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Politicians' Social Welfare Criteria – An Experiment With German Legislators

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Politicians' Social Welfare Criteria

An Experiment With German Legislators*

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Abstract

Much economic analysis derives policy recommendations based on social welfare criteria intended to model the preferences of a policy maker. Yet, little is known about policy maker's normative views in a way amenable to this use. In a behavioral experiment, we elicit German legislators' social welfare criteria unconfounded by political economy constraints. When resolving preference conflicts *across* individuals, politicians place substantially more importance on least-favored than on most-favored alternatives, contrasting with both common aggregation mechanisms and the equal weighting inherent in utilitarianism and the Kaldor-Hicks criterion. When resolving preference conflicts *within* individuals, we find no support for the commonly used "long-run criterion" which insists that choices merit intervention only if the lure of immediacy may bias intertemporal choice. Politicians' and the public's social welfare criteria largely coincide.

JEL codes: C9, D6

Keywords: Positive welfare economics, politicians, preference aggregation, paternalism

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1 Introduction

Much economic analysis derives policy recommendations based on assumed social welfare criteria that are typically left to policy makers to judge. Yet, little is known about what criteria policy makers support (Gul and Pesendorfer, 2007). Empirical evidence that infers policy makers' preferences from actual policies (e.g. Heathcote et al., 2020), from policy makers' voting behavior (e.g. Butler et al., 2011), party election proposals (e.g. Jacobs et al., 2017) or from survey responses (e.g. Heinemann and Janeba, 2011) is arguably confounded by political economy considerations, strategic motives, and social signaling concerns. Hence, such evidence reflect factors other than preferences.[1] To fill this gap, we conduct an anonymized behavioral experiment in which German federal and state legislators make choices with real consequences. The experiment allows us to characterize the social welfare criteria they support, free from political economy constraints. Critically, our work does *not* seek to improve predictions of politician's real-world behavior, which may be shaped by political economy and signaling constraints. Rather, we seek to identify the social welfare criteria politicians *genuinely* consider normatively appealing. The aim is to reduce the potential mismatch between the social welfare criteria economists' policy recommendations typically rely on and those that policy makers support.

Social welfare criteria guide policy recommendations when preferences conflict *across* individuals, as in social aggregation, and when they conflict *within* individuals, as documented throughout behavioral economics, most notably in the domain of intertemporal choice. We study politicians' welfare criteria in both of these domains.

To resolve preference conflicts across individuals, economists often assign equal weight to those who most prefer the chosen alternative and to those who least prefer it. This is the case, for instance, when policy recommendations derive from the maximization of a utilitarian social welfare function, or when policies are ranked according to the Kaldor-Hicks criterion (Hausman et al., 2016). Our experiment lets us characterize how politicians impartially aggregate both when only ordinal information is available (as in the framework of Arrow, 1950), and when cardinal preferences play a role (as in utilitarian aggregation). We design the experiment in a way that lets us infer ordinal aggregation preferences because cardinal information is often difficult to obtain, either because no meaningful cardinal measures may exist (for instance in the case of setting priorities) or because it may not be feasible to measure them. We will focus on the relative weights politicians implicitly assign to citizens as a function of the preference rank of the alternative they obtain, or of the cardinal utility associated with that alternative.

In the domain of preference conflicts within individuals, inconsistencies that arise from the lure of immediacy in intertemporal choice have received particular attention. To derive policy recommendations, economists commonly resolve such inconsistencies through the *long-run criterion* (e.g. O'Donoghue and Rabin, 1999, 2006; Gruber and Kőszegi, 2001, 2004; DellaVigna and Malmendier, 2004; Allcott et al., 2019). According to this criterion, intertemporal choice that involves immediate rewards demands corrective intervention, whereas intertemporal choice that only concerns future rewards, and hence is unaffected by the lure of immediacy, merits deference to the agent's preference.

[1] E.g. Bailer et al. (2021) show how strategic considerations affect the choice of policy topics as a function of a politician's career stage.

We test whether politician's choices are consistent with this criterion by exogenously including or excluding the possibility that the citizen receives immediate rewards. In the context of intertemporal choice, we also study how politicians resolve the tradeoff between respecting the autonomy of a voting-age German citizen assigned to them, and ensuring that the citizen receives an outcome the politician regards as good. We regard this decision, too, as the resolution of a conflict of preferences within an individual—those that the citizen reveals in his choices, and those which, in the mind of the politician, he would have if he understood what is truly good for himself.

To study how politicians resolve preference conflicts across individuals, we use the method developed in Ambuehl and Bernheim (2021). Each respondent learns that she is matched, with some chance, to a group of five German voting-age citizens. Each of them has ranked three given political foundations in the order in which he would like them to receive a donation of €30 that cannot be split. The respondent observes this preference profile, along with five other profiles. To ensure that respondents reveal their aggregation preferences rather than their own political leanings, we anonymize the foundations. For each profile, the respondent decides which of the anonymized foundations will receive the donation. The respondent knows that one of these preference profiles is real and that her decision on that profile will be carried out. Because we do not reveal the identify of the real profile, the respondent has an incentive to make a serious choice on each profile (as long as she is not completely indifferent to the group of citizens). We then elicit the respondents' beliefs about citizens' willingness to pay to trigger or prevent the donation to whichever foundation they ranked first, second, and last. These cardinal beliefs let us compare respondents' aggregation decisions to a utilitarian benchmark.

To study how politicians resolve preference conflicts within individuals, we rely on the method used in Ambuehl et al. (2021). Respondents make choices concerning the conflict between respecting other individuals' autonomy and ensuring they receive outcomes considered good. Each respondent is matched, with some chance, with a German voting-age citizen who can choose how to receive payment for his study participation. Each choice option consists of two payments, one disbursed six months before the other. Impatience is costly: larger earlier payments are associated with smaller total payments. The respondent's task is to construct the choice set from which the citizen will choose. Our interest centers on the number and type of options the respondent includes in that set. To identify implicit support for the long-run criterion, the respondent constructs one choice set from options that involve immediate payments, and another one from options in which even the early payment occurs one month after the study.

