

Research Article

The Distributive Effects of Administrative Burdens on Decision-Making

Lucie Martin^{†§}, Liam Delaney^{‡§}, Orla Doyle^{†§}

Abstract: Administrative burdens may discourage people, especially vulnerable groups, from acting in their own best interest. Most survey experiments focus on attitudes around burdens, while case studies and field interventions analyse specific policies. We test the distributive effects of administrative burdens on decision-making, using a pre-registered survey experiment with a diverse UK sample ($n = 2,243$). Participants are shown two scenarios, claiming a government benefit and a phone bill refund. They are randomly assigned to low or high-burden versions of each scenario. High-burden versions involve a lengthy process or an unpleasant interaction for the benefit claim. For the refund claim, they involve added complexity or delays. Participants report being significantly less likely to complete a claim when the burden is high. Older participants, those with health issues, and those with low financial well-being are more likely than others to complete the low-burden benefit task, but they are more negatively affected by higher burdens (though not always significantly so). This study shows that administrative burdens negatively impact decisions, even in hypothetical scenarios which may under-estimate effects; that some groups may be especially affected; and that survey experiments can be used to pre-test policies by assessing potential burdens and their distributive impact.

Keywords: administrative burdens; distributive effects; survey experiment; decision-making

Supplements: [Open data](#), [Open Materials](#), [Preregistration](#)

Essential administrative tasks like managing government benefits or utility bills often involve behavioural frictions that make it harder for people to achieve their goals. These frictions have been studied as administrative burdens in citizen-state interactions, including learning, compliance, and psychological costs (Herd & Moynihan, 2019), and as “sludge” in consumer choice contexts (Sunstein, 2020). Growing evidence suggests that administrative burdens negatively impact outcomes in many policy and regulatory areas (e.g. Citizens Advice, 2018; Linos et al., 2022; Andersen et al., 2020; Ali & Altaf, 2021; Dynarski et al., 2021).

Administrative burdens may also exacerbate inequality. Vulnerable groups such as older people or those with health or financial issues, who may most benefit from access to public or essential services, may also find burdens harder to overcome due to strained cognitive resources (Christensen et al., 2020). However, current understanding of this topic is limited. Most evidence comes from policy case studies or field experiments targeting specific groups (e.g. Hock et al., 2021). Survey experiments are increasingly used to elicit attitudes around burdens (e.g. Johnson & Kroll, 2021), but seldom measure choice. Furthermore, the evidence base on burdens and inequality is mixed. Most research finds that burdens loom larger for disadvantaged groups (e.g. Bell et al., 2022), but in some cases disadvantaged groups overcome burdens at higher rates than their better-off counterparts (e.g. Alatas et al., 2016). A related issue is that citizen-state and consumer contexts are often studied separately, despite involving similar processes and leading to large cumulative costs for disadvantaged groups (de Bruijn, 2021, p. 190; Martin, Delaney, & Doyle, 2023). Finally, there is little research on gender

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and administrative burdens, despite its potential significance for policy goals if households allocate administrative tasks by gender (see Martin, 2022).

This study tests the distributive effects of administrative burdens on decision-making, using a pre-registered survey experiment with 2,243 UK participants. Participants are shown two scenarios: applying for a government benefit and claiming a phone bill refund. They are randomly assigned to a high or low-burden version of each scenario. The high-burden versions involve a lengthy process (compliance cost) or an unpleasant interaction (psychological cost) for the government benefit scenario, and added complexity or an uncertain delay for the bill scenario. Participants are asked how likely they are to complete the task. We test two hypotheses. First, higher burdens lead to a lower likelihood of completing the tasks. Second, women and disadvantaged groups – those who are older, have health or financial issues – will be disproportionately impacted by the high-burden tasks.

We find that administrative burdens negatively affect decision-making. Participants are less likely to complete (hypothetical) tasks in high-burden scenarios, despite the tasks generating monetary benefits. Furthermore, those who are older or have health or financial issues are more negatively impacted than others by the high-burden government benefit task, but more likely to complete its low-burden version (though not all effects are significant). Gender effects are mixed. This study makes several contributions. It shows that administrative burdens impact choices in the general population, not just in specific policies' target groups, even in hypothetical scenarios which may lead to over-optimism. It also shows that some disadvantaged groups are especially affected by burdens. Hence, the study highlights the importance of considering distributive effects when designing processes to implement policies, and the value of experimental surveys as pre-testing tools to help practitioners minimise burdens when creating or reforming these processes.

Background and Literature

Burdens and Behaviour

Administrative burdens are the costs experienced by individuals when interacting with government and other institutions, for example when applying for welfare programmes. They may involve learning costs from acquiring needed information, compliance costs from completing processes such as providing eligibility documentation, and psychological costs if these processes cause stress, stigma, or autonomy loss (Herd & Moynihan, 2019). The closely related concept of sludge refers to “excessive or unjustified frictions, such as paperwork burdens” that make desirable actions more difficult (Sunstein, 2020).

Administrative burdens matter because they impact individuals' behaviour in key policy areas. For example, the burden of filing tax returns can hamper the take-up of tax credits (Bhargava & Manoli, 2015; Linos et al., 2022). Interventions that reduce behavioural frictions can counteract burdens, for example by defaulting consumers into better deals (Ofgem, 2019), allowing joint filings for property tax appeals (Shybalkina, 2021), clarifying the outcomes of college financial aid applications (Dynarski et al., 2021; Burland et al., 2022), simplifying health insurance enrolment processes (Fox, Stazyk, & Feng, 2020; Camillo, 2021), or sending reminders to help people recertify their benefits (Lopoo, Heflin, & Boskovski, 2020) or assess disability benefits payment rules (Hock et al., 2021). Emotional factors also matter. Administrative burdens can trigger negative emotions (Hattke, Hensel, & Kalucza, 2020) that may hamper action, especially regarding government benefits, which often involve stigma (e.g. Lasky-Fink & Linos, 2022).

