

Do Voters Care About Corruption? Theory and Evidence from Conjoint Experiments in India and the UK*

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Abstract

Electoral accountability for corruption has been shown to be generally weak. However, we know surprisingly little about why this is the case. I propose a novel argument to explain this puzzle. Just how weak accountability for corruption is depends on the salience of corruption to voters, and how salient corruption is depends, in turn, on an individual's income. I test this explicitly political economy argument in conjoint experiments and with large-N observational survey data to measure the salience of corruption and its effect on vote choice, moderated by individual income. Results from India and the United Kingdom imply that there is a purely material self-interest side to corruption voting. Voters do not punish politicians for corruption when corruption is not salient to them, and this depends on whether they are rich or poor.

*Replication material is at <https://github.com/mahrenshop>

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Corruption is an endemic and widespread problem for good governance in most developing and many developed countries (Fisman and Golden, 2017). It imposes efficiency costs on society: corruption hinders the efficient production and delivery of public goods, the implementation of effective policies to address poverty (Banerjee and Duflo, 2011; Lehne et al., 2018), and decreases business investment (Mauro, 1995) and trust in government institutions (Ares and Hernández, 2017). Moreover, endemic corruption in public sectors can create poverty traps that are hard to escape. For example, if poor countries' governments lack resources to optimally incentivize bureaucrats via adequate salaries, policies to address poverty might not be implemented in an efficient and fair way (Fisman and Golden, 2017).

How to fight corruption thus becomes a crucial question for policy-makers. Scholars have argued that one way to fight corruption is through elections in democratic societies. According to the democratic norm of electoral accountability, voters should remove governments that are not responsive to popular preferences and thus punish politicians for undesirable policy outcomes such as corruption (Key, 1966; Barro, 1973; Ferejohn, 1986; Manin et al., 1999). Indeed, voters around the world widely disapprove of corruption when asked in surveys such as the latest wave of the World Values Survey (WVS), where just under 70% say corrupt acts are “never justifiable”. This suggests that voters should not elect corrupt candidates for elected office, and reward clean ones. Further, some empirical studies do find punishment effects for corrupt behaviour or aggregate levels of corruption (Ferraz and Finan, 2008; Krause and Méndez, 2009; Bågenholm, 2013).

Yet a large body of empirical research has shown that this is not the case. The overarching majority of studies does not find an empirical pattern of electoral accountability for corruption (Rundquist et al., 1977; Peters and Welch, 1980; Chang et al., 2010; Vivyan et al., 2012; Fernández-Vázquez and Barberá, 2016; de Vries and Solaz, 2017; Dunning et al., 2019). Only recently have scholars begun to ask *why* there is lack of electoral accountability for corruption: among the proposed mechanisms are political institutions (Tavits, 2007), partisan bias (Anduiza et al., 2013), or information distortions (Winters and Weitz-Shapiro, 2013, 2018).

However, the literature on corruption has not yet recognized the probably most important mech-

anism for persistent corruption voting: just how salient corruption actually is in voters' minds, and how this salience depends on individual income. Salience matters crucially for electoral accountability to work since it links objective sociotropic conditions (high corruption) and candidate characteristics (highly corrupt) to vote choice. Specifically, two problems plague the corruption voting literature. First, just how salient corruption actually is in voters' minds has not been accurately measured yet because it is easy to condemn corruption in surveys (Kurer, 2001; Stephenson, 2015), but then not act on it at the ballot box. Second, it is unclear from the existing literature what exactly determines the salience of corruption.

In this study, I fill this gap and introduce issue salience and individual income into a model of candidate choice. This explicitly political economy argument about corruption voting consists of two parts. First, how weak accountability for corruption is depends on the salience of corruption to voters. When corruption is less salient in voters' minds, voters drop corruption as a criterion to evaluate candidates' performance on the issue or individual candidate characteristics. Second, how much corruption matters to citizens individually depends on an individual's income. The salience of corruption is low for low-income voters who expect less material benefits from addressing corruption in elections than from voting based on more immediate economic concerns.

I employ conjoint experiments in India and the United Kingdom to test these arguments. Simultaneously randomizing policy packages and characteristics of candidates between which subjects choose is methodologically superior over previous studies in the measurement of issue salience. Given the cheap talk nature of corruption and poor measurement of its salience, I propose a conjoint experiment and a budget allocation task to capture the *relative* nature of the issue salience of corruption. Would voters still place weight on corruption in their vote choice if they were forced to make trade-offs with other issues or incur costs? This is the first study to employ conjoint experiments with policy packages for the purpose of measuring issue salience as opposed to measuring the impact of being corrupt as a candidate trait only (Breitenstein, 2019).

Integrating experimental and large-N observational data, I find strong empirical support for the propositions of the candidate choice model. The salience of corruption is lower than that of

competing valence issues such as the economy, and this affects candidate choice. Furthermore, I find that the salience of corruption is lower among low-income voters.

These results have two important implications. First, much of the corruption voting literature has operated from the flawed assumption that corruption is a salient issue in voters' minds. Once issue salience is considered theoretically and properly measured in a conjoint experimental design, we see that voters assign less weight to corruption in their vote choice than to other issues. Specifically, if voters think corruption is not an important issue relative to economic policy or domestic security, then we should expect to see voters not respond much to corrupt behavior or proposals to fight corruption, especially when candidates vary on other dimensions that do matter. Second, contrary to arguments about partisan bias (Anduiza et al., 2013) or information distortion (Ferraz and Finan, 2008), the argument presented here means that there is a purely material self-interest side to corruption voting. Specifically, it might be rational for the poor to discard corruption in their vote choice if expected benefits from addressing corruption are lower than from addressing more immediate economic concerns. Voters do not punish politicians for corruption when corruption is not salient to them, and this depends on whether voters are rich or poor.

This study proceeds as follows. I first review the literature on corruption voting and present the contribution of this study. Second, I derive hypotheses about the relative salience of corruption and its effect on vote choice moderated by individual income. Third, I outline the experimental design. Finally, I examine results from conjoint experiments in India and the UK as well as observational data which directly test these propositions.

Corruption and electoral accountability

Good governance faces a two-sided principal-agent problem of (i) citizen control over politicians, and (ii) politician control over bureaucrats (J-PAL, 2013). Democratic theory of electoral accountability suggests that voters can fight corruption in elections and should remove governments that do not deliver on provision of public goods and services by not re-electing them (Key, 1966; Fer-john, 1986; Ashworth, 2012). Conversely, voters can select politicians of “good type” (Fiorina, 1981; Fearon, 1999). Both mechanisms of electoral accountability should incentivize politicians and bureaucrats to be responsive to citizen preferences and therefore to enact and execute good policy.

Yet, there is only little evidence to suggest that voters punish politicians for corruption or select clean candidates (Dunning et al., 2019). Instead, the majority of empirical studies in political economy does not support the predictions of electoral accountability with respect to corruption. In a recent review article, de Vries and Solaz (2017) conclude that the “idea that voters punish a politician they know to be corrupt is thus becoming increasingly contested.” For example, Chang et al. (2010) report that in only one out of eleven legislative periods in Italy between 1948 and 1994 were corruption charges negatively associated with the probability of re-election. Similarly, Vivyan et al. (2012) show that MP implication in the 2009-10 UK expenses scandal did not significantly decrease the probability of getting elected. Similar non-punishment for corruption has been demonstrated by Fernández-Vázquez and Barberá (2016) using data from the 2011 Spanish local elections.

The mechanisms for this empirical pattern are poorly understood. Only recently have scholars begun to examine why voters fail to hold elected officials accountable for corruption. For example, studies suggest that voters often do not have enough information available to effectively hold politicians to account for corruption (Chang et al., 2010), or that institutional configurations make it hard for voters to attribute responsibility correctly (Tavits, 2007). By contrast, Eggers (2014) as well as Pavão (2018) suggest that the viability of alternatives to corrupt politicians is key in that voters simply cannot punish corruption in elections if there are no clean challenger candidates. Fi-

nally, it could be that partisan bias distorts effective punishment or selection of politicians when incriminated politicians are of the same party as the voter's (Anduiza et al., 2013).

However, this growing literature has overlooked the probably most important mechanism for observed corruption voting: just how salient corruption actually is in citizens' minds, and how this intimately linked to individual income. Salience matters crucially for electoral accountability since it links objective societal conditions (high corruption) or candidate characteristics (highly corrupt) to actual vote choice. Specifically, two problems plague this literature.

First, just how salient corruption actually is to voters has not been accurately measured yet. Scholars arguing that corruption is traded off in voters' minds have implicitly acknowledged the importance of salience already (Peters and Welch, 1980), but the measurement of the actual salience of corruption has been complicated by the fact that fighting corruption is socially desirable (Kurer, 2001; Stephenson, 2015), making the issue prone to cheap talk on the part of voters when asked in surveys. For example, what if fighting corruption would be costly in the form of higher taxes or opportunity costs of budget priorities? Would voters still place weight on corruption in their vote choice if they were forced to make trade-offs with other policy issues? Finally, it is unclear on what the salience of corruption actually depends. It is crucial to know what can raise the salience of corruption and what cannot. This part of the causal chain has neither been theorized nor empirically tested yet.

To fill this gap, I propose a methodologically superior way of measuring issue salience, namely within a conjoint experimental design to introduce trade-offs for certain issues and costs attached to them, which reduces the potential for cheap talk on the part of survey respondents. This is the first study to employ conjoint experiments with policy packages for the purpose of measuring issue salience as opposed to measuring the impact of being corrupt as a candidate trait only (Breitenstein, 2019). Furthermore, I propose a novel explicitly political economy argument about the determinants of the salience of corruption and test it empirically.

Theory

Why do voters fail to hold politicians accountable for corruption? I argue that, how salient corruption to an individual is matters for their ability and willingness to hold politicians accountable for corruption. Voters attach salience weights *both* to certain candidate valence characteristics, as well as to key valence issues. In turn, salience weights are a function of (i) individual income and (ii) of other competing candidate characteristics or issues. The central argument yields two novel insights into the corruption voting puzzle. First, when corruption is less salient, then the effect of corruption on vote choice is lower. Second, the salience of corruption varies with the salience of other valence issues and candidate traits as well as with an individual's position in the income distribution.

Candidate choice model

We start with a simple model of candidate choice (Groseclose, 2001). Assume voter i in their vote choice v_i maximizes utility with respect to voting for a candidate $c \in \{c, \dots, d\}$ such that

$$v_i = \operatorname{argmax}_{c \in \{c, \dots, d\}} U_{ic}, \quad (1)$$

where voter i receives utility from voting for candidate c , U_{ic} , of the form

$$U_{ic} = \delta_c - \phi(|\mathbf{x}_c - \mathbf{x}_i|). \quad (2)$$

The candidate's proposed policy is \mathbf{x}_c and their valence δ_c . $\phi(|\mathbf{x}_c - \mathbf{x}_i|)$ is the spatial policy competition element derived from the Euclidean distance between voter's vector of preferred policies \mathbf{x}_i and the candidate's vector of proposed policies \mathbf{x}_c from the policy issue space and with issue weight ϕ . The greater the distance, the less the utility from voting for candidate c . The valence term δ_c in these traditional models refers to *character-based valence* (Abney et al., 2011), i.e. individual-level candidate characteristics such as education, income, and – crucially for this study –

integrity/honesty over which voters have identical preferences. The latter has predominantly been operationalized by referring to candidates as being corrupt or having been accused of corruption (Franchino and Zucchini, 2015).

However, valence need not refer to individual character traits only, but can also include policy issues, so-called valence issues. These are policy issues over which voters have identical preferences (Stokes, 1992). Introducing valence issues as a separate type of valence into voters' utility function implies that voters also choose candidates based on their evaluation of the probability of a candidate to deliver effective performance with respect to these key valence issues. Applying this to the previous model captured in Eq. 2, we have

$$U_{ic} = \sum_{j=1}^m \delta_j + \sum_{k=1}^n \gamma_k - \phi(|\mathbf{x}_c - \mathbf{x}_i|), \quad (3)$$

where j now indexes a candidate's valence attribute and k a valence issue which, by assumption, cannot be a positional issue x . Note that instead of having a single constant valence characteristic as in the Groseclose model, $\sum_{j=1}^m \delta_j$ now refers to the sum of all attributes a candidate can exhibit, and is a constant known and observable to voters. Similarly, $\sum_{k=1}^n \gamma_k$ now refers to a candidate's performance on any of the k valence issues, e.g. the past track record of economic management, or the level of corruption before an election. Indeed, one of the classic and still highly salient valence issue is the economy (Ansolabehere et al., 2006), and therefore voters' economic policy preferences. This has been supplemented by new valence issues focusing on crime and domestic security, among others (Clarke et al., 2009). These are strong competitor valence issues to corruption.