We invited all 2,588 members of German state and federal parliaments to participate in our study, and obtained 423 responses (16.3%) from across the political spectrum. We weight all responses in our analysis by age, education and political affiliation to address any remaining selection issues. Because the ultimate sovereign of a democracy is its citizens, we conduct parallel experiments with a general population sample of well over a thousand members of the German voting-age general public. The comparison between this sample and politicians allows us to check the alignment of lawmakers' social welfare criteria with those of the general public.

We obtain three main findings. First, when politicians resolve preference conflicts across individuals, they deviate from economists' typical practice of weighing them equally. Instead, they place, on average, substantially more weight on minimizing the number of individuals who receive their least-favored alternative than on maximizing the number of citizens who obtain their most-favored

alternative. This behavior also contrasts with aggregation mechanisms commonly used in practice, such as the plurality vote, that place exclusive emphasis on first-ranked alternatives. The weight on least-preferred alternatives varies with a politician's party's position. It is strongest for representatives of center parties and weakest for representatives of the left- and rightmost parties. In this sense, more centrist politicians focus on the losers of collective decision making to a greater extent. When we use politicians' beliefs about citizens' willingness to pay (WTP) associated with their most, second, and least preferred foundation, we find that utilitarian aggregation based on these beliefs would produce far more majoritarian choices than we actually observe. Politician's choices are better rationalized by a welfare function that applies a concave transformation to WTP beliefs, consistent with a motive to reduce inequality in utility.

Second, when politicians resolve potentially conflicting preferences within individuals, they deviate from the long-run criterion commonly used in economics in two ways. First, the choice sets they construct are largely independent of the availability of immediate rewards, in contrast to what one would expect if the lure of immediacy were of particular concern. Second, even when all rewards are delayed, more than half of all politicians remove impatient alternatives. This behavior conflicts with the long-run criterion's prescription to defer to the agent's preferences when no immediate rewards are available. Moreover, representatives of parties further to the political right intervene more often in otherwise autonomous choices.

Third, the social welfare criteria of elected politicians align well with those of the general public. Even though we have substantial statistical power, we find no significant difference in the distribution of aggregation decisions between the two samples. In the domain of interpersonal preference conflicts, the general public shows as little support for the long-run criterion as politicians, though its members intervene slightly more often to prevent impatient (and in some cases patient) choice. In spite of the similarities in the public's and politicians' welfare criteria, and in spite of monetary incentives for accuracy, the public's beliefs about others' choices are systematically biased. They underestimate both politicians' and the public's preference for compromise and they substantially overestimate politicians' interventionism. The latter bias is so severe that subjects believe politicians' intervene more often than the general public, even though the opposite is true.[2]

There are three advantages from obtaining these results through an experiment aside avoiding political economy confounds. First, we can present our experimental decisions in a largely context-free way. Thus, we obtain plausibly context-independent results that generalize to various policy domains about which economists make recommendations based on specific social welfare criteria. Second, the stylized nature of our tasks makes it difficult to infer what choice would be socially desirable, which diminishes the types of experimenter demand effects that plague other research with elected representatives. Third, while diverging assessments of real-world policies might reflect heterogeneous beliefs about likely consequences just as much as differences in value judgments, we can cleanly control beliefs.[3] Hence, we can uniquely trace disagreements to underlying welfare judgments.

[2]When asked whether to delegate decisions to either politicians or to other members of the general public, respondents display such a strong aversion to delegating to politicians that beliefs about the two subject pools' choices have no explanatory power.

[3]This point is of particular concern when comparing politicians' inferred value judgments to those of the general public given that politicians are often demonstrably better informed than citizens (Lee et al., 2021).

Our results provide guidance to research in economics that derives policy advice based on social welfare criteria. It is important to aligning the welfare criteria that underlies such research with those that policy makers support. Policy recommendations based on value judgments that decision makers reject will less likely be followed (Sapienza and Zingales, 2013).

Our results also inform the literature on *positive welfare economics* which empirically studies how individuals resolve normative questions (Konow, 2003; Almas et al., 2020; Cappelen et al., 2019; Andreoni et al., 2020; Ackfeld and Ockenfels, 2021; Bartling et al., 2021; Chen and Schøyen, 2022). That literature largely relies on laboratory and general population samples.[4] Our finding that politicians' welfare criteria largely align with those of the general public suggests that such alignment is plausible in other domains of positive welfare economics.[5]

Finally, this paper contributes to a literature that studies the preferences, traits, and biases of elected representatives (Fatas et al., 2007; Heß et al., 2013; Sheffer and Loewen, 2019; Linde and Vis, 2017; Sheffer et al., 2018; Hanania, 2017; Janezic and Gallego, 2020).[6] Despite a recent rise in survey and experimental work with political elites, behavioral experiments with real-world policy makers remain scarce (Kertzer and Renshon, 2022). Extant research has not measured the social welfare criteria of politicians. Our finding that the social welfare criteria of politicians and of the general public align closely, but that the general public believes in substantial differences resonates with a recent meta-analysis that finds that elite-public gaps in decision-making are often smaller than commonly believed (Kertzer, 2020).

The remainder of this paper proceeds as follows. Section 2 presents our experimental design. Section 3 provides institutional context and explains our samples and weighting strategies. Section 4 contains our main results about politicians' social welfare criteria. Section 5 compares them to the welfare criteria of the general public. Section 6 analyzes respondents' beliefs about the decisions that politicians and other general population respondents have made. Finally, Section 7 concludes.

2 Design

Our main experiment has two parts. They allow us to answer, respectively, how politicians aggregate preferences (conflicting preferences *across* individuals), and how politicians resolve the tradeoff between respecting individual liberty and ensuring that individuals obtain outcomes the politician

[4] As an exception, Fisman et al. (2015) consider the distributional preferences of a likely future elite. A complementary literature shows that general population subjects' decisions in laboratory-type tasks predict real-world political choices (e.g. Fisman et al., 2017; Epper et al., 2020).