Distributive Effects

Administrative burdens may disproportionately impact the choices of vulnerable groups. Christensen et al. (2020) argue that people who are older, have health problems, or face (e.g. financial) scarcity often need to access services the most, yet face higher barriers in doing so due to having less resources available to engage with required processes. They argue that age-related cognitive decline, health problems, and scarcity reduce executive functioning, a form of cognitive resources required to initiate and complete administrative interactions. Hence, these groups may find it more burdensome to identify options (higher learning costs) and to complete lengthy, complex, or frustrating tasks (higher compliance and psychological costs).

Empirical evidence on the distributive effects of administrative burdens is mixed. Older people have lower take-up of food stamps, most likely due to the burdensome application process (Moynihan, Herd, & Harvey, 2015). Those with moderate disabilities or low incomes are less likely to access disability benefits without application support (Deshpande & Li, 2019), and having health problems leads to lower benefit take-up (Bell et al., 2022). Low-income households have lower take-up of tax credits, partly due to learning costs (Bhargava & Manoli, 2015). In consumer contexts, those who are older, have health issues, or low incomes are more likely to pay a “loyalty penalty” in essential markets (Citizens Advice, 2018, pp. 17-26), as they find it difficult to search for, compare, and sign up for better deals. Jilke (2015) finds that vulnerable consumers choose worse mobile phone deals in more complex markets. Lastly, people with poor health or financial well-being experience higher psychological costs from managing government benefits (Martin, Delaney, & Doyle, 2023).

However, some studies find that disadvantaged groups overcome burdens at higher rates than their better-off counterparts (Chetty & Finkelstein, 2020). Alatas et al. (2016) find that requiring an in-person visit to a government office to apply for cash assistance resulted in a higher share of poor beneficiaries, as nonpoor individuals were less likely to make the visit (despite being eligible). Finkelstein and Notowidigdo (2019) find that removing burdens by offering application support increased the take-up of food stamps overall, but reduced the share of (more) disadvantaged applicants. However, in both examples, the findings are due to better-off groups making informed decisions, rather than finding it more difficult to overcome burdens than their disadvantaged peers. A recent intervention on tax credits concludes that the barriers faced by vulnerable households may be too high for light-touch interventions to remove (Linos et al., 2022).

Administrative burdens may also have gender effects. Women are more “time-poor” than men (Giurge, Whillans, & West, 2020); this scarcity may exacerbate burdens according to Christensen et al. (2020). Several studies also find gender differences in behavioural factors such as time, risk, and social preferences (Croson & Gneezy, 2009; Falk et al., 2018; Falk & Hermle, 2018), though others argue that stereotypes and confirmation bias drive these results (Nelson, 2014; Sent & Staveren, 2019). While administrative burden research notes the importance of gender (Herd & Moynihan, 2019, p. 30; Sunstein, 2021, p. 34), there is little evidence on this topic, though a recent study finds that reducing burdens in unemployment assistance removed the gender gap in job-finding (Briscese, Zanella, & Quinn, 2022). Tackling this evidence gap is important because if household tasks such as managing government benefits or bills are allocated by gender, as argued by Martin (2022), then any gender effects will impact households’ outcomes.

Why Use a Survey Experiment?

Most evidence on administrative burdens and decision-making comes from policy case studies and field interventions (e.g. Camillo, 2021; Hock et al., 2021). Increasingly survey experiments are being used to study burdens, but most focus on attitudes, not decision-making (e.g. Nicholson-Crotty, Miller, & Keiser, 2021; Johnson & Kroll, 2021; Halling, Herd, & Moynihan, 2022). Our study uses a survey experiment to measure choice. This approach has several benefits.

First, the survey experiment allows us to observe choices in a variety of scenarios including both public (citizen-state) and private (consumer) contexts. These contexts are typically studied separately, yet private burdens are often determined by public policy (consumer rights), mirror public burdens (public vs. private healthcare), and have similar costs (complex forms, frustrating interactions). Both contexts also contribute to individuals’ total administrative workloads, with implications for inequality (de Bruijn, 2021, p. 190; Martin, Delaney, & Doyle, 2023). Second, while field studies are often limited to a policy’s target group, our approach allows for observing choices across diverse segments of the population. This is particularly useful for studying distributive effects, as disadvantaged groups may be more likely to encounter burdensome tasks in the first place (Martin, Delaney, & Doyle, 2023). Lastly, our approach studies the effects of burdens without impacting real-life outcomes; this is important as we hypothesise that burdens are regressive.

However, an obvious limitation of this study is the hypothetical nature of the choices. Individuals may be overly optimistic about their ability to overcome burdens, as suggested by a study on mail-in rebates (Tasoff & Letzler, 2014). Alternatively, they may be overly pessimistic to signal disapproval or because they will not actually experience the benefits of overcoming the burdens. However, when people decide to engage in a task in real life, its costs and benefits are also “hypothetical” (not yet experienced), yet they still affect the decision

to engage. Furthermore, the aim of the study is not to assess the likelihood of overcoming burdens, but rather the difference in this likelihood arising from burden intensity and participant characteristics.