Issue salience and candidate choice

Next, we introduce issue salience which is defined simply as weights of general importance voters assign to policy issues – positional or valence – or to candidate traits (Miller et al., 2016). In the same way that voters attach importance weights to positional issues in an issue voting framework (Ansolabehere and Puy, 2018), they attach salience weights to candidate valence characteristics

and key valence issues, such that voters assign more importance to some traits or valence issues than to others. This is the key element of the theory proposed here. Formally, salience weights that voters attach to specific candidate traits ω_j and valence issues λ_k are added such that we have the following system of equations:

$$U_{ic} = \sum_{j=1}^m \omega_j \delta_j + \sum_{k=1}^n \lambda_k \gamma_k - \phi(|\mathbf{x}_c - \mathbf{x}_i|) \quad (4)$$

$$\omega_j = B_{ij} \times C_i - \sum_{m \neq j} \omega_m \quad (5)$$

$$\lambda_k = B_{ik} \times C_i - \sum_{n \neq k} \lambda_n \quad (6)$$

This full candidate choice model now incorporates realistic assumptions about voter behaviour. It entails elements of both valence and spatial competition, and addresses both models of electoral accountability for corruption. The individual-level character trait term δ_j represents accountability for certain candidate characteristics within the selection model of electoral accountability. Specifically, voters are asked to select politicians of “good type”, i.e. to select non-corrupt candidates. This is closest to the puzzle of why voters sometimes do not punish *corrupt politicians*. Corruption here means a candidate characteristic. By contrast, the performance on the valence issue term γ_k represents accountability for performance in delivering policy outcomes while in office within the (retrospective) sanctioning model of electoral accountability. Specifically, voters are asked to punish politicians for bad performance on key valence issues by not re-electing them, i.e. to not elect politicians for persistently high levels of corruption. This is closest to the puzzle of why voters sometimes do not punish *politicians for high levels of corruption*. Corruption here means a sociotropic concern about aggregate levels of corruption over which voters have some information.

When the relative salience of corruption is limited, voters base their vote calculation less on corruption, regardless of which underlying vote logic applies: based on valence characteristics (to prospectively select clean candidates), or based on performance on key valence issues (to retrospectively punish for high levels of corruption). When the relative salience of corruption is low,

one should not expect corruption to be a candidate trait or a valence issue that is evaluated in voters' minds in the presence of other, more important issues and traits. That is, corruption is a special case, where the valence issue corruption has a direct equivalent in the valence attribute integrity/honesty which is usually conceived of as being corrupt. Formally, $\lambda_k = \omega_j$ if k and j are corruption as a valence issue and integrity/honesty, respectively. Therefore, if corruption is not an important enough valence issue to voters relative to other issues, voters will (i) not base their performance evaluation on corruption, but rather on other valence issues, and also (ii) not base their candidate traits evaluation on integrity/honesty, but rather on other characteristics. I hypothesize that

H1: When the salience of corruption is lower, the effect of corruption on vote choice will be lower.

Formally, suppose j is integrity/honesty and k the valence issue corruption, then if the salience weights of corruption ω_j and λ_k approximate 0, then Eq. 4 can be rewritten as

$$U_{ic} = \sum_{m \neq j} \omega_m \delta_m + \sum_{n \neq k} \lambda_n \gamma_n - \phi(|\mathbf{x}_c - \mathbf{x}_i|). \quad (7)$$

Voters in this case resort to valence issues γ_n and candidate characteristics δ_m other than corruption when evaluating performance or candidate competency.

The model also makes explicit hypotheses on determinants of the salience of corruption. I model issue salience as a function of (i) expected material benefits voters expect to gain by voting based on attribute j or valence issue k , B_{ij} and B_{ik} (Miller et al., 2016), as well as of (ii) the salience of all other attributes except attribute j and all other valence issues except valence issue k , ω_j and λ_k , respectively. The latter captures the idea of *relative* salience, i.e. the idea that the salience of valence attribute or issues is finite and that voters face trade-offs in the amount of importance they attach to attributes or valence issues (Ansolabehere and Puy, 2018).

The first determinant of salience, the interaction between expected benefits and individual income C_i , is the second part of the main argument in this study. How important an issue is to citizens individually is directly related to expected benefits from addressing that specific issue and to individual income. From any policy proposed, voters obtain benefits. However, these benefits are not distributed uniformly across the income distribution and therefore exactly tied to an individual's

income. For the poor, the benefits from economic policies are generally greater than for the rich, since these are mostly redistributive (Meltzer and Richard, 1981) or they increase the “size of the pie” for redistribution. Yet, crucially, addressing corruption typically does not have this redistributive character. Thus, the poor attach less weight to corruption since it yields less material benefits than, for example, economic policies enhancing growth and employment. Furthermore, when *voting* based on corruption, the poor are not able to gain larger material benefits from tackling more important issues such as the economy or crime/domestic security. This is in line with arguments from the literature on redistribution preferences where low-income voters assign greater weight to immediate material economic and security concerns (Rueda and Stegmueller, 2016; Rueda, 2018; Dimick et al., 2018). If this is the case, we can hypothesize from Eqs. 5 and 6 that

H2: The salience of corruption is lower for the poor than for the rich.

We obtain two insights from this model. First, it addresses both types of accountability, (i) for being corrupt and (ii) for low performance on corruption reduction, i.e. high levels of corruption. Specifically, the main argument is that if the salience of corruption is low relative to other issues, then voters do not choose corruption as a valence issue on which to evaluate performance, and do not choose being corrupt as a candidate characteristics on which to evaluate ability. Second, corruption is not uniformly a low-salience issue at all times and places. how much voters care about corruption depends on their position in the income distribution. Certainly, to an extent salience depends on the context, such as the level of perceived corruption. However, as argued above, there is also a purely material self-interested side to corruption voting.

Experimental design

Treatment

Estimating a causal effect of the salience of corruption on vote choice is difficult. The main problem is that existing measures of the importance of corruption are prone to cheap talk on the part of voters since addressing corruption is socially desirable and it is non-costly for citizens to disapprove of

corrupt practices when asked in surveys (Stephenson, 2015). This problem especially underlies the Most Important Issue question (Wlezien, 2005). I propose a methodologically superior way of addressing these problems and of recovering the *relative* salience of policy issues, namely within a conjoint experimental design to introduce trade-offs with certain policy issues and costs associated with them. This reduces the potential for cheap talk.

Respondents are exposed to conjoint tables as a multidimensional treatment that describes hypothetical political candidates who propose policy packages and exhibit certain individual characteristics. Table 1 is an exemplary conjoint table that could have been realized in the experiment. Political candidates differ on the attributes policy issue, policy costs, policy effectiveness, as well as the candidate's credibility, gender and party affiliation. The main attribute of interest is policy issue which can take on the levels {anti-corruption, economy, domestic security} to test predictions about the relative salience of corruption as opposed to economic or domestic security issues. Respondents are randomly primed on the salience of specific issues by randomly varying issue levels on the policy issue attribute. This exogenizes the concept of issue salience, which is usually subject to an array of supply-side manipulations from political elites via priming and agenda setting.

To further reduce the extent of cheap talk in measuring the issue salience of corruption, respondents not only have to make trade-offs with other policy issues, but also evaluate whether they are willing to incur costs associated with certain policies or to tolerate ineffective policies. The cost attribute can take on levels {public money/taxes, opportunity costs, personal data, no costs}. The effectiveness attribute simply distinguishes between effective and non-effective policies (as shown by "experts"). Specifically, the expectation is that even under low costs and high effectiveness, subjects would still not choose a candidate promising to fight corruption when the alternative candidate proposes to address the economy or domestic security.

Moreover, the costs attribute is important in assessing whether there is an income effect on issue salience, as individuals should not be willing to tolerate raising income taxes for a proposed policy, and should conversely support a policy that contains no costs. This tests the observable implication that the costs of a policy proposal – which should matter less for high-income subjects

and more for low-income subjects – have differential effects on vote choice depending on which policy issue is under discussion. Finally, I estimate the conditional *average marginal component effect* of the policy issue on vote choice separately for subjects in different income categories based on the respective pre-treatment covariate household income.

In the conjoint scenario, candidates have valence characteristics on the attributes partisanship, gender, and credibility. These are included to (i) increase the realism of the choice task, as in real elections it is rarely the case that voters calculate their utility from any given candidate *exclusively* based on policy issues, but also to an extent on certain valence characteristics. These candidate-specific attributes distinguish between a credible or non-credible and a female or male candidate with a party affiliation from either the incumbent party or the main opposition party.¹

Table 1: Exemplary conjoint table

	Candidate 1	Candidate 2
Policy Issue	Anti-Corruption	Economy
Policy Costs	No costs	Raising income taxes
Policy Effectiveness	Has been shown to perform well in decreasing corruption	Has been shown to perform well in increasing economic growth
Candidate Credibility	Has a reputation for keeping campaign promises	Has a reputation for not keeping campaign promises
Candidate Gender	Male	Female
Candidate Party	Labour	Conservative

Outcome

A second problem with estimating a causal effect of the salience of corruption on vote choice are endogeneity and unobserved heterogeneity concerns. Estimates of corruption salience are prone to be distorted by a range of cognitive biases. Anduiza et al. (2013), for example, show that party supporters are more tolerant toward corruption cases when they affect their own party. Against this

¹Consult Table 10 and Table 11 for a complete schedule of conjoint attributes and levels.

background, conjoint designs are optimal in estimating causal effects of multiple treatment components simultaneously on stated vote choice or candidate preference. I am particularly interested in the *average marginal component effect* (AMCE) of policy issue on stated vote choice.

For each conjoint task, a respondent is asked to read a tabular overview of the two profiles between which to choose. The outcome is measured in a forced choice conjoint design. Respondents simply have to electorally choose between the two candidates, and they are asked “If you had to choose between them, which of these candidates would you vote for in the upcoming election?” Choice-based conjoint analysis most closely approximates real-world voting decision making captures voter preferences over candidates.

Note that this conjoint design exposes *stated* preferences, not *revealed* preferences. That is, it does not produce data on actual vote choice, only on hypothetical reported vote choice. Yet, conjoint designs closely approximate real-world decision-making processes in information-rich environments, as in elections the choice usually is between two or more candidates exhibiting certain individual characteristics and proposing policy packages (Hainmueller et al., 2014, 2015).

I include a set of prognostic pre-treatment covariates on respondents’ age, gender, education, partisanship, and ideology. Observe that respondents also report their household income, which allows me to estimate the conditional *average marginal component effect* of issue salience for different levels of subjects’ income. Further, post-treatment respondents are asked to plan a hypothetical federal budget for the upcoming fiscal year and allocate percentages of money that should be spent on each of six issues which is an additional and valid measurement instrument for the salience of corruption.²

²The complete survey instruments for both countries can be found in Appendix 8.2.

Technical setup

The experiments were conducted with online subject pools of the Centre for Experimental Social Science (CESS) in India and the United Kingdom and were fielded in April 2019. In the conjoint experiments, subject $i \in \{1, \dots, N\}$ is presented with K choice tasks, where in each of these tasks she chooses the most preferred of J profiles. Each of these profiles, in turn, consists of L attributes. Then T_{ijk} denotes the treatment given to respondent i as the j th profile in her k th choice task. Its l th component T_{ijkl} is the l th attribute of the profile. Further assume \mathbf{T}_{ik} denotes the entire set of attribute values for all J profiles in respondent i 's choice task k , i.e. all attributes levels in one whole conjoint table, and $\bar{\mathbf{T}}_i$ the entire set of all JK profiles respondent i sees throughout the experiment. Observe that D_l represents the total number of levels for attribute l .

In the corruption voting conjoint experiment in India, we have $N = 212$ (respondents), $J = 2$ (political candidates in each choice task k), $K = 6$ (choice tasks), and $L = 6$ (candidate attributes). Thus, these are $212 \times 6 = 1,272$ choice tasks with 2,544 profiles evaluated. In the UK, we have $N = 218$ and $218 \times 6 = 1,308$ choice tasks with 2,616 profiles seen per respondents. From Table 10 and Table 11 in the appendix, we also see that $D_1 = 3, D_2 = 4, D_3 = 2$ and $D_4 = \dots = D_6 = 2$. This design allows me to test the two hypothesis predicted by the candidate choice model simultaneously in one single study. The *average marginal component effect* of issue salience on vote choice, the *average component interaction effect* of policy costs and policy issue on vote choice, as well as the conditional *AMCE* according to income levels are all estimated using experimental data from this single conjoint design.

