	-1.1747***	(0.97)	-1.2091***	(5.80)
Number of children aged 2 or under	-0.1759***	(2.34)	-0.6670***	(29.09)
Number of children aged 3-4	-0.1460***	(1.80)	-0.3901***	(17.82)
Number of children aged 5-11	-0.0855***	(1.53)	-0.1111***	(8.38)
Number of children aged 12-15	-0.0675***	(1.14)	-0.0837***	(6.40)
Number of adults in household	-0.0567***	(1.57)	-0.0210***	(2.67)
Married or cohabiting	0.7001***	(8.13)	0.0197***	(1.01)
GCSE	-0.3407***	(0.99)	0.2872***	(3.93)
A level	-0.1390***	(1.49)	-0.1538***	(2.51)
Degree	-0.0507***	(0.19)	0.1690***	(3.01)
Other higher qualification	-0.2202***	(0.68)	-0.3955***	(6.00)
Employee full-time	0.2306***	(2.09)	-0.6934***	(14.42)
Employee part-time	0.4245***	(4.11)	-0.3085***	(16.69)
Self employed	0.7962***	(6.73)	-0.0627***	(3.12)
Unemployed	-0.0010***	(0.01)	-0.0248***	(0.97)
Home owned outright	0.2270***	(2.02)	-0.1663***	(7.01)
Home owned on a mortgage	0.1796***	(1.77)	-0.1543***	(6.66)
Home privately rented	-0.0709***	(0.45)	-0.1104***	(3.22)
White British	-0.0323***	(0.41)	-0.0680***	(4.58)
Frequency of attending religious services	0.1832***	(1.81)	0.0615***	(3.52)
Church of England	-0.0010***	(0.18)	0.0538***	(4.55)
Roman Catholic	0.0351***	(0.36)	-0.0238***	(1.10)
Christian	-0.0282***	(0.23)	-0.0543***	(2.49)
Muslim	0.3134***	(2.22)	0.0546***	(1.44)
Other religion	0.1085***	(1.25)	-0.0770***	(4.85)
Natural logarithm of monthly labour income	-0.2530***	(18.70)	-0.0336***	(14.77)
Natural logarithm of monthly non-labour income	-0.0675***	(6.87)	0.0223***	(10.34)
Natural logarithm of monthly savings	0.0807***	(10.40)	0.0130***	(8.41)
<i>which political party closest to</i>				
Labour	-0.1409***	(3.64)	0.0839***	(4.31)
Liberal Democrat	0.1401***	(2.48)	0.0833***	(4.06)
Green Party	0.4388***	(4.59)	-0.0091***	(0.32)
Chi-sq. (86); p-value	4,449.65; p=0.000		7,181.94; p=0.000	
INDIVIDUALS (N)	29,446			
OBSERVATIONS (NT)	67,679			

Notes: t-statistics are shown in parenthesis. **, *** denotes significance at the 5% and 1% level respectively. The base categories for binary covariates are as follows: aged ≥ 65 ; female; single; no qualifications; not in the labour market; other type of housing tenure; non-White; attend religious services less than once a month or never; no religious denomination; feeling close to the conservative political party. Other controls include region and year dummies, and the mean of all time varying covariates. Charitable donations as a proportion of income are estimated as a correlated random effects tobit model. The number of hours volunteered are modelled as a count outcome via a correlated random effects poisson model. The results correspond to the full specifications reported in Tables 2 and 3 for monetary and time donations respectively.