Methods and Data

The study uses original data from an online survey experiment. It is pre-registered on the *Open Science Framework* and all materials are available online.¹ Ethical approval was granted by University College Dublin. This section summarises the study design, data collection, and sample.

Experimental Design

The survey collects demographic information such as participants' age, gender, education, employment status, household income and composition, physical and mental health (on two 5-point Likert scales from "very bad" to "very good"), and financial well-being by rating the statements: "*because of my money situation, I feel like I will never have the things I want in life*", "*I am just getting by financially*", "*I am concerned that the money I have or will save won't last*", "*I have money left over at the end of the month*", and "*my finances control my life*" (US Consumer Financial Protection Bureau, 2017).

The experiment shows participants two hypothetical scenarios. They are asked to imagine that they are experiencing each scenario, and to answer how they would act in real life, not how they would ideally act. In one scenario, participants are told about a government benefit they may be eligible for. The other scenario concerns a phone bill refund participants may be entitled to. For each scenario, participants are randomly assigned to a low-burden (control) or a high-burden (treatment) version of the scenario. Full scenarios are shown in figure 1.

Figure 1: Survey experiment treatments

Government benefit scenario
"You learn from a government announcement that you might be eligible for a one-off government payment equivalent to one week's income for your household.
• Low-burden control: To receive this payment, you need to fill out a short application form and send it to your local government office (you can choose to do this online or via post). • Treatment 1 – lengthy process: To receive this payment, you need to print and fill out a 10-page application form and mail it to your local government office. Then, you will be invited to attend an in-person appointment at this government office, in order to show original identity documents and other documents ensuring your eligibility. • Treatment 2 – unpleasant interaction: To receive this payment, you need to fill out a short application form and send it to your local government office (you can choose to do this online or via post). You will then receive a phone call from the local government office to ask you for further information and confirm your eligibility. Your friend told you that when they applied, they found the local government worker who rang them to be judgmental and condescending about verifying their eligibility for the payment."
Phone bill scenario
"You receive your latest phone bill. You notice that the bill amount is unusually large, and you suspect you have been overcharged by mistake. You call your provider, who tells you that you can make a claim by filling out a form and sending it to them (you can choose to do this online or via post).
• Low-burden control: Your provider will then be able to verify your account and, if they agree that you have been overcharged, they will send you back a refund. • Treatment 1 – complex process: Together with the form, you must provide a copy of your three previous bills, as well as your customer number and your contract start date. Your provider will then be able to verify your account and, if they agree that you have been overcharged, they will send you back a refund.

Treatment 2 – uncertain delay: Your provider will then be able to verify your account and, if they agree that you have been overcharged, they will send you back a refund. Due to a claims processing backlog, you will receive the refund between two and three months from now.”

In each scenario, participants are asked: “*Thinking about any previous experiences with a similar situation, and about your current circumstances and preferences, how likely is it that you would complete the task(s) described above in order to get the payment?*” They answer this question on a 5-point Likert scale from 0 “extremely unlikely” to 4 “extremely likely”. This allows for testing the two pre-registered hypotheses:

- (H1) High-burden scenarios discourage people from completing (hypothetical) tasks more than low-burden scenarios.
- (H2) Women and disadvantaged groups (those who are older, have poor health, low income, or low financial well-being) are more negatively affected by high-burden scenarios than their non-disadvantaged counterparts.

The study design reflects several priorities. First, it uses common examples from the administrative burden and sludge literatures; accessing government benefits and handling utility providers have both been highlighted as involving significant frictions (Citizens Advice, 2018; Ofgem, 2019; Linos et al., 2022; Baekgaard et al., 2021). Second, it isolates several types of costs from Moynihan, Herd, and Harvey's (2015) typology. The unpleasant interaction adds psychological costs, while the lengthy process, complex process, and uncertain delay tap into various aspects of compliance costs. Learning costs – barriers in acquiring information – are not applicable here as participants are given information to set up the scenarios. This design reflects feedback from a pilot study with 50 participants, which helped ensure that the scenarios were simple and realistic.

Data Collection and Sample

The data was collected online in July 2021, using the survey recruitment platform Prolific. Prolific provides good participant diversity, comprehension, attention, and honesty (Peer et al., 2017; 2021), and a high level of transparency between participants and researchers which is beneficial to data quality (Palan & Schitter, 2018). Average survey length was 12 minutes, including questions not used in this study. Participants were compensated according to institutional ethical guidelines (£2.50).

The sample includes 2,243 UK adults. We first recruited a nationally representative sample of 1,500 participants in terms of age, sex, and ethnicity, then oversampled 743 additional participants from groups of interest to this study. One participant submitted two responses; they were inconsistent and thus dropped from the sample. This study focuses on four groups that may be disproportionately affected by burdens. The first group is older people, defined as those aged 65 or older; this describes 14% of the sample. The second group is those with health issues, defined as those who report “bad” or “very bad” physical or mental health; this includes 15% of the sample. The third group is those facing financial scarcity. We examine two potential measures of financial scarcity: having a household income below £20,000 (27% of the sample) and scoring in the bottom quintile for financial well-being (19% of the sample, by construction). Lastly, we look at gender effects. 59% of the sample is female, and participants who identified outside the gender binary (1%) are excluded from distributive analyses.