For each of the K choice tasks, respondents are presented with two candidate profiles proposing policy packages composed of different attributes, as well as exhibiting certain valence characteristics. In each choice task, each attribute level across L attributes and J profiles, i.e. each cell in a conjoint table, is randomly selected from the set of possible attribute levels and thus produces different sets of random profiles from round to round. This study implements a completely independent randomization scheme, where attribute levels are drawn from a uniform distribution without randomization weights for any given attribute. That is, the realization of some attribute levels are not

constrained by other attribute levels. This allows for a simpler estimation and credible satisfaction of the randomization assumption crucial for estimating causal effects of the marginal components.

This study attempts to strike a middle ground with respect to the number of choice tasks and attributes. First, opting for 6 attributes makes the treatment as simple as possible and as complex as necessary for it to enhance external validity (Malhotra, 1982; Hainmueller et al., 2014; Bansak et al., 2019). Observe also that the number of choice tasks performed by each respondent $K = 6$ is not an excessively high cognitive burden (Bansak et al., 2018).

Observe further that this study has employed attribute order constraints. Some attributes always appeared in a pre-specified chunk of attributes, i.e. policy attributes were always displayed underneath each other, and the same is true for candidate attributes. This had the advantage of making the conjoint table more coherent and therefore much more realistic and externally valid. This design specification does not affect randomization or causal estimation, but also does not allow for a diagnostic test for attribute order effects or “primacy effects”. Yet this is not too much of a concern since the conjoint table only comprised a limited number of 6 attributes and contained only limited amount of text within the cells to describe the attribute level, which makes primacy effects unlikely to occur.³

Estimation and analysis

The primary estimand of interest is the *average marginal component effect* (AMCE) of the levels within the policy issue attribute to estimate the effect of issue salience on stated vote choice. AMCE indicates how different levels of the l th attribute, for example variations in policy issue, of profile j influence the probability that the profile is chosen. We obtain the marginal effect of attribute l averaged over the joint uniform distribution over all possible attribute combinations. Thus, this

³A range of diagnostic tests is carried out and the results are shown in Figure 10 and Figure 11. These tests confirm that there are no profile-order effects or carryover effects.

estimand quantifies the change in the probability that a profile would be chosen if the level of its l th component were changed from the baseline category t_0 (control group) to the level of interest t_1 (treatment group).

Furthermore, the interest lies in the *average component interaction effect* (ACIE) which quantifies the size of interactions when the causal effect of one attribute (e.g. policy costs) varies depending on what value *another attribute* (e.g. policy issue) is held at: What is the effect of policy costs on vote choice when we only consider anti-corruption policies? From this estimand, we identify the percentage point difference in *AMCE*s of costs between the various policy issues. This is important for the hypothesized moderating effects of costs and effectiveness of the proposed policy.

Finally, the *conditional AMCE* identifies the causal effect of an attribute interacted with a respondents' *background characteristic*. This corresponds to modelling heterogeneous treatment effects. For example, for the income hypothesis we need to estimate how the effect of a policy issue (issue salience) changes as a function of the respondent's income.

Following Hainmueller et al. (2014), *AMCE* is estimated from the conjoint data by regressing the choice made by respondent i in their k th choice task, Y_{ijk} on a set of 6 categorical variables (1 per attribute) indicating the levels of each attribute with a simple regression estimator

$$Y_{ijk} = 1 + W_{ijkl} + \mathbf{X}_i, \quad (8)$$

where 1 is an intercept, W_{ijkl} is the vector of $D_l - 1$ dummy variables for the levels of T_{ijkl} except the one for t_0 (baseline level, i.e. treatment group), and \mathbf{X}_i is a vector of relevant control variables to be included for estimation precision purposes. Empirically, this amounts to simply regressing, in a logit model, the binary outcome variable candidate choice on the set of factor variables that represent the attribute and levels, and cluster the standard errors by respondent since the choice tasks are nested within respondents. Then, we have $\hat{\pi}_l(t_1, t_0) = \hat{\beta}_1$ as the estimated coefficient on the dummy variable for $T_{ijkl} = t_1$. We can extend this estimating equation for the *AMCE* to the cases of *ACIE* and conditional *AMCE* by further sub-classification of the sample into strata defined by either the attribute with which the interaction is of interest (*ACIE*) or \mathbf{X}_i (conditional *AMCE*).

Experimental analysis

This study develops two measures of relative issue salience: the average marginal component effect (AMCE) of the attribute policy issue, and the budget allocation task post-treatment. With respect to this latter task, two points are important for the argument put forward. First, we see from Figure 1 that in the UK subject pool, corruption is the least salient issue.⁴ In a hypothetical scenario where respondents were supposed to put themselves in the situation of a social planner and allocate percentages of budgetary expenditure categories, anti-corruption policies were consistently the least prioritized, and obtained the smallest share of budgetary allocations, namely 11.3%.

Second, it is also the case that the selection of levels for the attribute policy issue against which to compare corruption, economic prosperity and domestic security, is an ideal choice. These two issues are the second and third most important issues in the budget allocation task, where respondents in the UK allocate 18.7% of the hypothetical national budget to increasing economic prosperity and 17.4% to domestic security. Further observe that the single most important issue in this subject sample is education spending (22.7% of a national budget), a valence issue which is particularly salient given the characteristics of the subject sample with high levels of stated education. Yet overall, the importance of the two “competitor issues” to corruption chosen for the conjoint experiment, economic prosperity and domestic security, is consistent even in the face of highly salient and strong other valence issues such as education, the environment (16.2%), and social equality (13.6%).

⁴Consult Table 12 for details on the UK subject sample characteristics.

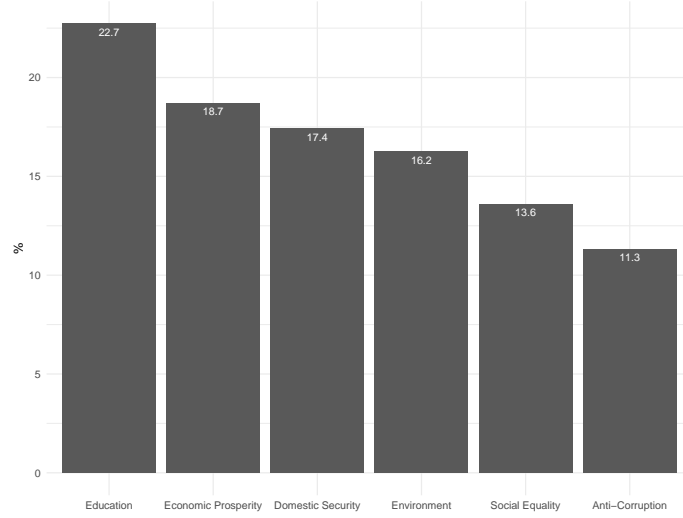


Figure 1: UK budget allocations

This result is confirmed in a more systematic analysis of the causal effect of the attribute policy issue on stated vote choice via the conjoint experiment to test H2 directly.⁵ Recall that the average marginal component effect (AMCE) represents the change in the probability that a particular profile j in choice task k is chosen over the other profile when moving from t_0 (baseline or comparison attribute level) to t_1 , i.e. the attribute level under inspection. The AMCE's for the UK conjoint experiment are displayed in Figure 2. Specifically, to examine the relative salience of corruption, we first look at the AMCE's for the attribute policy issue in panel A. Throughout, I present 95% confidence intervals and refer to significant results as significant at $p < 0.05$.

There is strong causal evidence in favour of H2. The AMCE for proposing an economic policy is 0.054, and is significant at $p < 0.05$. Proposing an economic policy to increase prosperity (t_1) increases the probability of being chosen in an election by 5.4%, compared to the counterfactual where the same candidate with the same characteristics (levels) on all other attributes had proposed

⁵For estimation of the relevant causal quantities of interest, the R package `cregg` was used, which estimates AMCE's via logit models and standard errors clustered by respondent as proposed by Hainmueller et al. (2014).

an anti-corruption policy (t_0). When involved in a trade-off scenario, corruption loses out against economic prosperity and is therefore less salient relative to other issues, which represents strong evidence in favor of H2. Observe, however, that although proposing a domestic security policy increases the probability of being chosen as a candidate by 2.3% as compared to a counterfactual equivalent candidate with an anti-corruption policy, this effect does not reach standard significance of $p < 0.05$. We cannot rule out the possibility that the domestic security effect is not significantly different from 0.

It is worth noting that these effects are present even in the face of other strong predictors of candidate choice, such as the credibility of the candidate and the effectiveness of the policy. These two are the strongest effects in substantive terms and also reach statistical significance of $p < 0.05$. First, proposing an effective policy that has been shown to work well as compared to a non-effective policy increases the probability of being chosen as a candidate by 20.3%. Second, having a reputation for not keeping campaign promises instead of having a credible reputation decreases the probability of being chosen as a candidate by 23.1%. The same is true for the attribute policy cost. Clearly, proposing a policy that does not impose any marginal costs on voters, as compared to a policy for which the costs are disclosure of private data, increases the probability of being chosen as a candidate by 13.5%, a result which is significant at $p < 0.05$. Interestingly, raising the income tax for a proposed policy has no significant effect on the likelihood of being chosen as a candidate.

A stronger and more elaborate test of the limited relative salience of corruption as proposed in H1 is to employ the logic of dosage experiments within null-by-design experimental designs (Sniderman, 2018). An observable implication of H1 is that the salience of corruption in voters' electoral decision-making processes would not be increased *despite* offering a non-costly or highly effective anti-corruption policy, and thus would not affect vote choice. This would yield even stronger causal evidence for the limited salience of corruption.

Therefore, we look at the average component interaction effects (ACIE) of policy issue and policy costs depicted in panel C of Figure 2. Recall that the ACIE represents the average % difference in the AMCE's of component l (policy issue) when looking at different levels of some other com-