[5] More broadly, an emerging set of studies, scattered across fields, compares the decisions of laypeople with those of experts within the latter's field of expertise (see, e.g., Morgan et al. (2021) for medical doctors, Linnainmaa et al. (2021) for financial advisers, Schwitzgebel and Cushman (2012) for academic philosophers, or Rachlinski and Wistrich (2017) for judges). Like the present paper, this literature typically finds that the decisions of domain experts are affected by the same tendencies and biases as those of general population respondents.

[6] Other papers, for instance, study whether politicians know the preferences of their electorate (Broockman and Skovron, 2018), discard voter opinion selectively or discriminate against voters (e.g. Butler and Dynes, 2016; Butler and Broockman, 2011), represent their voters interests (e.g. Bailer et al., 2021), violate rational choice theory (Fatas et al., 2007) or are factually more knowledgeable (Lee, 2021). A recent meta–study of Kertzer (2020) shows that differences in political attitudes between politicians and the broader public may actually be overstated and that these differences may be rather due to demographic differences rather than genuine differences between these groups. A more distantly related literature, reviewed in Gulzar (2021), studies selection into political office depending on factors such as competence and socio-economic background (e.g. Dal Bó et al., 2017; Jokela et al., 2022), earning levels in politics (e.g. Fisman et al., 2015), institutional incentives (e.g. Galasso and Nannicini, 2017), outside options and intrinsic motivation (Besley, 2005) as well as social motivators (e.g. Gulzar and Khan, 2017).

regards as desirable (conflicting preferences *within* individuals, i.e. paternalism). A fraction of the general-population respondents complete two additional parts. We explain each part in turn.

2.1 Conflicting preferences *across* individuals

In this part of the experiment, the politician's task is to aggregate the preferences of five voting-age German citizens that we call stakeholders.

Stakeholders have preferences over three social alternatives, A, B, and C. The politician observes the preference profile of the five stakeholders over the three alternatives as in Panel A of Figure 1 and then chooses one of the social alternatives to be carried out.[7] Politicians make one such decision for each of six preference profiles. The politician knows that with a 10% chance one of these profiles represents the preferences of a real group of five stakeholders and that her decision on that profile will be carried out, but she does not know which profile that is. Consequently, as long as she is not entirely indifferent towards all stakeholders, she has an incentive to reveal her aggregation preferences truthfully for every preference profile she encounters.

Each social alternative is a non-divisible donation of €30 to one of three political foundations (*Hans Böckler Stiftung*, *Bund der Steuerzahler Deutschland*, and *Ludwig Erhard Stiftung*).[8] To ensure that politicians reveal their aggregation preferences rather than their political leanings, we anonymize the foundations, representing them with individually randomized letter labels A, B, and C.

In a preliminary online survey, stakeholders ranked the three foundations according to their preference. We incentivized stakeholders to answer truthfully. They knew that with a 1 in 40 chance, the ranking they provided would determine the recipient of the $30 (the first- and second-ranked foundations would receive it with a 2/3 and 1/3 chance, respectively). Stakeholders did not learn how the recipient of the $30 would be determined otherwise. Hence they could not strategically misrepresent their preferences. We enroll stakeholders solely to incentivize politicians who make aggregation choices.

After making these aggregation decisions, politicians indicate their beliefs about stakeholder's willingness to pay to trigger the donation to their first, second, and least preferred foundation. We ask politicians to enter a negative amount if they believe stakeholders would pay to prevent rather than trigger the donation.

Identification. Following Ambuehl and Bernheim (2021), we use a revealed preference approach to infer how politicians aggregate ordinal preferences. Specifically, we ask what theoretical ordinal preference aggregation function best matches the sequence of choices a politician makes across the six preference profiles. The literature emphasizes two classes of such aggregation functions, *scoring rules* and *Condorcet extensions* (see e.g. Gaertner, 2009).

Scoring rules assign values 1, s, and 0 to each stakeholder's most, middle, and least-preferred alternatives, respectively. They then select the alternative for which the sum of scores across the

[7] The figure displays preference profile 1 of Table 1.

[8] On their websites, the foundations describe themselves as follows. The *Hans Böckler* foundation deals with co-determination, research linked to the world of work and the support of students on behalf of the confederation of German trade unions. The *Bund der Steuerzahler Deutschland* is devoted to combat wasteful spending of tax-payer money and tax revenues, and advocates the rights of tax-payers. The *Ludwig Erhard* foundation aims to promote the principles of liberty in politics and economy, to foster freedom and responsibility, and to strengthen the development of the social-market economy.

Figure 1: Main decisions

A. Preference Aggregation (to resolve conflicting preferences *across* individuals)

	Best	**Middle**	**Worst**	**Choice**	**Equally good**
Foundation A	2	1	2	○	□
Foundation B	1	4		○	□
Foundation C	2		3	○	□

B. Choice set construction (to resolve conflicting preferences *within* individuals)

Options	**Available**	**Unavailable**	Advise against this option
	Please make ONE cross each row		
0 € immediately and **24 € in 6 months**	○ or	○	□
3 € immediately and **15 € in 6 months**	○ or	○	□
6 € immediately and **3 € in 6 months**	○ or	○	□

stakeholders is highest. The case $s = 1/2$ is the Borda rule, and the case $s = 0$ is the plurality rule (one person, one vote, and the alternative with the largest number of votes wins). Scoring rules encompass a judgment on how important it is that many stakeholders get their most-preferred rather than the second-most-preferred option relative to how many get their least-preferred rather than their second-least-preferred option. The Borda rule weighs both considerations equally. The plurality rule only places weight on the first consideration, and hence is *majoritarian*. Its polar opposite, the antiplurality-rule ($s = 1$) only places weight on the second consideration.[9] We interpret the parameter s as a preference for compromise—the higher s, the more willing is a politician to prevent a stakeholder from obtaining his least preferred alternative by selecting an alternative for which most other stakeholders only have a middling preference. Rules in the class of *Condorcet extensions* select the social alternative that wins a pairwise majority vote against every other alternative (the *Condorcet winner*) if such an alternative exists. They differ according to the selections they make when no Condorcet-winner exists.