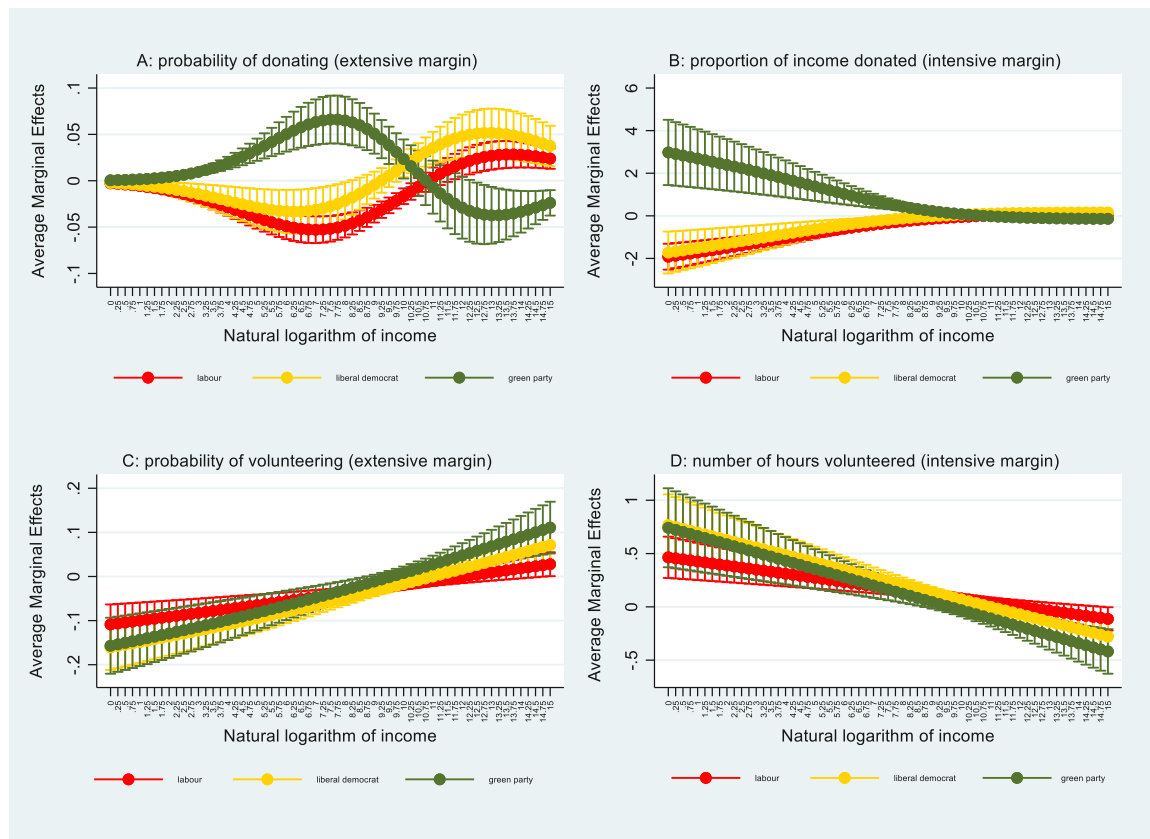


Fig. A1. Interaction of political alignment with income.

References

- Aidt, T., & Rauh, C. (2018). The big five personality traits and partisanship in England. *Electoral Studies*, 54, 1–21.
- Androni, J., Payne, A., Auerbach, A. J., Chetty, R., Feldstein, M., & Saez, E. (2013). Charitable giving. In *Handbook of public economics*, 5 pp. 1–50. Chapter 1: Elsevier North Holland. pages.
- Angrist, J., & Pischke, J.-S. (2009). *Mostly harmless econometrics: An empiricist's companion*. Princeton: Princeton University Press.
- Auten, G. E., & Joulfaian, D. (1996). Charitable contributions and intergenerational transfers. *Journal of Public Economics*, 59, 55–68.
- Auten, G. E., Sieg, H., & Clotfelter, C. T. (2002). Charitable giving, income, and taxes: An analysis of panel data. *American Economic Review*, 92, 371–382.
- Bauer, T. K., Bretmann, J., & Schmidt, C. M. (2013). Time vs. money – The supply of voluntary labor and charitable donations across Europe. *European Journal of Political Economy*, 32, 80–94.
- Baumgaertner, B., Carlisle, J. E., & Justwan, F. (2018). The influence of political ideology and trust on willingness to vaccinate. *PLoS one*, 13, 1–13.
- Birch, S. (2009). Real progress: Prospects for Green Party support in Britain. *Parliamentary Affairs*, 62, 53–71.
- Brooks, A. C. (2005). Does social capital make you generous? *Social Science Quarterly*, 86, 1–15.
- Brooks, A. C. (2006). *Who really cares?: The surprising truth about compassionate conservatism*. New York: Basic Books.
- Brown, S., Taylor, K., Scharf, K., & Tonin, M. (2018). Charitable donations of time and money: Complements or substitutes? Evidence from UK data. In *The economics of philanthropy* (Chapter, 9 pp. 161–189). MIT Press. pages.
- Brown, S., Harris, M. N., & Taylor, K. (2012). Modelling charitable donations to an unexpected natural disaster: Evidence from the U.S. Panel Study of Income Dynamics. *Journal of Economic Behavior and Organization*, 84, 97–110.
- Calvillo, D. P., Ross, B. J., Garcia, R. J. B., Smelter, T. J., & Rutchick, A. M. (2020). Political ideology predicts perceptions of the threat of COVID-19 (and susceptibility to fake news about it). *Social Psychological and Personality Science*, 11, 1119–1128.