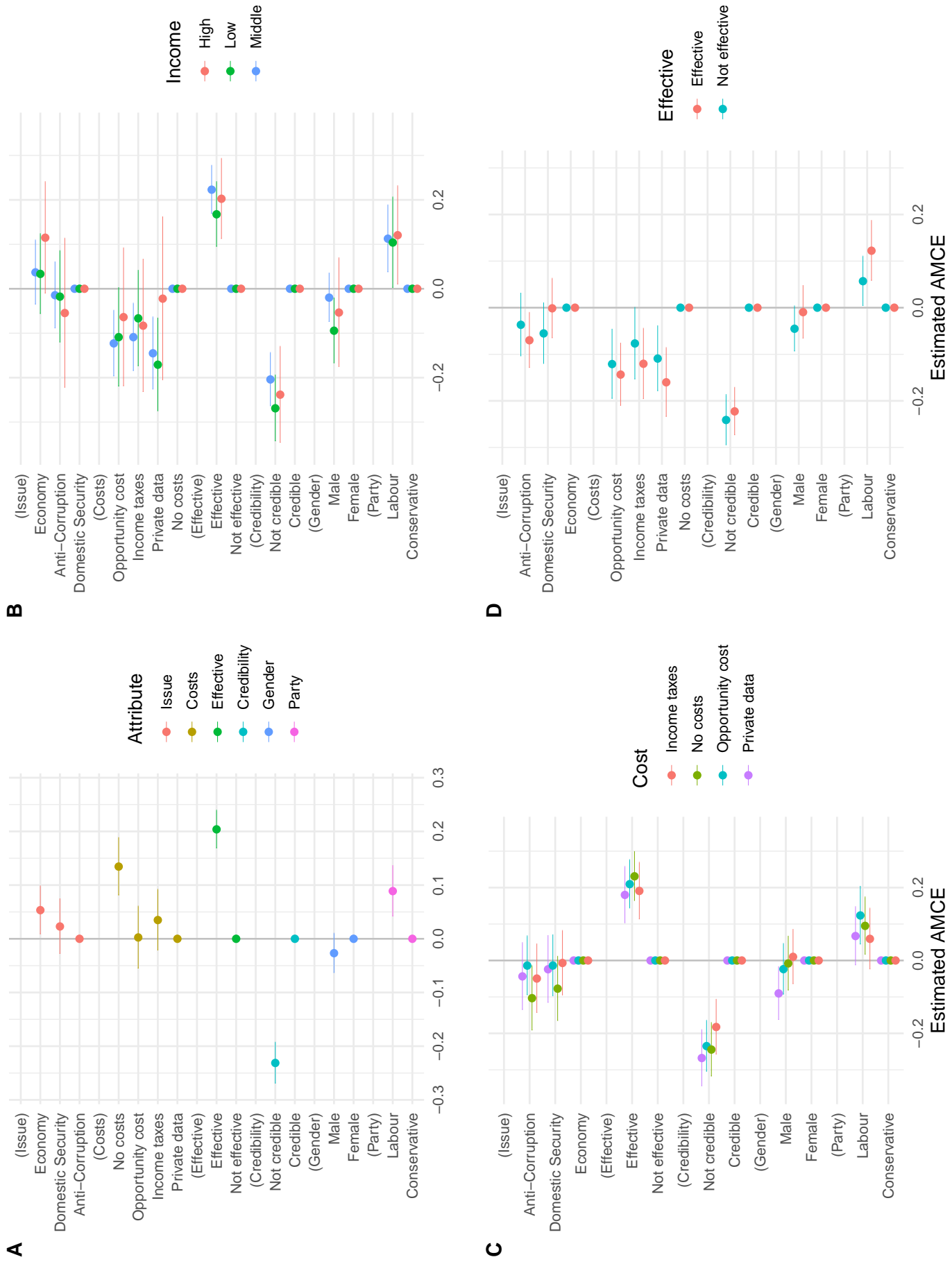


Figure 2: UK conjoint results

ponent (policy costs) separately. We find strong support for H1. The average marginal component effect of the anti-corruption policy is not significantly different when we hold the levels of the cost attribute fixed. If anything, even if the policy entails *no costs*, campaigning on an anti-corruption policy platform as opposed to an economic one would even *decrease* the probability of being chosen as a candidate by 10.4% ($p < 0.05$). This suggests that corruption remains a non-salient issue even if voters do not have to pay for fighting corruption. Observe further that, similarly, candidates cannot raise the salience of domestic security simply by offering non-costly security policies.

The same pattern is also true for policy effectiveness. We apply the same dosage experiment logic as above when interpreting in panel D of Figure 2. Although the AMCE's of anti-corruption do differ between levels of policy effectiveness, we see that, if the policy is highly effective as judged by experts, campaigning on an anti-corruption policy platform as opposed to an economic one would even *decrease* the probability of being chosen as a candidate by 6.9% ($p < 0.05$). This suggests that corruption remains a relatively non-salient issue even if it can be regarded as a credible policy commitment on the part of the candidate. Observe further that, similarly, policy-makers cannot raise the salience of domestic security simply by offering highly effective, and therefore credible, security policies.

The effect of individual income on issue salience proposed in H2 is examined using the willingness to tolerate costs for limited material benefits from fighting corruption as well as respondents' about the reported income directly. Firstly, we look again at panel C of Figure 2, which shows the average component interaction effects with the policy costs. We already saw that when comparing two candidates proposing a non-costly policy, moving from an economic policy to proposing an anti-corruption policy decreases the probability of being chosen as a candidate. This also means that poorer individuals attach greater weight to the costs of a policy and prefer non-costly policies more than richer individuals do. They also attach less salience weight to non-economic issues such as corruption, even if they do not entail any further costs, because fighting corruption is not of immediate economic concern to low-income voters.

To see this, secondly, consider the results in panel B of Figure 2, which shows the AMCE's

conditional in respondents' household income. We see that low-income and middle-income respondents significantly reward policies which entail no costs, as compared to high-income respondents. Observe, however, that the AMCE of anti-corruption itself does not vary dramatically across income groups. Low-income subjects are not less likely to punish anti-corruption platforms than middle-income or high-income subjects.

Finally, the last piece of evidence for the income effect comes from regressions of the results from the post-treatment budget allocation task – the second salience measure employed in the study – on respondents' household income. Table 2 shows OLS estimates from a linear regression of the budgetary percentages allocated to anti-corruption (model 1) and economic prosperity (model 2) on income categories, controlling for a range of background characteristics. We see that, compared to the omitted baseline category high income, low-income subjects allocated 1.42 percentage points less to anti-corruption all else equal, an association which is significant at $p < 0.05$. Conversely, subjects in the low-income category allocated greater budget priority to the economy than high-income subjects, although this difference does not reach conventional levels of statistical significance. Note that these findings do not necessarily allow for a causal interpretation since the independent variable, household income, is not randomly assigned to different experimental groups. Yet taken together, the results from the two observable implications present strong evidence for H2.

To measure the salience of corruption in the Indian subject sample, consider first the budget allocation task.⁶ Two points are worth noting from Figure 3 with respect to the overall argument of this study, which are remarkably similar to the results produced by the UK experimental sample.

First, as in the UK subject pool, corruption is a relatively low-salience issue in the Indian conjoint experiment, in fact the second lowest after social equality. In a hypothetical scenario where respondents were supposed to put themselves in the situation of a social planner and allocate percentages of budgetary expenditure categories, anti-corruption policies were the second least prioritized and gained the second smallest share of budgetary allocations, namely 15.1%. Only

⁶Consult Table 13 for details on the Indian subject sample characteristics.

Table 2: UK conjoint: OLS estimates of budget allocations

	<i>Dependent variable:</i>	
	Budget % corruption	Budget % economy
Low income	−1.421** (0.661)	0.342 (0.622)
Middle income	−3.983*** (0.603)	0.217 (0.568)
Bachelor's degree	3.520*** (0.603)	−1.727*** (0.567)
GCSEs/O-Levels	3.653*** (0.781)	−1.998*** (0.735)
Postgraduate degree	−0.732 (0.667)	−3.337*** (0.627)
Trade/Technical/Vocational Training	0.364 (0.773)	−2.789*** (0.727)
Constant	12.245*** (0.651)	20.048*** (0.613)
Observations	2,052	2,052
R ²	0.058	0.015
Adjusted R ²	0.056	0.012

Note:

*p<0.1; **p<0.05; ***p<0.01

social equality was less prioritized by subjects in the sample (11.2%).

Second, the selection of levels for the attribute policy issue against which to compare corruption, namely economic prosperity and domestic security, seems to be an ideal choice. Like in the UK, these two issues are the second and third most important issues in the budget allocation task. Respondents in India would allocate 19.1% of the national budget to promoting economic prosperity, and 16.5% to domestic security. Similarly to the UK, the single most important issue in the Indian subject sample is spending on education (22.6% of the national budget), a valence issue which is particularly salient given the high levels of stated education in the subject sample. Yet the importance of the two “competitor issues” to corruption chosen in the conjoint experiment, economic prosperity and domestic security, is consistent even in the face of usually highly salient and other valence issues such as education, the environment (15.5%), and social equality (11.2%).

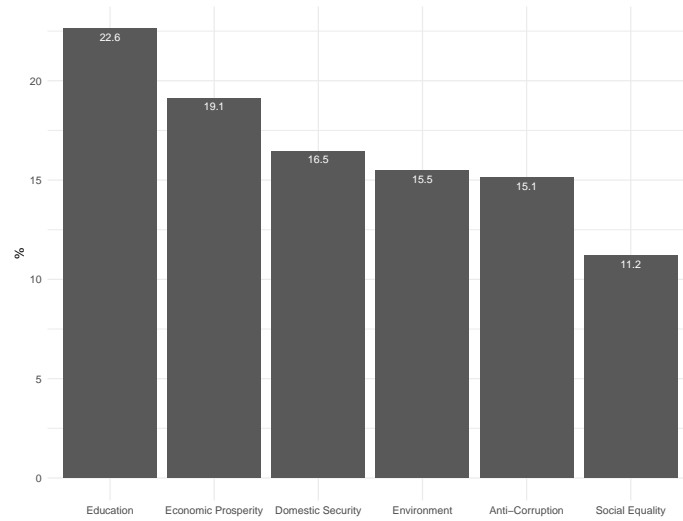


Figure 3: India budget allocation

This limited salience of corruption compared to other issues can also be observed in a more systematic analysis of the causal effect of the attribute policy issue on stated vote choice from estimates of the conjoint experiment. The AMCE’s for the India conjoint are displayed in panel A of Figure 4, and we focus on the attribute policy issue for a test of H1 about the relative salience of corruption. Similarly to the UK, the AMCE for proposing an economic policy in India is 0.061

which is significant at $p < 0.05$. Proposing a policy to increase prosperity (t_1) increases the probability of being chosen as a candidate by 6.1%, compared to the counterfactual where the same candidate with equal characteristics (attribute levels) had proposed an anti-corruption policy (t_0). This confirms the finding from the UK that when involved in a trade-off scenario, corruption as an issue loses out against economic prosperity, i.e. is less salient relative to other issues. This limited salience affects vote choice, which again represents strong evidence in favour of H1. It is important to note, however, that this result does not hold for domestic security, which was also the case in the UK sample. Proposing a policy to increase domestic security increases the probability of being chosen as a candidate by 2.4%, compared to a counterfactual equivalent candidate campaigning on an anti-corruption platform. Yet, this effect does not reach significance of $p < 0.05$, i.e. we cannot rule out the possibility that the domestic security effect is not significantly different from 0.

Further evidence for H1 comes from the fact that these effects are present even in the face of other strong predictors of candidate choice such as the credibility of the candidate and effectiveness of the policy. In line with the results from the UK, these two are the strongest effects in substantive terms, and also reach statistical significance of $p < 0.05$. First, proposing an effective policy that has been shown to work well as compared to a non-effective policy increases the probability of being chosen as a candidate in an election by 13.3%. Second, having a reputation for not keeping campaign promises instead of having a credible reputation decreases the probability of being selected by 22.2%.

This also holds for the attribute policy cost in panel C. Clearly, proposing a policy that does not impose any marginal costs on voters, compared to a costly policy in terms of private data disclosure, statistically significantly ($p < 0.05$) increases the probability of being selected in an election by 8.4%. Surprisingly, raising the income tax does not have a statistically significant negative effect on a candidate's chances to be elected.

We will expose H1 about the relative salience of corruption to a more conservative test which employs elements of dosage experiments within null-by-design experiments. Recall that H1 implied that the salience of corruption in voters' electoral decision-making processes would not be