We select our six preference profiles so we can identify the scoring parameter s for individuals whose choices are consistent with a scoring rule. In conjunction with the others, one profile helps separate the use of the Condorcet rule from scoring rules. Table 1 lists the preference profiles. Each profile is associated with a value $\bar{s}$ such that scoring rules with $s \leqslant \bar{s}$ select alternative A (the *majority winner*) and scoring rules with $s \geqslant \bar{s}$ select alternative B (the *compromise option*). Scoring rules never strictly prefer alternative C in any of the profiles, though C ties for majority with A in profile 1 and will be selected along with A if $s = 0$. In order to ensure that one of the six profiles corresponds to the real stakeholder preferences, we form groups of five stakeholders each such that each group matches one of the six preselected profiles. Appendix B presents details.

[9] The antiplurality rule can be implemented through negative voting: each stakeholder receives one vote he can use against his least preferred alternative. The alternative with the fewest votes against it wins.

Table 1: Preference profiles.

Index	Preference profile					$\bar{s}$	Scoring rules			Condorcet
							$0 \leqslant s < \bar{s}$	$s = \bar{s}$	$\bar{s} < s \leqslant 1$	
1	B	C	C	A	A	1/3	A[a)]	{A,B}	B	B
	A	B	B	B	B					
	C	A	A	C	C					
2	B	B	A	A	A	1/3	A	{A,B}	B	A
	C	C	B	B	B					
	A	A	C	C	C					
3	A	A	A	B	B	1/2	A	{A,B}	B	A
	C	B	B	C	C					
	B	C	C	A	A					
4	C	C	A	A	A	3/5	A	{A,B}	B	A
	B	B	B	B	B					
	A	A	C	C	C					
5	C	A	A	A	B	2/3	A	{A,B}	B	A
	B	B	B	B	A					
	A	C	C	C	C					
6	C	A	A	A	A	4/5	A	{A,B}	B	A
	B	B	B	B	B					
	A	C	C	C	C					

[a)] If $s = 0$, then the set of selected options is $\{A, C\}$.

Notes: Each profile is displayed as a 3×5-matrix. Columns correspond to stakeholders, rows correspond to preference ranks. A stakeholder's first, second, and third-ranked alternative are listed in the first, second, and third rows, respectively.

2.2 Conflicting preferences *within* individuals

In this part of the experiment, politicians learn that they may be paired with a German voting-age citizen who will participate in a follow-up study and who will choose how to receive his study payment from a choice set. We refer to that citizen as *Chooser*. The politician's task is to construct the choice set that will be available to the citizen from a menu, using a decision screen as in Panel B of Figure 1. The sole restriction is that at least one alternative must be available. Each option in that menu is a pair of payments, one received half a year before the other. In each menu, impatience is costly: the citizen can only increase his early payment by reducing his overall payment. In a follow-up session, the citizen selects one of the options the politician made available, without learning how the choice set was determined.

To measure implicit support for the long-run criterion, politicians construct choice sets from two different menus. In one of them, the citizen receives the early payment immediately, and the late payment with a half-year delay. In the other, the early payment is paid one month after the citizen's participation, and the late payment is paid 7 months after. In addition to this variation in the availability of immediate payments, we vary the menus within individual to prevent artificially consistent choices. Table 2 displays the menus from which politicians construct choice sets. Politicians are assigned to construct choice sets either from menus 1A and 1B or from menus 2A and 2B. The menus in a pair are rescalings of each other. The amounts in 1A are $\frac{2}{3}$ of the amounts in 1B, and the amounts in menu 2A are $\frac{3}{4}$ the amounts of menu 1B.

Table 2: Menus from which respondents construct choice sets

	Menu 1A		Menu 1B	
	Early	Late	Early	Late
Most patient	0 €	16 €	0 €	24 €
Middle	2 €	10 €	3 €	15 €
Least patient	4 €	2 €	6 €	3 €

	Menu 2A		Menu 2B	
	Early	Late	Early	Late
Most patient	0 €	18 €	0 €	24 €
Middle	3 €	12 €	4 €	16 €
Least patient	6 €	3 €	8 €	4 €

After constructing choice sets, politicians report their beliefs about the choices previous citizens made from each of two unrestricted choice sets. For each of the three options in each of two menus, they predict how many out of ten randomly chosen people chose that option. These beliefs allow us to measure the probability with which politicians believe they impose binding restrictions by excluding options from choice sets.

2.3 Delegation

Respondents from the general public make the same decisions as politicians. Some of them additionally decide to which of three groups of individuals to delegate their preference aggregation and choice set construction decisions, after making these choices themselves. They make two such delegation decisions, either in the context of aggregation decisions or in the context of choice set construction, depending on the survey version. Respondents can delegate the decision to either of three groups: (i) federal and state legislators, (ii) the general public, and (iii) a sample of the general public selected to match the demographic characteristics of federal and state legislators.[10] We inform respondents that the members of these groups have previously participated in the same survey and that they have made their decisions already. Respondents further learn that we have randomly chosen one member of each group and that the decision of this selected member is implemented if the respondent decides to delegate to the corresponding group.

2.4 Beliefs about other participants' aggregation and intervention decisions

From a part of the general population respondents, we elicit beliefs about how politicians, other members of the general public, and a sample of the general public that matches the politicians' demographic characteristics decided when aggregating preferences. They indicate, for each respondent group, how many out of 10 respondents from that group chose option A, B, and C when aggregating the preferences in profile 2 of Table 1. We elicit the same beliefs corresponding to preference profile 5. Other respondents from the general public report beliefs about what choice sets each of the three respondent groups constructed. They indicate how many out of 10 respondents decided for each of the following

[10] In case of group (iii), we inform respondents about the average demographic characteristics (gender, age, university education and marital status) of the general population subjects to whom a delegation is possible.

choice sets: $\{A\}, \{A, B\}, \{A, B, C\}$, and 'other.' They provide one set of such beliefs for each of the two menus from which they have previously constructed choice sets themselves.