Table 1 shows that demographics are balanced across treatment groups (see Appendix A for pooled demographics and statistical tests confirming that demographics do not significantly differ between experimental groups). The sample skews towards female and university educated. This reflects the Prolific user base at the time of the study, as 60% of active UK users were female and 37% had a degree according to Prolific's sampling filters at that time. However, the sample is socio-economically diverse and allows for comparisons across groups as required for this study.

Table 1: Demographics across treatment groups

	Scenario 1: Government benefit			Scenario 2: Phone bill		
	Control	Lengthy process	Unpleasant Interaction	Control	Complex process	Uncertain delay
Age (years)	42.93	43.31	42.32	42.71	43.14	42.69
Female	.62	.57	.60	.57	.61	.61
Degree	.51	.49	.53	.50	.51	.51
Full-time job	.39	.38	.40	.41	.37	.39
Income <£20,000	.25	.28	.27	.26	.26	.28
Live-in children	.32	.29	.30	.30	.32	.29
Live-in partner	.56	.55	.58	.58	.57	.54
Health (1-5)	3.78	3.75	3.74	3.75	3.76	3.76
Financial WB (0-100)	52.43	53.32	52.18	52.85	52.76	52.29
Observations	771	715	757	768	737	738

Notes: Group averages are shown for each variable. 127 participants (6% of the sample) did not disclose income and 28 participants (1% of sample) did not identify as a man or woman; they are excluded from statistics and models using these variables. Degree refers to having a university degree. Income is yearly household income. Live-in children refers to having one or more children in the household. Live-in partner refers to a marital status of cohabiting, married, or in a civil partnership. Health is the average of mental and physical health, each reported on a 5-point Likert scale (from 1 “very bad” to 5 “very good”). Financial well-being scores are from 1-100 (higher score means higher financial well-being) based on the 5-item US Consumer Financial Protection Bureau (2017) questionnaire.

Results

Main Effects

Descriptive statistics in Appendix B show that participants are more likely than not to complete the tasks. Average ratings on the 5-point scale (0-extremely unlikely, 1-fairly unlikely, 2-neutral or not sure, 3-fairly likely, and 4-extremely likely) are between 3 and 4 for all tasks, except for the lengthy process treatment, which has an average rating of between 2 and 3. In the government benefit scenario, 7% of participants in the low-burden group, 33% of those in the lengthy process group, and 18% of those in the unpleasant interaction group give a rating of 2 (neutral) or lower. In the phone bill scenario, this drops to 5% of those in the low-burden group, 11% of those in the complex process group, and 8% of those in the uncertain delay group.

Table 2 reports the results of the experiment.² The ordered logistic regressions used to estimate the main results show that administrative burdens affect decision-making. All high-burden treatments negatively and significantly impact participants’ stated likelihood of completing the task compared to the low-burden control, except the “uncertain delay” treatment, which is only marginally significant. Average marginal effects (shown in Appendix C) help interpret the size of these results. In the government benefit scenario, participants in the “lengthy process” and “unpleasant interaction” groups are both less likely than those in the low-burden condition to say they are “extremely likely” to complete the task (by 42 and 25 percentage points respectively), and more likely to choose all other answers – extremely unlikely, fairly unlikely, neutral or not sure, and fairly likely – than those in the low-burden condition (by between 5 and 17 percentage points for the “lengthy process” group, and by between 2 and 13 percentage points for the “unpleasant interaction” group). Likewise, in the phone bill scenario, those in the “complex process” and “uncertain delay” groups are both less likely than those in the low-burden condition to say they are “extremely likely” to complete the task (by 12 and 4 percentage points respectively), and more likely to choose all other answers (by between less than 1 and 8 percentage points for the “complex process” group, and by between less than 1 and 3 percentage points for the “uncertain delay” group). Overall, we find strong support for the first hypothesis that higher burdens discourage action.