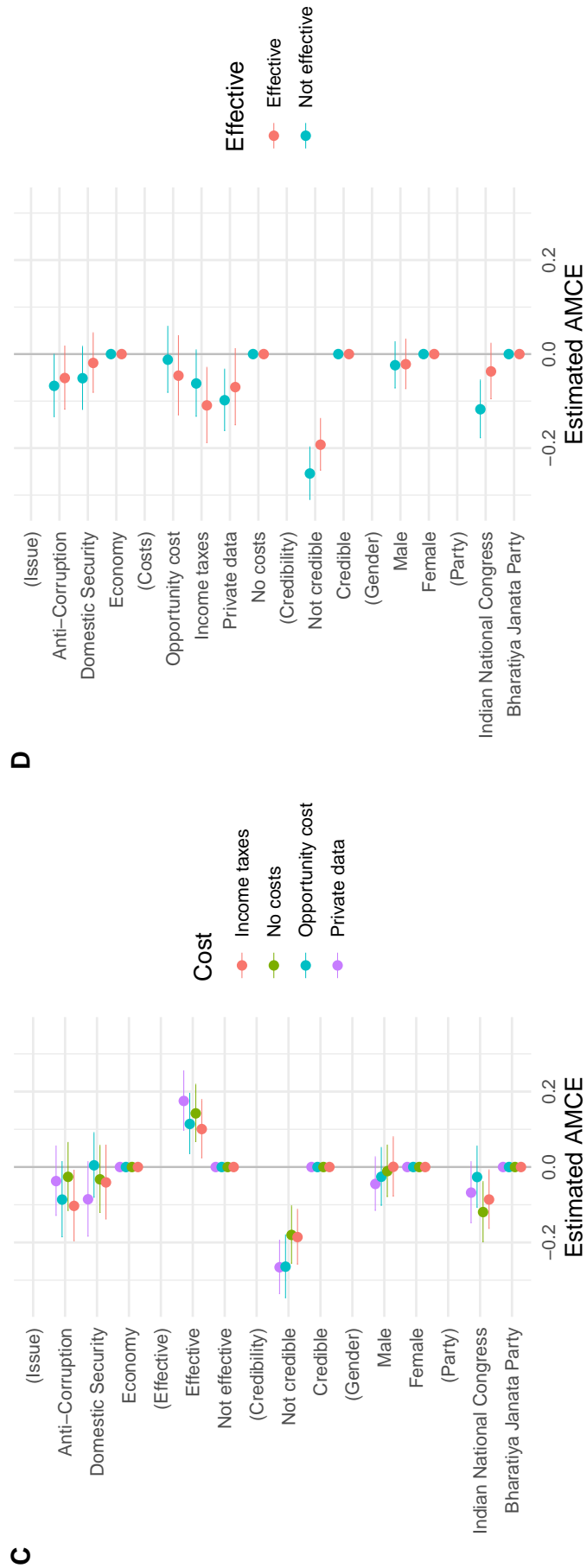
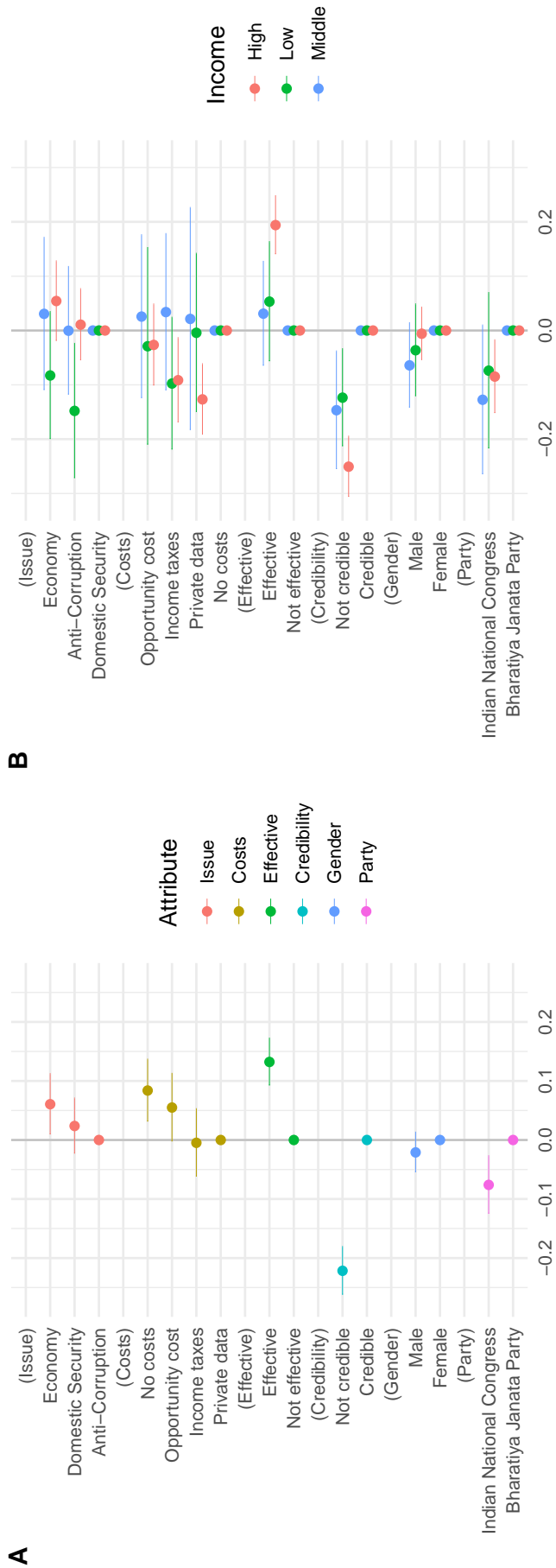


Figure 4: India conjoint results

raised *despite* offering a non-costly or highly effective anti-corruption policy. Evidence for these predictions would represent yet stronger evidence for the general argument of the limited salience of corruption.

Consider panel C in Figure 4, which depicts the average component interaction effects (ACIE) of policy issue interacted with the policy costs for the Indian subject sample. Recall that the ACIE denotes the average % difference in the AMCE's of component l (policy issue) when looking at different levels of some other component (policy costs) separately. As with the UK results, we find strong support of H1. We see for anti-corruption policies that raise income taxes – compared to economic policies that raise income taxes – a statistically significant ($p < 0.05$) negative effect of campaigning on anti-corruption, i.e. corruption proposals decrease the chance of being selected as a candidate if they involve income tax raises. Yet this is not true for other types of policy costs. More importantly, if the policy entails *no costs*, campaigning on an anti-corruption policy platform as opposed to an economic one does not increase the probability of being chosen as a candidate. That is, corruption remains a relatively less salient issue even if voters do not have to pay for fighting corruption. Yet the same is also true for domestic security.

In line with the UK results and with H1, we see no moderating effect of the policy effectiveness on the salience of corruption, which can be seen from applying the same dosage experiment logic as above when interpreting panel D of Figure 4. The AMCE's of anti-corruption do not significantly differ between different levels of policy effectiveness. More importantly, even if the policy has been shown to be highly effective, campaigning on an anti-corruption policy platform as opposed to an economic policy does not increase the probability of being chosen as a candidate. That is, corruption remains a relatively non-salient issue even if it is a credible policy commitment on the part of the candidate, as H1 implied. Note, however, that the same is also true for domestic security.

H2 predicted that individual income affects the salience voters attach to these different valence issues. First, consider the findings from panel B in Figure 4, which depicts the AMCE's conditional in household income. Here, we see a highly significant negative effect of an anti-corruption policy on the probability of being selected among *low-income* subjects, i.e. a substantial decrease in the

probability of selecting that candidate by 14.8%. Conversely, *high-income* subjects do not care statistically significantly more about economic issues than low-income respondents. This is causal evidence in favour of an income effect on issue salience.

Second, we have already seen a negative effect of proposing an anti-corruption policy – compared to an economic policy – when it entailed income tax rises. This should theoretically matter more for low-income voters, as it affects their net disposable income the hardest (the attribute level explicitly avoided the concept of progressive income tax increases). However, note that for this theoretical intuition, we do not find support in the experimental data in the Indian subject sample. The AMCE of raising income tax does not vary significantly with household income.

Third, regressing the results from the post-treatment budget allocation task on respondents' household income shows income associations opposite the ones predicted by H2. Table 3 shows OLS estimates from a linear regression of the budgetary percentages allocated to anti-corruption (model 1) and economic prosperity (model 2) on income categories with high income as the omitted baseline category, controlling for the level of education. Compared to high-income subjects, low-income respondents allocated 4.78% percentage points *less* to the economy than rich individuals ($p < 0.01$). H2 had expected otherwise. Conversely, there is no statistically significant income association with the salience of corruption in either direction. Yet, these results should not be interpreted as causal since these questions on household income and hypothetical budget allocation were not part of the experimental manipulation.

Observational evidence

Do these results hold in a large survey sample across a range of countries? To complement this experimental evidence on the determinants of corruption salience with large-N observational data, I use Module 2 of the Comparative Study of Electoral Systems data set (2001 – 2006).⁷ I use

⁷CSES data were obtained from <http://www.cses.org/datacenter/module2/module2.htm>

Table 3: India conjoint: OLS estimates of budget allocations

	<i>Dependent variable:</i>	
	Budget % corruption	Budget % economy
Low income	0.063 (0.601)	−4.781*** (0.506)
Middle income	0.252 (0.590)	−2.151*** (0.496)
General Secondary School	3.551* (2.006)	−2.874* (1.689)
Postgraduate degree	−0.432 (0.480)	1.972*** (0.404)
Trade/Technical/Vocational	−3.323* (1.992)	3.550** (1.677)
Upper Secondary School	−0.857 (0.650)	−0.691 (0.547)
Constant	15.291*** (0.368)	19.840*** (0.309)
Observations	1,956	1,956
R ²	0.004	0.077
Adjusted R ²	0.001	0.074

Note:

*p<0.1; **p<0.05; ***p<0.01

a subset of the elections included in Module 2 of the CSES based on the most important issue question. This restriction comes from mainly one source: “corruption” needs to be included in the list from which to choose the most important issue which is not the case for every single country in the CSES data. Therefore, I only include elections in which “corruption” was an option to choose in the most important issue question.

The CSES Module 2 asks respondents about sociotropic, as opposed to personal, issue salience in the following way: “What do you think is the most important issue facing [COUNTRY] over the last [NUMBER OF YEARS THAT THE LAST GOVERNMENT WAS IN OFFICE] years?” The sets of available issues to choose from slightly vary by country, but there is always a common core of economic, domestic security/crime, and corruption issues in the sample.⁸ The categorization into these issue categories is oriented towards that of Giger (2011). The coding process then generates three binary indicator variables, one for each issue category. For each issue category j and single issue x ,

$$J = \begin{cases} 1, & \text{if } x = MII \\ 0, & \text{else.} \end{cases} \quad (9)$$

Incumbent vote is binarily coded as depicted in Table 5 in the appendix. The actual level of corruption in a country is measured by the Corruption Perceptions Index (CPI), where $CPI \in [0, 100]$. These two variables are used to test what additional variation in electoral accountability is explained by the issue salience argument.

I use respondents’ reported household income to test H2. Household income in the CSES data is reported in income quintiles and therefore measured on an ordinal level with 1 = lowest household income quintile and 5 = highest household income quintile. Individual-level characteristics likely to predict issue salience are measured and included into the models following Duch and

⁸Consult Table 7 for an overview of precisely which individual issues were classified into the three broad issue categories for any given country in the sample.

Stevenson (2008), such as age, gender, education, race, partisanship, left-right self placement, and employment situation.⁹

Given the clustered data structure, where individual respondents are nested within elections as an upper-level unit, I model the likelihood to state issue j as the most important issue via multilevel logistic regression. This is because voters in the sample are not independent of each other, but are likely to be similar if they take part in the same election which demands a multilevel model. I fit multilevel logit models to the data, allowing for random intercepts by election and also random coefficients on predictors of interest, both contingent on election. The specification of the multilevel logit model is as in Agresti (2018):

$$\text{logit}[P(y_{it} = 1)] = \alpha + s_i + \gamma_1 w_1 + \beta_1 x_1 + \dots + \beta_k x_k \quad (10)$$

where s_i is a random effect for election i and the only explanatory variable that varies at the election level w_1 is the level of objective corruption as measured by the CPI.

What additional variation in electoral accountability for corruption does the issue salience argument explain? Figure 5 displays predicted probabilities of voting for the incumbent from a logistic regression of the incumbent vote on an interaction term of CPI and the most important issue indicator for corruption. The salience of corruption moderates electoral accountability for corruption. Specifically, there is no incumbent punishment for high levels of corruption by voters who do not care about corruption, i.e. for whom corruption is not the most important problem. If corruption is less important to voters, they are less likely to use it as a performance evaluation criterion. Conversely, the probability of voting for an incumbent drops dramatically when respondents *still* think corruption is the most important *problem* facing the country in that election *despite* low actual lev-

⁹See Table 6 for an overview of all concepts to be measured, variables included, and question wordings.

els of corruption. Just how important corruption is in voters' minds explains additional variation in electoral accountability for corruption.¹⁰

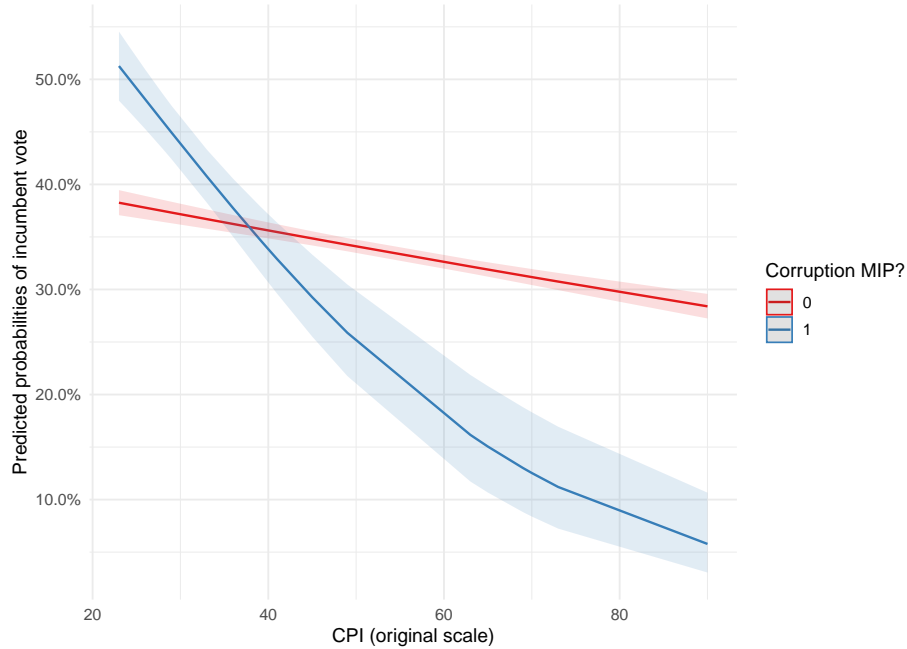


Figure 5: Accountability for corruption by salience

We also see evidence that how salient corruption is depends on individual income. Regressions of the binary salience indicators on income displayed in Table 4 report the results from the most conservative and robust test of this hypothesis, i.e. from a multilevel logit model including a set of control variables to control for similarities of observations nested within elections. The coefficients on the variables in the model denote the change in log odds of stating corruption [economy, domestic security] as the most important issue. Even under this conservative specification, and in line with the descriptive findings presented above, we see a positive and significant ($p < 0.1$) income association with the probability of stating corruption as the most important issue. Richer respondents

¹⁰Note that this effect is robust to a multilevel model specification, but not to an inclusion of a wide range of control variables. See Table 9 in the appendix for details.

are more likely to care about corruption, and poorer respondents are less likely to attach weight to corruption. Conversely, income has a highly significant ($p < 0.05$) negative correlation with the probability of stating an economic issue as the most important one. That is, viewed from the omitted baseline category of low-income respondents, economic issues are more important to the poor. Furthermore, we see a similar pattern with respect to domestic security issues: Richer respondents are more likely to care about this non-economic issue, although this effect does not reach conventional statistical significance levels under this conservative test. By design, this multilevel model controls for the aggregate level of corruption at the country level (CPI), i.e. the income effect is already stripped of influence of the level of corruption on corruption salience, and the coefficients on income are still significant and in the expected direction.