- Chan, E. Y. (2019). Political orientation and physical health: The role of personal responsibility. *Personality and Individual Differences*, 141, 117–122.
- Charities Aid Foundation. (2019). *CAF UK giving 2019: An overview of charitable giving in the UK*. <https://www.cafonline.org/about-us/publications/2019-publications/uk-giving-2019>.
- Clements, B. (2012). The sociological and attitudinal bases of environmentally-related beliefs and behaviour in Britain. *Environmental Politics*, 21, 901–921.
- Cohen-Zada, D., Margalit, Y., & Rigbi, O. (2016). Does religiosity affect support for political compromise? *International Economic Review*, 57, 1085–1106.
- Corporation for National and Community Service. (2018). *Volunteering in America report 2018*. <https://www.nationalservice.gov/serve/via/research>.
- Dury, S., De Donder, L., De Witte, N., Buffel, T., Jacquet, W., & Verté, D. (2015). To volunteer or not: The influence of individual characteristics, resources, and social factors on the likelihood of volunteering by older adults. *Nonprofit and Voluntary Sector Quarterly*, 44, 1107–1128.
- Farmer, A., Kidwell, B., & Hardesty, D. M. (2020). Helping a few a lot or many a little: Political ideology and charitable giving. *Journal of Consumer Psychology*, 30, 614–630.
- Forbes, K. F., & Zampelli, E. M. (2013). The impacts of religion, political affiliation, and social capital on religious and secular giving: Evidence from the 2006 Social Capital Community Survey. *Applied Economics*, 45, 2481–2490.
- Forbes, K. F., & Zampelli, E. M. (2014). *Volunteerism: The influences of social, religious, and human capital*. *Nonprofit and Voluntary Sector Quarterly*, 43, 227–253.
- Freire, T., Henderson, J. V., & Kuncoro, A. (2017). Volunteerism after the tsunami: The effects of democratization. *World Bank Economic Review*, 31, 176–195.
- Geana, M. V., Rabb, N., & Sloman, S. (2021). Walking the party line: The growing role of political ideology in shaping health behavior in the United States. *SSM-population health*, 16, Article 100950.
- Giving, U. S. A. (2018). *The annual report on philanthropy for the year 2017, a publication of Giving USA Foundation, researched and written by the Indiana University Lilly Family School of Philanthropy*. <https://givingusa.org/tag/giving-usa-2018/>.
- Kaikati, A. M., Torelli, C. J., Winterich, K. P., & Rodas, M. A. (2017). Conforming conservatives: How salient social identities can increase donations. *Journal of Consumer Psychology*, 27, 422–434.
- Karlan, D., & List, J. A. (2007). Does price matter in charitable giving? Evidence from a largescale natural field experiment. *American Economic Review*, 97, 1774–1793.
- Kessler, J. B., Milkman, K. L., & Zhang, C. Y. (2019). Getting the rich and powerful to give. *Management Science*, 65, 4049–4062.
- Kinsbergen, S., Tolsma, J., & Ruiter, S. (2013). Bringing the beneficiary closer: Explanations for volunteering time in Dutch private development initiatives. *Nonprofit and Voluntary Sector Quarterly*, 42, 59–83.
- Lancee, B., & Radl, J. (2014). Volunteering over the life course. *Social Forces*, 93, 833–862.
- Lankford, R. H., & Wyckoff, J. H. (1991). Modelling charitable giving using a Box-Cox standard tobit model. *Review of Economics and Statistics*, 73, 460–470.
- Luccasen, R. A., Thomas, M. K., & Grossman, P. J. (2017). Giving to poverty relief charities: The impact of beliefs and misperceptions toward income redistribution in a real donation experiment. *Social Choice and Welfare*, 49, 387–409.
- Manesi, Z., Van Lange, P. A., Van Doesum, N. J., & Pollet, T. V. (2019). What are the most powerful predictors of charitable giving to victims of typhoon Haiyan: Prosocial traits, socio-demographic variables, or eye cues? *Personality and Individual Differences*, 146, 217–225.

- Margolis, M., & Sances, M. (2017). Partisan differences in nonpartisan activity: The case of charitable giving. *Political Behaviour*, 39, 839–864.
- McClelland, R., & Brooks, A. C. (2004). What is the real relationship between income and charitable giving? *Public Finance Review*, 32, 483–497.
- McCright, A. M., Dunlap, R. E., & Marquart-Pyatt, S. T. (2016). Political ideology and views about climate change in the European Union. *Environmental Politics*, 25, 338–358.