2.5 Additional elicitations

We complement politicians' responses with background information using publicly available data. Since such data is not available for general population respondents, we survey relevant background characteristics for the general public. Respondents from the general public report their gender, year of birth, German citizenship status, federal state of residence, highest educational attainment, marital status, monthly household income, and own monthly net income. They further indicate which political party they most identify with, whether they are a member of a political party, the extent to which they are politically active, and their own political attitude on a left / right scale.

In addition, both politicians and respondents from the general public answer the three questions about risk, time, and social preferences from Falk et al. (2018), and they indicate their support for additional compulsory retirement savings. For politicians, we interpret these responses with caution, since they may wish to signal certain personality types they believe are generally perceived as attractive (altruistic, patient, not timid).[11] We do not have such concerns regarding our main elicitations of preference aggregation and choice set construction, since there are no choices in these domains that are obviously more socially desirable than others.

2.6 Implementation

Survey versions. We run four versions of the survey, summarized in Table 3.[12] The first two versions (*Politicians 1* and *Public 1*) include the preference aggregation and intervention parts (Subsections 2.1 and 2.2) as well as the questions listed in Subsection 2.5. All politicians complete this version, as does a sample of the general public that matches the universe of federal and state legislators on observables (details below). These two versions differ only in that general population respondents answer additional demographic and attitudinal questions. We administer the remaining two versions to the general public. Version *Public 2* only contains decisions and questions regarding preference aggregation. Version *Public 3* only includes decisions and questions regarding interventions. Both of these versions include the delegation stage (Subsection 2.3) and the prediction stage (Subsection 2.4) for the corresponding domain (aggregation or intervention). They also include the questions of Subsection 2.5.

Within each survey version, we randomize the order of decisions and the parameters displayed. We use block-randomization to limit the number of non-identical surveys. This limit arises from the fact that politicians receive a paper version of the survey, sent through postal mail (along with a link through which they can participate online). Each respondent who makes aggregation decisions is randomly assigned to one of the following four orders in which the preference profiles are presented: $(1, 2, 3, 4, 5, 6)$, $(6, 5, 4, 3, 2, 1)$, $(1, 6, 2, 5, 3, 4)$, $(4, 3, 5, 2, 6, 1)$. Independently, the display of preference profiles randomizes the table rows that correspond to the social alternatives into one of the following orders: (A, B, C), (C, B, A), (B, A, C), (C, A, B). Each respondent who constructs choice sets does so

[11] We defer the analysis of these responses to Appendix Sections E.3 and E.4.

[12] See Appendix G for English translations of each survey version. The surveys were custom-coded by the ZEW — Leibniz Centre for European Economic Research.

by selecting options either from menus 1A and 1B or from menus 2A and 2B. The respondent reveals beliefs about Choosers's unrestricted choices regarding the corresponding left-out menus. We include immediate payments either menus 1A and 2A, or in menus 1B and 2B. Finally, a respondent either first sees the menus with immediate payouts, both in the decision and belief elicitation stage, or she first sees the menus without immediate payouts in each of these stages.

Overall, there are thus 16 variations of the preference aggregation part and 8 versions of the intervention part. In order to limit the total number of survey variations to 16, we deterministically pair each variation in the aggregation part with a variation in the intervention part. See Appendix Table A.1 for details.

The versions for general population respondents include comprehension tests.[13] The comprehension test on aggregation decisions serves to ensure that respondents understand the display of the preference profile. They view a preference profile and indicate (i) how many stakeholders rank alternative A in the middle, and (ii) which alternative is preferred most by three people. The comprehension test on interventions serves to ensure that respondents understand the menu of options from which they construct choice sets. For a given menu in which the least patient option is marked as unavailable, subjects indicate (i) the maximal amount that the Chooser can obtain immediately from that choice set, and (ii) the amount of money the Chooser receives with a six months delay if he chooses to receive €3 immediately. The comprehension checks precede decision making for each domain. Subjects who make decisions only in one domain (*Public 2* and *Public 3*) only complete one of these checks. Subjects have three attempts to answer correctly, otherwise the survey terminates. We provide an email address to which subjects can send questions if they feel they have understood the instructions but still cannot continue.

Incentives. All politicians and general population respondents learn that a random 10% of them are paired with either a group of five real stakeholders or with a real voting-age German citizen choosing from a choice set they construct, and that one decision from the study affecting these subjects will be selected at random and carried out. Because respondents do not know whether they are among these 10%, and because they do not know which decision will be carried out, they have an incentive to reveal their preferences truthfully, as long as they are not completely indifferent towards all other study participants (see Appendix B for the implementation of these decisions). While decisions affecting others have real consequences, they do not affect the respondent's own study payout.

All respondents indicate beliefs about stakeholders. We refrain from incentivizing these elicitations for politicians because sending money to elected representatives would raise bribery concerns. To permit a clean comparison to the general public, we also refrain from incentivizing the corresponding questions for the latter respondents. We do, however, incentivize the elicitation of beliefs about participants' aggregation and intervention decisions. In each of these prediction problems, the respondent assigns ten identical hypothetical individuals to three or four categories to predict the probability distribution across these categories. If the respondent's prediction matches the true distribution, she receives €5 in the form of our survey provider's panel currency. Otherwise, the respondent loses €0.50 for each of the hypothetical individuals we need to assign to a different category until the elicited and

[13] We did not include such tests for politicians both to keep the survey brief, and to avoid the risk of appearing patronizing.