Table 4: Multilevel model of issue salience

	<i>Dependent variable:</i>		
	Corruption MIP	Economy MIP	Security MIP
	(1)	(2)	(3)
Income	0.081* (0.044)	−0.049** (0.020)	0.013 (0.031)
Gender	−0.185* (0.111)	0.082* (0.050)	0.152** (0.076)
Age	0.009** (0.004)	−0.007*** (0.002)	0.003 (0.003)
Education	0.113*** (0.036)	−0.074*** (0.015)	−0.046* (0.025)
Left-right	0.044*** (0.016)	−0.007 (0.008)	0.069*** (0.014)
Class	0.036 (0.051)	−0.032 (0.024)	−0.006 (0.036)
Employment	−0.021 (0.025)	−0.007 (0.012)	−0.001 (0.021)
Partisan?	−0.058 (0.111)	−0.024 (0.049)	−0.012 (0.077)
Constant	−4.971*** (0.636)	0.553 (0.401)	−3.299*** (0.594)
Observations	9,786	9,786	9,786

Note:

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

There are two main insights from this analysis. First, there is strong observational evidence for H1. Corruption is consistently reported to be less important than other valence issues such as the economy or domestic security, and the salience of corruption explains additional variation in electoral accountability. Second, there is strong observational evidence for the proposed income effect. The individual-level salience of corruption is not merely predicted by the actual or perceived level of corruption in a given country, but is rather negatively and statistically significantly associated with an individual's income. Direct material benefits and economic considerations, as opposed to corruption considerations, matter more to the poor than the rich, in line with Rueda (2018). Since addressing corruption provides less direct and more limited material benefits than addressing economic issues, the poor care less about corruption than the rich.

Implications

What have we learned about the reason for puzzle of persistent corruption voting? The main insight is that voters do not punish politicians for corruption when corruption is not salient to them, and this depends on whether voters are rich or poor. All else equal, the salience of corruption is typically low, and therefore, other considerations will assume greater weight in a voter's utility function. However, this does not mean that the salience of corruption is exogenous. In the conjoint experiment, salience was exogenized via simultaneous randomization of different policy package attributes, and its causal effect on stated vote choice has been demonstrated with experimental and observational data. Therefore, issue salience explains additional variation in the extent to which elected officials are held accountable for performance on certain issues or for certain candidate characteristics. Despite high disapproval rates of corrupt practices per se, corruption is not simply an issue or a candidate trait that voters should naturally or rationally care about in their vote choice. This only becomes empirically detectable once trade-offs and costs are introduced as in the conjoint experiments. Experimental and observational results show that the lack of electoral accountability for corruption seems to be a deliberate and entirely rational choice on the part of

voters to trade the less salient issue of corruption against other, more valued valence issues and/or candidate characteristics. Overall, this explains why electoral accountability for corruption is often quite small (Dunning et al., 2019; de Vries and Solaz, 2017).

However, this does not mean that the salience of corruption is uniformly low at all times and places. I have shown that how important corruption is to voters can be moved by an individual's income: there is a purely material self-interest side to corruption voting. The poor care more about issues they expect immediate material benefits from, such as stimulating growth or fighting crime. Yet for the rich, fighting corruption becomes a more pressing concern, because they can afford to care about it more than the poor. This means that as the median voter becomes poorer, electoral accountability for corruption decreases. This implication might be one reason for the empirically strong correlation between GDP per capita and the level of corruption in a given country (Fisman and Golden, 2017). However, the evidence for this income argument is largely observational, and more studies need to be conducted in this novel and exciting direction for future research.

From this, we obtain direct policy implications. Elections might not work in many instances as a mechanism to induce electoral accountability for corruption unless the salience of corruption is higher than other competing considerations. The results above suggests that the salience of corruption can be raised in two ways. First, addressing corruption could be incorporated into an economic policy package since campaigning on the latter produces greater election chances. Clearly addressing corruption's negative externalities on the economy and on overall welfare could be a way to induce voters to vote based on corruption considerations. Second, improving citizen's living standards could make more voters afford to vote based on corruption considerations rather than based on immediate material self-interest. These are novel and exciting directions for future research which has yet to be explored.

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Appendix A

A1

Table 5: Coding the incumbent vote

Election	Relevant election variable	Incumbent	Incumbent code CSES
Albania 2005	Lower house 1	Socialist Party	01
Bulgaria 2001	Lower house 1	ODS (UDF)	02
Brazil 2002	Presidential 1	Cardoso (PSDB)	45
Chile 2005	Presidential 1	Lagos	05 ⁵
Germany 2002	Lower house 1	SPD	01
France 2002	Presidential 1	Chirac	05
Hungary 2002	Lower house 1	Fidesz-MP	10 ⁶
Ireland 2002	Lower house 1	Fianna Fail	01
Israel 2003	Lower house 1	Likud	01
Japan 2004	Upper house 1	LDP	01
Kyrgyzstan 2005	Presidential 1	Bakiev	02
Mexico 2003	Lower house 1	PAN (Fox)	01
Netherlands 2002	Lower house 1	PvdA	01
Peru 2006	Lower house 1 ⁷	PP (Toledo)	07
Philippines 2004	Presidential 1	Arroyo	01
Poland 2001	Lower house 1	AWSP	02
Portugal 2002	Lower house 1	PS	02
Portugal 2005	Lower house 1	PPD/PSD	04
Romania 2004	Presidential 1	Basescu	02
Russia 2004	Presidential 1	Putin	04
South Korea 2004	Lower house 1	Millennium Democratic	02

Notes: Incumbency status drawn from Party Government Data Set and The Rulers, Elections, and Irregular Governance (REIGN) data set. Inconsistent response (94), Invalid Ballot (96), Refused (97), Don't know (98), and Missing (99) were coded as NA.

⁵Michele Bachelet (05) ran for PPD (party of Lagos), PDC and PS

⁶Fidesz ran in a coalition (10)

⁷PP, party of incumbent president, withdrew candidate for President; focus on parliamentary election.

Table 6: List of CSES variables

Indicator	Original study variable	Question wording
Control variables		
Age	B2001	Age of respondent (in years)
Gender	B2002	Gender of respondent
Education	B2003	Education of respondent
Left-right self	B3045	In politics people sometimes talk of left and right. Where would you place yourself on a scale from 0 to 10 where 0 means the left and 10 means the right?
Class	B2012	Respondent's socio economic status
Satisfaction democracy	B3012	On the whole, are you very satisfied, fairly satisfied, not very satisfied, nor not at all satisfied with the way democracy works in [country]?
Household income	B2020	Household income quintile appropriate to the respondent
Employment	B2010	Current employment status of respondent
Partisanship	B3028	Do you usually think of yourself as close to any particular political party?
Govt performance general	B3011	Now thinking about the performance of the government/president in [capital], how good or bad a job do you think the government/president in [capital] has done over the past [number of years between the previous and the present election OR change in government] years. Has it/he/she done a very good job? A good job? A bad job? A very bad job? And thinking about that issue, how good or bad a job do you think the government/president in [capital] has done over the past [number of years between the previous and the present election OR change in government] years. Has it/he/she done a very good job? A good job? A bad job? A very bad job?
Govt performance MII	B3010	Has it/he/she done a very good job? A good job? A bad job? A very bad job?
Explanatory variables		
Corruption perception	B3044	How widespread do you think corruption such as bribe taking is amongst politicians in [country]: very widespread, quite widespread, not very widespread, it hardly happens at all?
Corruption Perceptions Index	Manually added	
Most Important Issue	B3009	What do you think has been the most important issue facing [country] over the last [number of years that the last government was in office] years?
Outcome variables		
Vote President Round 1	B3005 ₁	Vote cast by respondent in first round of presidential election
Vote Party Choice	B3006 ₁ + B3007 ₁	Vote cast by respondent in lower house elections (party list)

Table 7: Issue categorization per country

Election	Economic issues	Domestic security issues
Albania 2005	Unemployment (001), Low wages and pensions (003), Economic monopolies (013), Poverty (014), High prices (021), Economic growth (023), Investments (025)	Public order (010), Law enforcement (018)
Bulgaria 2001	Unemployment (003), Low incomes (004), Inflation (009), Achievement of stable economic growth (019)	National security (006) Crime, organized crime (008)
Brazil 2002	Unemployment (001), Inflation (003), Poverty (007), Low income (010), Economic crisis (011)	Crime, public safety (002), Drugs (013)
Chile 2005	Unemployment (001), Work situation, employment (002), Poverty (003), The economy, economic problems, high prices (004), Low wages, lack of money (005), Other economic problems (023)	Crime rates, security (007), Drugs, drug abuse (008), Pedophilia, Spiniak case, attack against children (018)
Germany 2002	Unemployment/labor market (002), Economic situation (020)	Crime, inner security (014), Fight against terrorism (018)
France 2002	Unemployment/employment (002), The level of purchasing power (019)	Insecurity (001)
Hungary 2002	Unemployment (001), Living standards (005), Inflation, price hikes (010), Poverty (014), The economy (026), Wages, salaries (030), Income inequalities (072)	Crime, public safety (017), Terrorism (089)
Ireland 2002	Inflation/rising prices (008), Unemployment (009)	Crime (002), Drugs (003)
Israel 2003	Economy (013), Stop inflation (014), Economic growth end of decline (015), Reducing unemployment (016)	Security general (001), Palestinian terror (005), Crime, drugs (022), Violence in family (023)
Japan 2004	Unemployment issue (002)	Crime issue (023)
Kyrgyzstan 2005	Poverty (001), Unemployment (002), Economic crisis (004), Low living standards (017)	Laws don't work (008), Criminal situation (010), Chaos, disorder (013)
Mexico 2003	Unemployment (001), Country economy, economic crisis (003), Poverty, marginalization (004), Low wages (008), Inflation, high prices (025)	Delinquency, insecurity, kidnappings (002), Drug addiction (010), Narco-traffic (017)
Netherlands 2002	Poverty (003), Economy (008), Inflation (015), Employment/unemployment (030)	Crime/crime fighting (007), Safety (violence on the street) (025)
Peru 2006	Poverty (001), Unemployment, lack of jobs (002), Economic policy, economic problems (003), Inflation (004), Other economic issues (018)	Crime, violence (005), Drug traffic (007)
Philippines 2004	Economy (general) (001), Poverty (002), Inflation (003), Unemployment (004), Incomes/wages/salaries etc. too low (005)	Crime (general) (030), Kidnappings (031), Illegal Drugs (032), Illegal Gambling (033), Child abuse (035), Security problems (general) (040), Peace and order (043)
Poland 2001	Unemployment (001), Poverty (002), Low incomes (003), Increasing prices (005), Social and economic inequalities (006), The economy (022), Closing down enterprises (025)	Security, fighting crime (010), Law and courts problems (011)
Portugal 2002	Economical instability (001), Unemployment (003), Cost of living (007), Poverty (009), Inflation (012), Salaries (019)	(In)security (005), Drugs (006)
Portugal 2005	Bad economic situation in general (009), Business companies, industries, bankruptcies (032), Inflation (037), Unemployment (041), Salaries/incomes, poverty (042), Other economy-related topics (049)	Crime, law and order, fighting crime, insecurity (053), Drugs, consumption and traffic, fighting consumption and trafficking (056), Terrorism (078), Concrete crimes (091)
Romania 2004	Low incomes/poverty (001), Unemployment (003), Achievement of stable economic growth (006), Inflation (011)	Theft (005), Drugs (019), Organized crime (025)
Russia 2004	Poverty (001), Prices increases/low standard of living (002), Unemployment/lack of appropriate jobs (003), Low salaries/minimum wage (004), Industry/industrial productivity (008), Economy (013), Socio-economic inequality (014)	Lack of order (015), Substance abuse – narcotics (021), Terrorism (028), Crime/lawlessness (031)
South Korea 2004	Economic stability (001), Unemployment (002), Rising prices (003), Economic stagnation (004), Improvement of economic conditions (021), Inducing more economic investment (044)	Obeying laws (075), National security problems (078)

Notes: Corruption was always identifiable via one single issue, except from Brazil 2002, where “corruption” and “corruption of parties and politicians” were coded as one corruption category.