- Mocan, N., & Tekin, E. (2007). The determinants of the willingness to donate an organ among young adults: Evidence from the United States and the European Union. *Social Science & Medicine*, 65, 2527–2538.
- Mundlak, Y. (1978). On the pooling of time series and cross section data. *Econometrica*, 46, 69–85.
- Nesbit, R. (2012). The influence of major life cycle events on volunteering. *Nonprofit and Voluntary Sector Quarterly*, 41, 1153–1174.
- Nunberg, Geoffrey. (2006). *Talking right*. New York: Public Affairs.
- Office for National Statistics (ONS). (2017). *Changes in the value and division of unpaid volunteering in the UK: 2000-2015*. <https://www.ons.gov.uk/economy/nationalaccounts/satelliteaccounts/articles/changesinthevalueanddivisionofunpaidcareworkintheuk/2015>.
- Oliver, J. E., Wood, T., & Bass, A. (2016). *Liberals versus Conservatives: Social status, ideology, and birth names in the United States*. *Political Behavior*, 38, 55–81.
- Paarlberg, L. E., Nesbit, R., Clerkin, R. M., & Christensen, R. K. (2019). The politics of donations: Are red counties more donative than blue counties? *Nonprofit and Voluntary Sector Quarterly*, 48, 283–308.
- Pho, Y. H. (2008). The value of volunteer labor and the factors influencing participation: Evidence for the United States from 2002 through 2005. *Review of Income and Wealth*, 54, 220–236.
- Ribar, D. C., & Wilhelm, M. O. (1995). Charitable contributions to international relief and development. *National Tax Journal*, 48, 229–244.
- Rotolo, T., Wilson, J., & Hughes, M. E. (2010). Homeownership and volunteering: An alternative approach to studying social inequality and civic engagement. *Sociological Forum*, 25, 570–587.
- Schokkaert, E., Kolm, S. C., & Ythier, J. M. (2006). Empirical analysis of transfer motives. *Handbook of the economics of giving, altruism and reciprocity* (Chapter 2, pp. 127–181). Elsevier North Holland. pages.
- Snower, D. J., & Bosworth, S. J. (2021). Economic, social and political fragmentation: Linking knowledge-biased growth, identity, populism and protectionism. *European Journal of Political Economy*, 67, Article 101965.
- Son, J., & Wilson, J. (2012). Volunteer work and hedonic, eudemonic, and social well-being. *Sociological Forum*, 27, 658–681.
- Subramanian, S. V., Huijts, T., & Perkins, J. M. (2009). Association between political ideology and health in Europe. *European Journal of Public Health*, 19, 455–457.
- Sundeen, R. A. (1990). Family life course status and volunteer behavior: Implications for the single parent. *Sociological Perspectives*, 33, 483–500.
- University of Essex. (2020). Institute for Social and Economic Research, NatCen Social Research, Kantar Public. *Understanding Society: Waves 1-10, 2009-2019 and Harmonised BHPS: Waves 1-18, 1991-2009* (13th Edition). SN: UK Data Service [data collection]6614.
- Vaidyanathan, B., Hill, J. P., & Smith, C. (2011). Religion and charitable financial giving to religious and secular causes: Does political ideology matter? *Journal for the Scientific Study of Religion*, 50, 450–469.
- Vaisey, S., & Miles, A. (2017). What you can – and can't – do with three-wave panel data. *Sociological Methods & Research*, 46, 44–67.
- Wiepking, P. (2007). The philanthropic poor: In search of explanations for the relative generosity of lower income households. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 18, 339–358.
- Wilhelm, M. O. (2008). Practical considerations for choosing between Tobit and SCLS or CLAD estimators for censored regression models with an application to charitable giving. *Oxford Bulletin of Economics and Statistics*, 70, 559–582.
- Wilson, J. (2012). *Volunteerism research: A review essay*. *Nonprofit and Voluntary Sector Quarterly*, 41, 176–212.
- Wooldridge, J. (2010). *Econometric analysis of cross section and panel data*. MIT Press.
- Yang, Y., & Liu, P. (2021). Are conservatives more charitable than liberals in the U.S.? A meta-analysis of political ideology and charitable giving. *Social Science Research*, 99, 1–17.
- Yen, S. T., & Zampelli, E. M. (2014). What drives charitable donations of time and money? The roles of political affiliation, religiosity, and involvement. *Journal of Behavioral and Experimental Economics*, 50, 58–67.
- Yoruk, B. K. (2009). How responsive are charitable donors to requests to give? *Journal of Public Economics*, 93, 1111–1117.