Table 3: Survey versions

Version	Politicians	Public 1	Public 2	Public 3
Participants				
Politicians	✓			
General population		✓	✓	✓
Main decisions				
Preference aggregation	✓	✓	✓	
Choice set construction	✓	✓		✓
Beliefs about other participants				
Preference aggregation			✓	
Choice set construction				✓
Delegation				
Preference aggregation			✓	
Choice set construction				✓

Notes: Main decisions also include the elicitation of beliefs about stakeholders' willingness to pay to trigger or prevent the donation and about the choices unrestricted Choosers would have made.

observed distributions coincide. We pay these incentives for a random 10% of respondents, for one randomly selected prediction problem. Respondents are aware of this scheme.

3 Samples and context

Our study enrolls German politicians and the German general public. Germany is a federation with 16 constituent states that each have their own state parliament and legislature. The federation and all states are multiparty representative democracies. The federal level features a bicameral system. The 736 members of the federal parliament (*Bundestag*) represent (approximately proportionally) the votes of the German population. The *Bundesrat* consists of 69 seats, three to six for each federal states. The Bundestag is roughly comparable to the US House of Representatives whereas the Bundesrat is roughly comparable to the US Senate. Since 2017, the Bundestag has consisted of members of six major parties, along with a handful of organizations with a single representative each, as well as a small number of representatives without party affiliation.[14] Each of the 16 federal states has a single-chamber system with a parliament (*Landtage*) whose members are full-time politicians. The six major parties of the Bundestag are also the dominant parties in the state parliaments. The federal states have far-reaching political power and autonomy in many important policy fields. For example, they have full legislative autonomy in the fields of education, culture, police system, penal system, social housing and regulative law, and they independently govern taxes on the transfer of land and real estate. An additional source of political power is through the representation of the federal states' governments in the Bundesrat, which needs to approve many federal-level legislative proposals and which can veto any proposed changes to the federal constitution.[15]

[14]These six parties are the centre-right conservative union of Christ-Democrats and their Bavarian sister party, the Christ-Social Union, which we treat together as CDU/CSU, the centre-left Socio-Democrats (SPD), the Greens (Grüne), the center-right Liberals (FDP), the left-wing party Die Linke as well as the right-wing party Alternative für Deutschland (AFD).

[15]A very brief overview of the German political system is, for example, provided online HERE.

Table 4: Politician responses

	Answers	Total	Share
Party			
AFD	56	336	16.67%
CDU /CSU	117	815	14.36%
FDP	47	196	23.98%
Gruene	67	346	19.36%
SPD	82	619	13.25%
Linke	43	214	20.09%
Fraktionslos	11	62	17.74%
Total	423	2588	16.34%

Notes: A legislator is *fraktionslos* if they are not associated with a government party. Appendix C.2 splits this table by parliament type.

Politician sample. We fielded the politician survey between late May and mid September 2021. We invited politicians through the ZEW Mannheim (Leibniz Centre for European Economic Research) which had conducted surveys with politicians for many years on a regular basis (e.g. Heinemann et al., 2016). Politicians thus recognized and trusted the organization and its surveys. We invited all 709 members of parliament (MPs) in the federal parliament (Bundestag) and all 1879 MPs in each of the 16 state parliaments both by email and by postal mail and asked politicians to respond personally. Politicians could answer the online survey on a mobile or desktop device. Alternatively, they could submit their responses to the printed version through postal mail, fax, or email. The invitation letter and emails promised strict confidentiality, as did the survey itself. In order to increase response rates, we repeatedly contacted MPs both by email and by phone if they had neither participated nor explicitly declined to so. We did not require politicians to answer every question, but the online interface displayed a message in case of skipped questions or invalid answers.

We obtained responses from 423 legislators of whom 342 are members of state parliaments and 81 are members of the federal parliament.[16] These numbers correspond to a response rate of 16.3% across parliaments. Table 4 displays the party composition of our sample and compares it to the composition of the parliaments. We obtained good coverage across the political spectrum; for each of the six government parties, we have responses from at least 43 representatives. Response rates vary from 13.25% to 23.98% across the political parties. The differences in response rates do not obviously relate to party position. Detailed non-response analysis shows that participation rates are higher among those over 60 years of age, those who were elected directly rather than through party lists, those who have completed tertiary education, those in state parliaments rather than the federal parliament, and those with fewer years of experience in the federal parliament or in a state parliament. Appendix C.2 presents details.

General population surveys. The commercial provider Norstat fielded our survey with the voting-age German general public between May and September 2021. This period coincides with our fielding

[16]Response modes are the following: 56 postal mail, 354 online on a desktop device, and 13 online on a mobile device. The median response time among politicians responding online for the total survey is just under 12 minutes (707 seconds). Their response time for the six aggregation decisions is 103, 153, and 271 seconds at the 25th, 50th, and 75th percentile. The corresponding response times for the two intervention decisions are 40, 61, and 87 seconds, respectively.

of the politicians' survey. All respondents completed the survey online. For all survey versions we defined quotas and tracked respondent characteristics during sample collection. In response, Norstat adjusted the targeting of invitation emails to meet the quotas. For survey *Public 1*, we recruited 619 individuals with demographic characteristics that match those of the universe of federal and state politicians as follows. We required a high net household income (€4000 or more per month[17]) and a tertiary degree. We further matched the sample to politicians on age, gender, political attitude (left or right, self-stated in the case of the general public), and all interactions between these variables. For surveys *Public 2* and *Public 3* we recruited 735 and 548 respondents, respectively. We sought representativeness to the German general population along the attributes age, gender, political attitudes (left or right), all interactions of the foregoing three attributes, state of residence, education level, and net household income. For each survey version, we ensured that each federal state is represented proportionally. Appendix C.1 presents summary statistics.[18]

Survey weighting. In order to obtain estimates that are representative of our baseline populations along observables, we will use weighted regression throughout. To determine the population distribution among politicians, we hand-collected all state and federal legislators' age (categories 18 to 40, 40 to 59, 60 or over), gender, education level (no college, college, doctorate), and political party affiliation. We weight our politician sample on all these attributes both in levels and in interactions.[19] We weight our general population sample along the same dimensions, both in levels and in interactions. We obtain the baseline distribution from the 2018 wave of the German Socioeconomic Panel (SOEP, Goebel et al., 2019) which includes the party the respondent reports to have voted for in the 2017 federal election. Appendix C.1 displays summary statistics.