A4

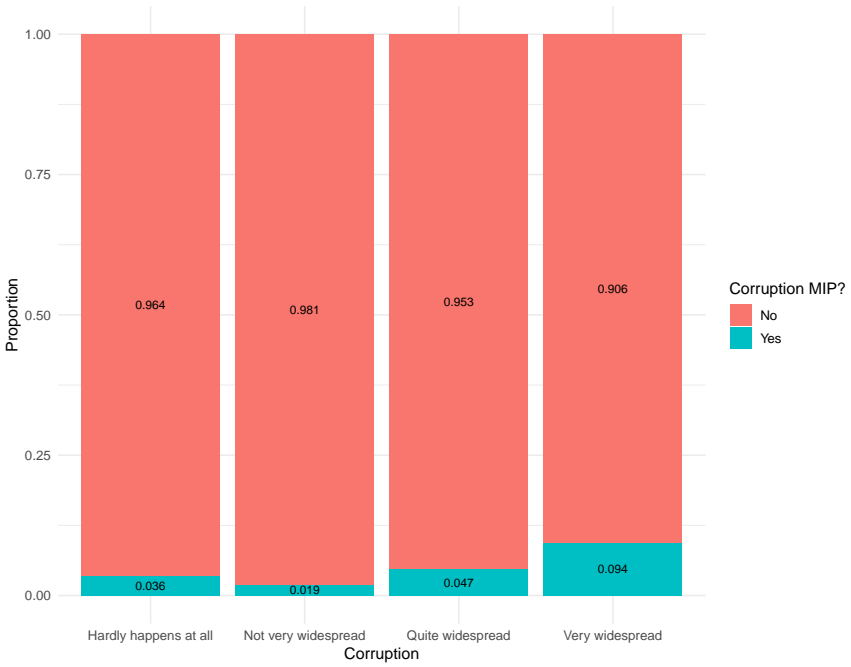


Figure 6: Corruption salience by perceptions

A5

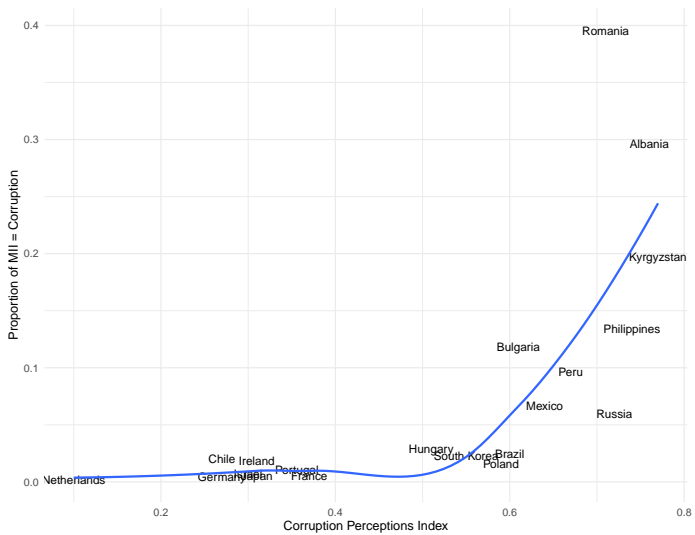


Figure 7: Corruption salience by perceptions

Table 8: Multilevel model of alternative determinants of salience

	<i>Dependent variable:</i>	
	MIP Corruption (1)	MIP Economy (2)
Corruption perception	−0.008*** (0.002)	
CPI inverse	0.004*** (0.0001)	
Polity score	0.009*** (0.001)	
Education	0.012*** (0.001)	
Household income		−0.021*** (0.003)
Employment		0.008*** (0.002)
Class		0.005 (0.004)
Constant	−0.239*** (0.014)	0.494*** (0.017)
Observations	30,495	12,498
R ²	0.078	0.007
Adjusted R ²	0.078	0.007
Residual Std. Error	0.236 (df = 30490)	0.497 (df = 12494)
F Statistic	648.947*** (df = 4; 30490)	29.387*** (df = 3; 12494)

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 9: Multilevel vote model with salience interaction

	<i>Dependent variable:</i>			
	Incumbent vote			
	<i>logistic</i>		<i>generalized linear</i>	
			<i>mixed-effects</i>	
	(1)	(2)	(3)	(4)
CPI	−0.007*** (0.001)	0.002 (0.002)	−0.046*** (0.017)	−0.001 (0.011)
Corruption MIP	1.352*** (0.185)	0.226 (0.383)	0.394** (0.185)	−0.190 (0.399)
Performance on MIP		−0.516*** (0.045)		−0.472*** (0.048)
Performance general		−1.134*** (0.057)		−1.222*** (0.062)
Satisfaction dem.		−0.164*** (0.041)		−0.155*** (0.043)
Gender		0.022 (0.059)		0.053 (0.061)
Education		−0.101*** (0.017)		−0.072*** (0.018)
Age		0.004* (0.002)		0.003 (0.002)
L-R placement		−0.019* (0.010)		−0.020* (0.011)
Income		−0.035 (0.023)		−0.028 (0.024)
Class		−0.140*** (0.029)		−0.098*** (0.030)
Partisan?		0.075 (0.059)		0.031 (0.062)
CPI:Corruption MIP	−0.036*** (0.006)	−0.006 (0.011)	−0.011** (0.005)	0.003 (0.011)
Observations	24,922	7,156	24,922	7,156
Log Likelihood	−15,882.880	−3,595.258	−13,403.000	−3,438.406
Akaike Inf. Crit.	31,773.750	7,218.515	26,816.010	6,906.812
Bayesian Inf. Crit.			26,856.620	7,009.947

Note:

*p<0.1; **p<0.05; ***p<0.01

A8

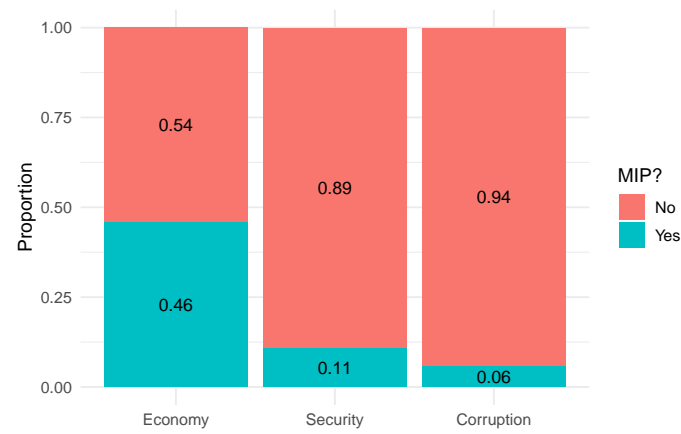


Figure 8: Most Important Issue

A9

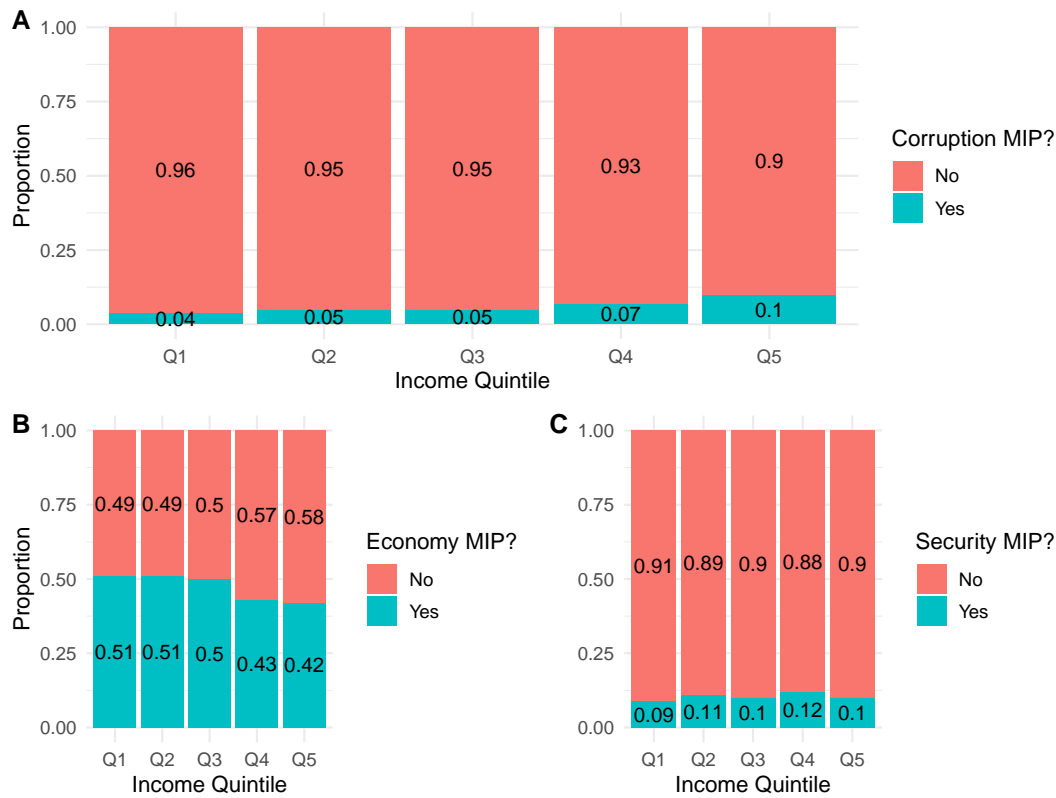


Figure 9: Issue salience by household income

Appendix B

B1

Baseline survey: Pre-treatment covariates

Q1: In what year were you born?

Q2: Which best describes your gender?

Male

Female

Other

Q3: What is the highest level of education you have completed?

GCSEs/ O-Levels

A-Levels

Bachelor's degree

Trade/Technical/Vocational Training

Postgraduate degree

Q4: What was your total household income in the previous year?

Less than £10,000

£10,000 - £19,999

£20,000 - £39,999

£40,000 - £59,999

£60,000 - £99,999

£100,000 and over

Q5: When people talk about politics, the terms "left" and "right" are always used. Where would you place yourself on this scale, where 1 means left and 10 means right?

Q6: Is there a political party with which you identify?

Yes

No

[Answer Q6.1 and Q6.2 if "Yes" is selected.]

Q6.1: With which political party do you identify?

Labour

Conservative

Liberal Democrat

Scottish National Party (SNP)

Plaid Cymru

Green Party

United Kingdom Independence Party (UKIP)

Other

None

Q6.2: Do you identify very strongly or not very strongly with this party?

Very strongly

Not very strongly

Treatment

Table 10: UK conjoint: Attribute levels

Attribute	Level	Text in table
Costs	Public money/taxes	Raising income taxes
	Opportunity costs	Less money for other issues
	Personal data	Disclosure of private data
	No costs	No costs
Effectiveness	Effective	Has been shown by experts to perform well
	Not effective	Has been shown by experts to have little effect
Policy	Anti-corruption	Anti-corruption
Is- sue	Economy	Economy
	Domestic Security	Domestic Security
Credibility	Credible	Has a reputation for keeping campaign promises
	Not credible	Has a reputation for not keeping campaign promises
Gender	Female	Female
	Male	Male
Party	Incumbent party	Conservative
	Main opposition party	Labour

Endline survey: Outcome measure

Q7: If you had to choose between them, which of these two candidates would you vote for in the upcoming election?