Table 2: Main effects of administrative burdens on decision-making

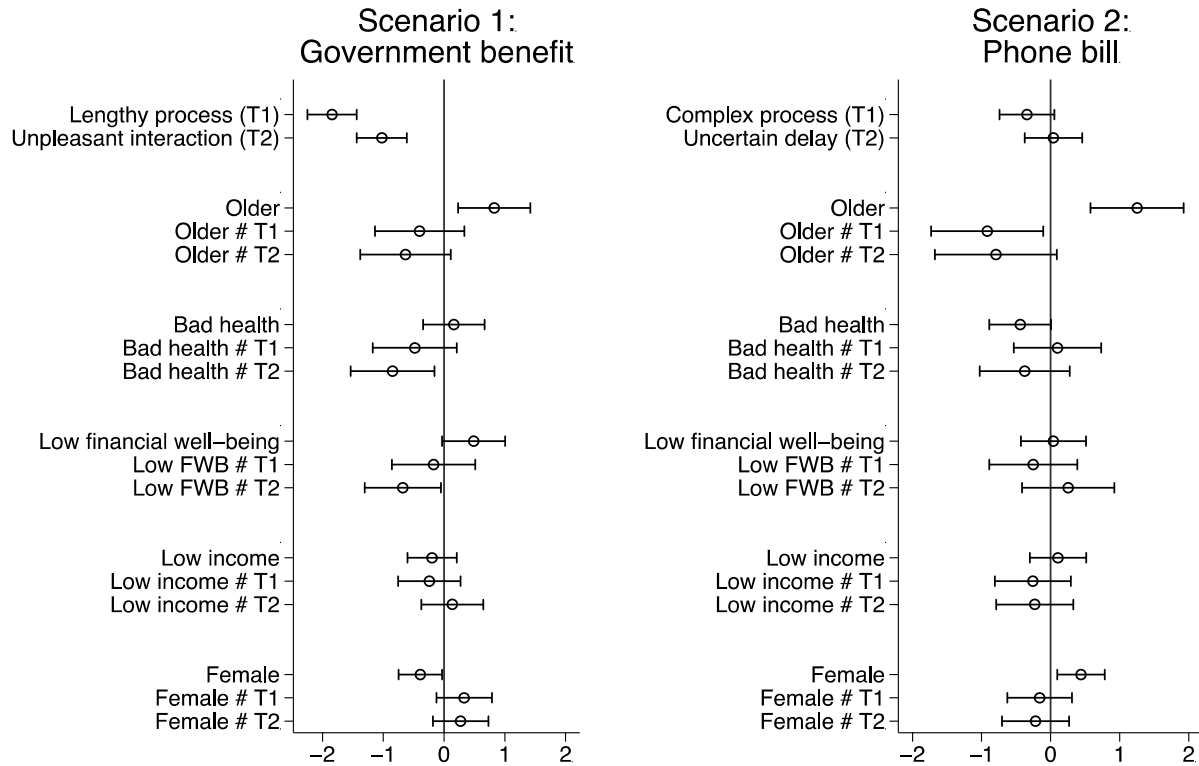
	Likelihood of completing the task (5-point scale)	
	Scenario 1: Government benefit	Scenario 2: Phone bill
Lengthy process	-1.78***† (.11)	
Unpleasant interaction	-1.07***† (.11)	
Complex process		-.59***† (.11)
Uncertain delay		-.20* (.12)
Observations	2243	2243

Notes: The table shows coefficients from ordered logistic regressions. Average marginal effects from these regressions are shown in Appendix C. Dependent variable is a 5-point Likert scale from “Extremely unlikely” to “Extremely likely”. Robust standard errors in parentheses. * $p < .10$, ** $p < .05$, *** $p < .01$, † $p < .05$ after Benjamini-Hochberg corrections.

Distributive Effects

Participants who are female, older, have health issues, low incomes, or low financial well-being follow similar descriptive patterns to other participants. They all report being more likely than not to complete the tasks, with average ratings between 2 (neutral) and 4 (extremely likely). These groups are also less likely to complete the high-burden versions of each scenario, compared to their low-burden version, except those with low financial well-being, who are as likely to complete the low-burden version of the bill task as they are to complete its uncertain delay version (see Appendix D).

The distributive effects of administrative burdens are shown in figure 2 (underlying regressions in Appendix E). The analysis examines whether being a woman or in a disadvantaged group impacts the effects of burdens on decision-making. To do so, it adds groups of interest and their interactions with high-burden treatments to the models used in table 2. For example, the coefficient for “Older” in scenario 1 shows the difference between older and younger participants’ likelihood of completing the task in the low-burden condition, while the coefficient for “Older # T1” shows whether older people are more negatively impacted by higher burdens (i.e. the difference in how older and younger people’s outcomes change when moving from the low-burden condition to the “lengthy process” condition).

Figure 2: Distributive effects of administrative burdens on decision-making

Notes: Coefficients from ordered logistic regressions with 95% confidence intervals ($n = 2092$). Individuals who did not identify as man or woman or did not disclose their income are excluded. The models regress individuals' likelihood (5-points Likert scale from 0 "extremely unlikely" to 4 "extremely likely") of completing the task on the categorical treatment variable (base level is the low-burden version of each scenario), binary groups (older than 65, poor mental or physical health, household income below £20,000 per year, financial well-being in bottom quintile of sample, female), and the interactions between high-burden treatments and these groups. See Appendix E for underlying regressions and Benjamini-Hochberg corrections for multiple hypothesis testing; after corrections only the main effects for scenario 1 and the age effects in low-burden conditions remain significant at the 5% level.

Older people, those with health issues, and those with low financial well-being are more likely than non-disadvantaged participants to complete the low-burden benefit task (significantly so for older people), as shown by the positive coefficients for these groups in the low-burden condition. However, they are more negatively impacted by higher burdens in this task compared to non-disadvantaged participants, as shown by the negative coefficients for interactions between these groups and high-burden versions of scenario 1. These negative effects are only significant for those with poor health or low financial well-being in the "unpleasant interaction" scenario, which also has the largest distributive effects. In the "phone bill" scenario, older people are more likely to complete the low-burden task, but they are more negatively impacted by higher burdens compared to younger people. Those with poor health or low financial well-being do not significantly differ from non-disadvantaged participants.

Exploratory analysis distinguishing mental and physical health finds that mental health drives the health-related results, with for example a negative, large, and significant coefficient for the "unpleasant interaction" burden (see Appendix F). Hence those with poor mental health may be particularly negatively impacted by burdensome tasks. Those on low incomes do not significantly differ from non-disadvantaged participants

across both scenarios. Women are less likely than men to complete the low-burden version of the benefit scenario, but more likely to complete the low-burden version of the bill scenario; there are no gender differences in the effects of higher burdens in either scenario. Overall, there is mixed support for the second hypothesis that being in a disadvantaged group exacerbates the effects of burdens.