4 Politicians' social welfare criteria

We begin by examining how politicians resolve preference conflicts across individuals (Subsection 4.1). Subsection 4.2 considers politicians' intervention choices (preference conflicts within individuals). We compare politicians' decisions to those of the general public in Section 5. Section 6 then studies the alignment between respondents' beliefs about politicians and their actual choices.

4.1 Aggregation: Preference conflicts across individuals

How do politicians aggregate ordinal preferences when acting as an impartial social planner? What do they genuinely consider good for a heterogeneous group of stakeholders when no strategic or reputational concerns shade decisions?

We study these questions by first examining whether politicians follow the majority preference and select alternative A, or whether they choose the compromise option B and thus defy the majority preference. Figure 2 shows the distribution of politicians' choices across all preference profiles, using data from the 407 politicians who made a choice on each of the six profiles. In profile 1, nearly

[17] The mean household net income in Germany was €3612 per month in 2020 (Federal Statistical Office, 2021).

[18] Response times amongst general population respondents for the aggregation decisions are 80, 115, and 170 seconds at the 25th, 50th, and 75th percentile, respectively. The corresponding response times for the intervention decisions are 56, 86, and 135 seconds, respectively.

[19] To ensure sufficient bin size for all interactions, we combine the SPD and Left parties into a single category.

80% of politicians favor the compromise option B over the tied majority winners A and C. In profile 2, where three stakeholders rank alternative A first, around three quarters of politicians opt for the compromise option B. Even on profile 6, in which four out of five stakeholders most-prefer the majority winner A, a quarter of politicians still opt for the compromise option. Overall, politicians place more weight on preventing stakeholders from having to live with a last-ranked option than on making sure stakeholders receive their first-ranked option. There is substantial support for compromise.

The Condorcet rule selects the majority winner throughout. This is inconsistent with a preference for preventing stakeholders from having to live with their last-ranked option. In fact, for profile 2, where A is the Condorcet winner, only one in five politicians select that option (and a part of that fraction might represent plurality rather than Condorcet decision making).[20] We conclude that politicians strongly favor scoring rules over Condorcet extensions.

Figure 2 also shows that politicians respond sensitively to the rank distributions of the three alternatives. As we consider preference profiles with higher indexes, the rank-distribution of the majority-preferred alternative improves, and the rank-distribution of the compromise option worsens. Politicians respond to this variation by selecting the majority winner A more frequently, at the expense of the compromise option B. This pattern is what one would expect if politicians choose consistently with scoring rules but are heterogeneous in their preference for compromise (the scoring parameter s). Appendix D.1 corroborates this analysis by assigning each politician to one of 22 theoretical aggregation rules that best describes her behavior. In that analysis 73% of politicians are assigned to a scoring rule, and of these, 82% place more weight on preventing last-ranked choices than on realizing first-ranked choices (scoring parameter $s > 0.5$).

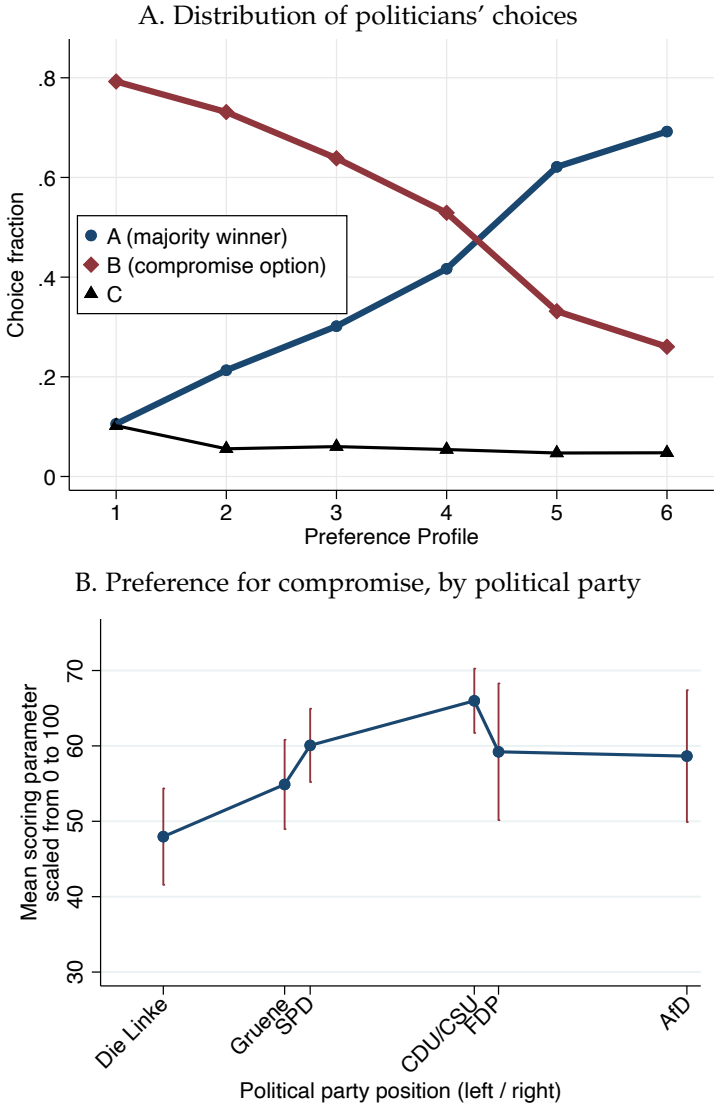
The way in which politicians resolve interpersonal preference conflicts might depend on their position on the political spectrum—some politicians might be more centrist precisely because they have a stronger preference for compromise than members of more extreme parties. To test this hypothesis, we assign each politician the scoring parameter that best describes her sequence of choices, using the procedure of Ambuehl and Bernheim (2021).[21] We allow for the possibility that a politician may aim to harm rather than help the group of stakeholders assigned to her. For politicians classified as benevolent, we relate the estimated scoring parameter to the position of her party on the left/right spectrum as measured on a 1 to 10 scale by Bakker et al. (2020).[22]