Candidate 1

Candidate 2

Q8: On a scale from 1 to 7, where 1 indicates absolutely no support for the candidate and 7 the highest support, how would you rate candidate 1?

1

2

3

4

5

6

7

Q9: Using the same scale, how would you rate candidate 2?

- 1
- 2
- 3
- 4
- 5
- 6
- 7

Q10: In the six choice tasks you've just completed, how many attributes did each candidate have?

- 2
- 4
- 6
- 8

Q11: Imagine you are planning the federal budget for the upcoming budgetary year. Please allocate percentages of money that should be spent on each issue. The percentages must add up to 100%.

Anti-corruption
Economic prosperity
Domestic security
Environment
Education
Social equality

Q12: Have you ever received material benefits in exchange for your voting for a particular candidate?

- Yes
- No
- Do not wish to answer

B2

Baseline survey: Pre-treatment covariates

Q1: In what year were you born?

Q2: Which best describes your gender?

Male

Female

Other

Q3: What is the highest level of education you have completed?

General Secondary School (Standard X)

Upper Secondary School (Standard XII)

Trade/Technical/Vocational Training

Bachelor's degree

Postgraduate degree

Q4: What was your total household income in the previous year?

Less than ₹60,000

₹60,000 - ₹89,999

₹90,000 - ₹119,999

₹120,000 - ₹239,999

₹240,000 - ₹599,999

₹600,000 and over

Q5: When people talk about politics, the terms "left" and "right" are always used. Where would you place yourself on this scale, where 1 means left and 10 means right?

Q6: Is there a political party with which you identify?

Yes

No

[Answer Q6.1 and Q6.2 if "Yes" is selected.]

Q6.1: With which political party do you identify?

Bharatiya Janata Party

Indian National Congress

Bahujan Samaj Party

All India Trinamool Congress

Samajwadi Party

Other

Q6.2: Do you identify very strongly or not very strongly with this party?

Very strongly

Not very strongly

Treatment

Table 11: India conjoint: Attribute levels

Attribute	Level	Text in table
Costs	Public money/taxes	Raising income taxes
	Opportunity costs	Less money for other issues
	Personal data	Disclosure of private data
	No costs	No costs
Effectiveness	Effective	Has been shown by experts to perform well
	Not effective	Has been shown by experts to have little effect
Policy Is-sue	Anti-corruption	Anti-corruption
	Economy	Economy
	Domestic Security	Domestic Security
Credibility	Credible	Has a reputation for keeping campaign promises
	Not credible	Has a reputation for not keeping campaign promises
Gender	Female	Female
	Male	Male
Party	Incumbent party	Indian National Congress
	Main opposition party	Bharatiya Janata Party

Endline survey: Outcome measure

Q7: If you had to choose between them, which of these two candidates would you vote for in the upcoming election?

Candidate 1

Candidate 2

Q8: On a scale from 1 to 7, where 1 indicates absolutely no support for the candidate and 7 the highest support, how would you rate candidate 1?

- 1
- 2
- 3
- 4
- 5
- 6
- 7

Q9: Using the same scale, how would you rate candidate 2?

- 1
- 2
- 3
- 4
- 5

6
7

Q10: In the six choice tasks you've just completed, how many attributes did each candidate have?

2
4
6
8

Q11: Imagine you are planning the federal budget for the upcoming budgetary year. Please allocate percentages of money that should be spent on each issue. The percentages must add up to 100%.

Anti-corruption
Economic prosperity
Domestic security
Environment
Education
Social equality

Q12: Have you ever received material benefits in exchange for your voting for a particular candidate?

Yes
No
Do not wish to answer

B3

Ethics materials can be found in a separate document submitted as part of this study. They include the ethics approval letter from the Institutional Review Board (IRB), the ethics certificate of the researcher, as well as the consent form of the Nuffield Centre for Experimental Social Sciences (CESS) that has been used in the CTSE omnibus study in which this project was embedded. Respondents had to agree they had read and understood the rules. Further, the recruitment into the CESS subject pool in the first place requires the signing of a consent form.

Data were kept confidential during collection by virtue of isolated working through the survey experiment. Processed data will be kept confidential in accordance with CESS policy on anonymity of the data and property rights. After a one-year period, data will be made publicly available on the researcher's GitHub repository.

No deception was used. Items were designed such that they do not reveal personally identifying information; neither did any item involve harm, stress or any other strain on a subject.

B4

Table 12: Experimental sample description UK

Variable	\bar{x}	X_0	X_{100}	N
Age	43.9	18	80	193
Female	0.51	0	1	196
L-R self	4.6	1	10	196
GCSEs	0.16	0	1	192
A-Levels	0.20	0	1	192
Voc. Training	0.12	0	1	192
Bachelor's	0.33	0	1	192
Postgrad	0.20	0	1	192
< £10,000	0.12	0	1	192
£10,000 - £19,999	0.17	0	1	192
£20,000 - £39,999	0.37	0	1	192
£40,000 - £59,999	0.17	0	1	192
£60,000 - £99,999	0.10	0	1	192
> £100,000	0.06	0	1	192

B5

Table 13: India conjoint: Sample description

Variable	\bar{x}	X_0	X_{100}	N
Age	28.4	17	65	205
Female	0.28	0	1	212
L-R self	6.2	1	10	212
Gen. Sec. School	0.01	0	1	207
Upper Sec. School	0.18	0	1	207
Voc. Training	0.02	0	1	207
Bachelor's	0.42	0	1	207
Postgrad	0.38	0	1	207
< ₹ 60,000	0.10	0	1	165
₹ 60,000 - ₹ 89,999	0.07	0	1	165
₹ 90,000 - ₹ 119,999	0.09	0	1	165
₹ 120,000 - ₹ 239,999	0.08	0	1	165
₹ 240,000 - ₹ 599,999	0.27	0	1	165
≥ ₹ 600,000	0.37	0	1	165

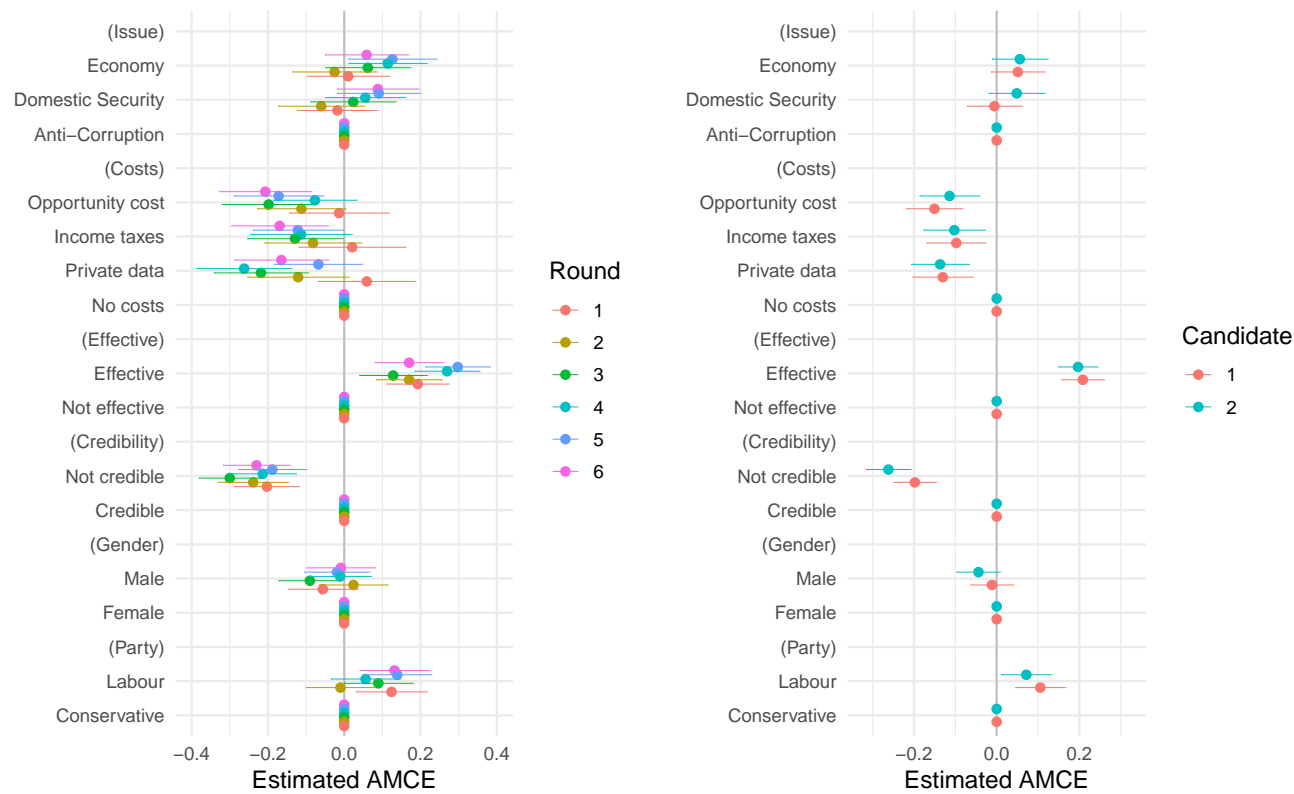


Figure 10: UK conjoint assumptions test

B7

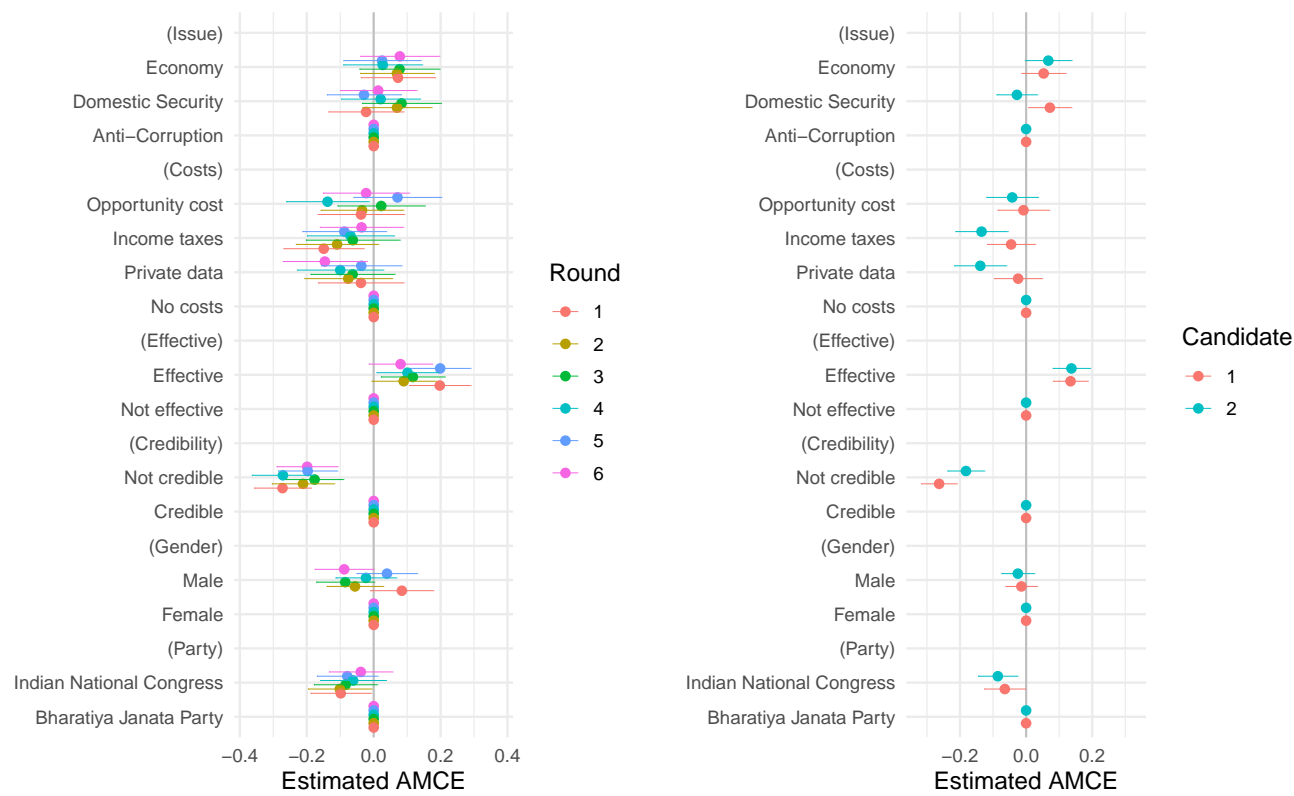


Figure 11: India conjoint assumptions test