Discussion and Conclusion

This study tests the effect of administrative burdens on decision-making using a survey experiment. The results show that burdens negatively impact participants' decisions; these results hold across compliance and psychological costs, and across public and private burdens (though the "uncertain delay" treatment is only marginally significant). Hence administrative burdens discourage action, even in hypothetical settings which may involve optimism bias (Tasoff & Letzler, 2014). These results not only support existing evidence that burdens hamper behaviour in various contexts (Herd & Moynihan, 2022), but they also show that these effects operate across the general population, unlike field or policy studies, which often focus on specific groups. The study also allows for exploratory comparisons between public and private burdens. Effects are stronger in the public scenario. It could be that burdens involving eligibility checks highlight the tax-funded nature of public services, thus discouraging action more strongly, in line with evidence that showing taxpayer costs on medication bottles increases patients' feelings of guilt (McCabe, Wollbrant, & Delaney, 2022). However, this difference may also be due to the specific scenarios used in the study. Further research should assess how funding source may moderate the impact of burdens.

The study also tests whether administrative burdens have distributive effects. It finds that older people, those in poor health, and those with low financial well-being are more likely than others to complete the low-burden government benefit task. Thus in the absence of significant burdens, disadvantaged groups prioritise financial payoffs more heavily. However, these groups are more negatively impacted by higher burdens in this task. This supports previous findings that older age, health and financial issues exacerbate the effects of administrative burdens, possibly due to cognitive costs (Christensen et al., 2020). Furthermore, Martin, Delaney, and Doyle (2023) found that those with health or financial issues experience higher psychological costs during tasks relating to government benefits. These costs may have been under-estimated if such groups are less likely to engage in these tasks in the first place, as shown by our experiment. Finally, low-income participants do not significantly differ in their responses from the rest of the population (possibly because income does not measure financial scarcity as well as subjective financial well-being), and there are mixed effects for gender. Women are more likely than men to complete the low-burden bill refund task, but less likely to complete the low-burden benefit task, despite often being responsible for benefits claims (Griffiths, 2021), and there are no gender differences in the effects of higher burdens. Further research is needed on gender and administrative burdens as there is little evidence on this topic.

An important limitation of this study is sample selection bias, which may impact both the main effects and the distributive effects. Regarding main effects, while the sample is large and diverse, it is not fully representative, which may limit the generalisability of results. For example, it is likely that the study sample is less burden-averse than the general population, as the study participants chose to complete the survey, which itself is a burdensome task. This could lead to an under-estimation of the main effects in table 2. Regarding distributive effects, while the study directly compares the outcomes of disadvantaged participants with those of their non-disadvantaged peers, disadvantaged individuals in our sample may not necessarily be representative of their disadvantaged group in the broader population. Indeed, recent research by the UK's communications regulator found that older people, people with health issues impacting device use, and financially vulnerable people are disproportionately digitally excluded (Ofcom 2022). Hence people in these groups who did participate in our online survey may have higher digital and potentially administrative literacy than is typical for individuals in their group in the broader population. For example, older people in our sample may be less burden-averse than older people in the population. This could lead to an under-estimation of the distributive effects in figure 2.

In conclusion, the study shows that administrative burdens discourage action, and that they can disproportionately impact some disadvantaged groups. It also demonstrates that survey experiments are a promising tool for pre-testing policy implementation processes.

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Notes

1. Pre-registration at: <https://osf.io/4tq67>; note the pre-registration covers several studies using one survey; this study focuses on hypotheses 5 and 6 (i.e. the survey experiment). Survey questionnaire, code files, and dataset at: <https://osf.io/cykja/>.
2. Note the study uses the Benjamini-Hochberg method to correct for multiple hypothesis testing. This method corrects for the false discovery rate using a step-down procedure which ranks p-values by size, then compares each p-value to the critical value $((i/m)Q)$, where i is the rank, m is the number of tests, and Q is the false discovery rate (5%). This deviates from the pre-registration – the study originally planned to use the (less conservative) Romano-Wolf bootstrapping method for its greater statistical power, but current user-written statistical packages for this method did not allow for sufficient code customisation around covariates and regression methods.

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Appendix

Appendix A. Sample demographics

	Mean / %	SD	<i>p</i> -value (Scenario 1)	<i>p</i> -value (Scenario 2)
Age (years)	42.85	16.87	.59	.88
Female (%)	.60	.49	.08	.28
University degree (%)	.51	.50	.33	.89
Full-time job (%)	.39	.49	.56	.22
Household income < £20,000 (%)	.27	.44	.52	.70
Living with children (%)	.30	.46	.63	.37
Living with spouse/partner (%)	.56	.50	.69	.38
Health (from 1-5)	3.76	.75	.56	.99
Financial well-being (from 0-100)	52.63	12.41	.09	.47
Observations	2243			

Notes: Participants who did not disclose their income or did not identify as a man or woman are excluded from the relevant statistics. Degree refers to having a university degree. Income is yearly household income. Living with children refers to having one or more children in the household. Live-in partner refers to a marital status of cohabiting, married, or in a civil partnership. Health is the average of mental and physical health, each reported on a 5-point Likert scale (from 1 “very bad” to 5 “very good”). Financial well-being scores are from 1-100 (higher score means higher financial well-being) based on the 5-item US Consumer Financial Protection Bureau (2017) questionnaire. *P*-values are from balancing tests confirming that demographics do not significantly differ across experimental groups. Chi-square tests are used for binary variables (female, degree, full-time job, income <£20,000, live-in children, live-in partner). Kruskal-Wallis tests are used for measurements (age, health, financial well-being) as they are not normally distributed, though note one-way ANOVA tests for these variables yielded comparable results.

Appendix B. Average ratings for each treatment group

Average likelihood of completing task	
(from 0 “extremely unlikely” to 4 “extremely likely”)	
<i>Scenario 1: Government benefit</i>	
Low burden	3.61
Lengthy process	2.75
Unpleasant interaction	3.18
<i>Scenario 2: Phone bill</i>	
Low burden	3.67
Complex process	3.47
Uncertain delay	3.60

Appendix C. Marginal effects of administrative burden on decision-making

	Extremely unlikely	Fairly unlikely	Neutral or not sure	Fairly likely	Extremely likely
<i>Scenario 1 (base: low-burden version)</i>					
Lengthy process	.047	.106	.092	.171	-.417
Unpleasant interaction	.019	.047	.048	.133	-.248
<i>Scenario 2 (base: low-burden version)</i>					
Complex process	.004	.017	.022	.080	-.124
Uncertain delay	.001	.005	.006	.026	-.039

Notes: The table shows average marginal effects from the ordered logistic regressions shown in table 2. For example, on average, in scenario 1, participants in the lengthy process group are 42 percentage points less likely than those in the low-burden condition to say that they would be “extremely likely” to complete the task.

Appendix D. Average ratings for each treatment group, by group

	Average likelihood of completing the task (5-points scale)					
	Scenario 1: Government benefit			Scenario 2: Phone bill refund		
	Low bur- den	Lengthy process	Unpleasant interaction	Low bur- den	Complex process	Uncertain delay
Younger	3.59	2.72	3.16	3.63	3.44	3.58
Older	3.75	2.90	3.32	3.89	3.62	3.72
Good health	3.62	2.81	3.26	3.69	3.49	3.63
Bad health	3.60	2.44	2.69	3.59	3.32	3.37
Non-low income	3.64	2.83	3.21	3.67	3.51	3.62
Low income	3.61	2.58	3.14	3.70	3.41	3.55
Non-low fin. WB	3.62	2.75	3.22	3.69	3.49	3.59
Low financial WB	3.60	2.73	2.99	3.60	3.35	3.61
Male	3.70	2.79	3.20	3.63	3.42	3.57
Female	3.57	2.73	3.17	3.71	3.50	3.62

Notes: Individuals who did not identify as man or woman or did not disclose their income are excluded from the relevant statistics. Likelihood is on a 5-points Likert scale from 0 “extremely unlikely” to 4 “extremely likely”. The groups are older than 65; poor or very poor mental or physical health; household income below £20,000 per year; financial well-being in bottom quintile of sample; and female.

Appendix E. Distributive effects of administrative burdens (regressions for figure 2)

	Likelihood of completing the task (5-point scale)			
	Scenario 1: Govern- ment benefit		Scenario 2: Phone bill	
(Base level: low burden)			(Base level: low burden)	
Lengthy process (T1)	-1.84 ^{***†}	(.21)	Complex process (T1)	-.34* (.20)
Unpleasant interaction (T2)	-1.02 ^{***†}	(.21)	Uncertain delay (T2)	.04 (.21)
Older	.82 ^{***†}	(.30)	Older	1.25 ^{***†} (.34)
Older x T1	-.40	(.37)	Older x T1	-.92 ^{**} (.41)
Older x T2	-.63*	(.38)	Older x T2	-.79* (.45)
Bad health	.16	(.26)	Bad health	-.44* (.23)
Bad health x T1	-.48	(.35)	Bad health x T1	.10 (.32)
Bad health x T2	-.85 ^{**}	(.35)	Bad health x T2	-.38 (.33)
Low income	-.20	(.21)	Low income	.11 (.21)
Low income x T1	-.24	(.26)	Low income x T1	-.26 (.28)
Low income x T2	.13	(.26)	Low income x T2	-.23 (.29)
Low financial WB	.49*	(.26)	Low financial WB	.04 (.24)
Low financial WB x T1	-.17	(.35)	Low financial WB x T1	-.25 (.32)
Low financial WB x T2	-.68 ^{**}	(.32)	Low financial WB x T2	.25 (.34)
Female	-.39 ^{**}	(.18)	Female	.44 ^{**} (.18)
Female x T1	.33	(.23)	Female x T1	-.16 (.24)
Female x T2	.27	(.23)	Female x T2	-.22 (.25)
Observations	2092		Observations	2092

Notes: The model uses ordered logistic regressions as the outcome is a 5-point ordinal scale (from 0 - extremely unlikely to 4 - extremely likely). Each model (one per scenario) includes the categorical treatment variable (base category is “low burden”), binary variables for groups of interest, and interactions between treatment and groups. Participants who did not disclose their income or who did not identify as man or woman are excluded. Robust standard errors in parentheses.

* $p < .10$, ** $p < .05$, *** $p < .01$, [†] $p < 0.05$ after Benjamini-Hochberg corrections.

Appendix F. Distributive effects of administrative burdens, mental and physical health (exploratory analysis)

	Likelihood of completing the task (5-point scale)			
	Scenario 1: Govern- ment benefit		Scenario 2: Phone bill	
(Base level: low burden)			(Base level: low burden)	
Lengthy process (T1)	-1.85 ^{***†}	(.21)	Complex process (T1)	-.32 (.20)
Unpleasant interaction (T2)	-1.04 ^{***†}	(.21)	Uncertain delay (T2)	.03 (.21)
Older	.83 ^{***†}	(.30)	Older	1.22 ^{***†} (.35)
Older x T1	-.40	(.38)	Older x T1	-.90 ^{**} (.41)
Older x T2	-.66 [*]	(.38)	Older x T2	-.75 [*] (.45)
Bad mental health	.22	(.30)	Bad mental health	-.76 ^{***†} (.24)
Bad mental health x T1	-.34	(.39)	Bad mental health x T1	.27 (.36)
Bad mental health x T2	-1.24 ^{***†}	(.42)	Bad mental health x T2	-.02 (.37)
Bad physical health	-.12	(.41)	Bad physical health	.48 (.37)
Bad physical health x T1	-.54	(.63)	Bad physical health x T1	-.72 (.49)
Bad physical health x T2	.15	(.52)	Bad physical health x T2	-.83 (.52)
Low income	-.21	(.21)	Low income	.12 (.21)
Low income x T1	-.25	(.26)	Low income x T1	-.25 (.28)
Low income x T2	.16	(.26)	Low income x T2	-.25 (.29)
Low financial WB	.49 [*]	(.26)	Low financial WB	.07 (.24)
Low financial WB x T1	-.19	(.35)	Low financial WB x T1	-.26 (.33)
Low financial WB x T2	-.65 ^{**}	(.32)	Low financial WB x T2	.22 (.34)
Female	-.40 ^{**}	(.19)	Female	.45 ^{**} (.18)
Female x T1	.34	(.24)	Female x T1	-.17 (.24)
Female x T2	.27	(.23)	Female x T2	-.23 (.25)
Observations	2092		2092	

Notes: The model uses ordered logistic regressions as the outcome is a 5-points scale from 0 - extremely unlikely to 4 - extremely likely. Each model (one per scenario) includes the categorical treatment variable (base category is “low burden”), binary variables for groups of interest, and interactions between treatment and groups. Participants who did not disclose their income or who did not identify as man or woman are excluded. This analysis is exploratory as it was not pre-registered. Robust standard errors in parentheses.

* $p < .10$, ** $p < .05$, *** $p < .01$, † $p < 0.05$ after Benjamini-Hochberg corrections.

Appendix G. Distributive effects of administrative burdens, full variation in variables (robustness check)

	Likelihood of completing the task (5-point scale)			
	Scenario 1: Government benefit		Scenario 2: Phone bill	
(Base level: low burden)			(Base level: low burden)	
Lengthy process (T1)	-2.44*** [†]	(.79)	Complex process (T1)	-1.21* (.72)
Unpleasant interaction (T2)	-3.39*** [†]	(.76)	Uncertain delay (T2)	-.61 (.77)
Age (base level: 35-44)			Age (base level: 35-44)	
<25	-.24	(.26)	<25	-.56** (.26)
25-34	.21	(.27)	25-34	.24 (.26)
45-54	.24	(.33)	45-54	.32 (.32)
55-64	.19	(.30)	55-64	.80** (.33)
65 and older	.80**	(.35)	65 and older	1.20*** (.39)
Age <25 x T1	-.19	(.35)	Age <25 x T1	.50 (.37)
Age 25-34 x T1	-.15	(.36)	Age 25-34 x T1	-.39 (.37)
Age 45-54 x T1	-.34	(.42)	Age 45-54 x T1	-.48 (.42)
Age 55-64 x T1	-.10	(.39)	Age 55-64 x T1	-.52 (.44)
Age 65+ x T1	-.39	(.45)	Age 65+ x T1	-.97* (.50)
Age <25 x T2	.04	(.34)	Age <25 x T2	-.45 (.38)
Age 25-34 x T2	.02	(.33)	Age 25-34 x T2	-.42 (.38)
Age 45-54 x T2	.11	(.40)	Age 45-54 x T2	-.09 (.46)
Age 55-64 x T2	.52	(.39)	Age 55-64 x T2	-.08 (.49)
Age 65+ x T2	-.52	(.45)	Age 65+ x T2	-1.03* (.54)
Health (average)	.09	(.13)	Health (average)	.28** (.12)
Health x T1	.17	(.17)	Health x T1	.12 (.17)
Health x T2	.40**	(.17)	Health x T2	.15 (.17)
Income	-.02	(.04)	Income	-.09*** (.03)
Income x T1	.07	(.05)	Income x T1	.08 (.05)
Income x T2	.02	(.05)	Income x T2	.05 (.05)
Financial WB score	-.01	(.01)	Financial WB score	.00 (.01)
Financial WB x T1	-.01	(.01)	Financial WB x T1	.00 (.01)
Financial WB x T2	.01	(.01)	Financial WB x T2	.00 (.01)
Female	-.36*	(.18)	Female	.49*** (.18)
Female x T1	.31	(.24)	Female x T1	-.21 (.24)
Female x T2	.28	(.23)	Female x T2	-.15 (.25)
Observations	2092		Observations	2092

Notes: The model uses ordered logistic regressions. Each model (one per scenario) includes the categorical treatment variable (base category is “low burden”), variables for socio-economic characteristics of interest, and interactions between treatment and these characteristics. Characteristics are age (categorical; base level is category containing average age), health (average of physical and mental health, rated on 5-point scales from “very bad” to “very good”), income (treated as continuous, 11 values from “£10,000 or less” to “More than £100,000), financial well-being (score between 0-100), and gender (binary). Participants who did not disclose income or did not identify as man or woman are excluded. Robust standard errors in parentheses.

* $p < .10$, ** $p < .05$, *** $p < .01$, [†] $p < 0.05$ after Benjamini-Hochberg corrections.