[20] In profiles 2 to 6, the Condorcet winner coincides with the plurality winner and can be determined easily. In profile 1, the Condorcet winner can be determined as follows. Three people rank C last, so B wins a pairwise majority vote against C. Hence, if there is a Condorcet winner, it must be B. B also wins a pairwise majority vote against A. The reason is that any stakeholder who ranks A last must rank it below B. But the one stakeholder who ranks A second must also rank it below B, because no stakeholder ranks B last. Hence, B wins a pairwise majority vote against both A and C, making it the Condorcet winner.

[21] Specifically, we use a Bayesian classifier. That classifier addresses the issue that less resolute rules (rules that create more ties) can mechanically better match any given choice sequence; it appropriately penalizes such rules. It rests on four assumptions. First, the prior probability over rules is uniform. Second, for each of the six profiles, the respondent follows her assigned rule with probability $1 - \epsilon$. She uniformly randomizes across all options with probability ϵ. Third, decision errors are independent across outcomes. Fourth, when a rule creates ties, the respondent uniformly randomizes over the prescribed choices. The classifier calculates the posterior probability for each rule and a noise parameter ϵ conditional on the respondent's choice sequence. It assigns each respondent the rule and noise parameter for which this posterior is highest. The procedure is robust to any variation in choice of prior that does not alter the mode of the posterior distribution.

[22] The party alliance of the CDU and the CSU acts as a union. We elicited membership and party preference for the union, but not separately for the constituent parties. Bakker et al. (2020) list the left / right position separately for the member parties. We average these positions to the position of the alliance as follows. The CSU represents the union in the state of Bavaria whereas the CDU represents the union in all states outside of Bavaria. Hence, we calculate the position of the union on the political spectrum as the weighted average of the CSU and the CDU's position, with the weight of the CSU equal to the relative population share of Bavaria compared to the German population. The population of Bavaria is 13.08 million compares to a total German population of 83.02 million, which yields a weight 0.1576 for the CSU.

Figure 2: Politicians' preference aggregation choices



Notes: Panel A: Distribution of preference aggregation decisions. Profiles are numbered as in Table 1. In each profile, politicians using a scoring rule with $s < \bar{s}$ will choose option A, and politicians with $s > \bar{s}$ will choose option B (except that rule $s = 0$ generates a tie between A and C on profile 1). The threshold value $\bar{s}$ increases from left to right and is given by $1/3, 1/3, 1/2, 3/5, 2/3$, and $4/5$, respectively. Panel B: Best-fitting scoring parameters, by party position. Whiskers denote 95% confidence intervals, with standard errors clustered by subject. Position on political spectrum from Bakker et al. (2020).

Table 5: Rank distributions of stakeholder preferences over the foundations

Charity	Ranked 1st	Ranked 2nd	Ranked 3rd
Ludwig Erhard Stiftung	0.27	0.32	0.40
Hans Böckler Stiftung	0.27	0.39	0.33
Bund der Steuerzahler	0.45	0.28	0.26

Notes: Numbers show the fraction of subjects in the stakeholder sample that place a given foundation in the indicated rank position.

Our procedure classifies 360 of our 407 respondents as benevolent. Of these, 11 are not affiliated with a party. For the remaining 349 politicians, Panel B of Figure 2 plots the relation between her preference for compromise (measured by the best-fitting scoring parameter) and the position of her party.[23] The figure shows that politicians affiliated with more centrist parties have a stronger preference for compromise than those affiliated with more extreme parties. Nonetheless, for each party, the mean best-fitting scoring parameter is higher or statistically indistinguishable from $\frac{1}{2}$ (the Borda rule). The members of each party place at least as much weight on preventing last-ranked outcomes as on realizing first-ranked outcomes, on average. Members of centrist parties place significantly more weight on the latter motive.

The relation between aggregation preferences and party affiliation raises the question of whether politicians may have tried to use the preference profiles we presented to infer the identity of the foundations. If so, our results might reflect their preferences over the specific foundations rather than their social welfare criteria. This interpretation is implausible because such inference would be extremely weak, for three reasons. First, politicians know that five of the six preference profiles they see are hypothetical, and they do not know which profile is real. This factor greatly dilutes inference.[24] Second, each politician observes the preference rankings of only five stakeholders. Such a small sample leads to highly uncertain inference. Third, real stakeholder preferences are diverse. Table 5 displays the rank distribution of each foundation. These distributions are close to uniform, except that the Ludwig Erhard Stiftung is ranked last slightly more often than one-third, and the Bund der Steuerzahler is ranked first slightly more often.Because these distributions are close to uniform, ordinal preferences provide little information about the identity of the foundations.

To document our results more formally, we regress politicians' scoring parameters on the political position of their party and on its square. Column 1 in Table 6 shows the result. The negative coefficient on the square term is highly statistically significant. It highlights the concave relationship between party position and preference for compromise. Column 2 adds demographic control variables (age, gender, education), an indicator for whether the respondent is a federal or state politician, and fixed effects for each state parliament. It also controls for the respondent's political experience in state and federal parliaments in years. These controls slightly decrease the estimated parameter values, causing the coefficient on the square of the political position to become statistically insignificant ($p = 0.106$). We highlight the Null effect of political experience. It suggests that politician's aggregation preferences do not change as a function of the duration a politician has spent in parliament (or they change in

[23] In our experiment, scoring parameters are interval-identified. We use midpoints for analysis.

[24] Because we needed to make the survey available in pen-and-paper format, all six preference profiles were pre-determined. To implement respondents' decisions, we matched stakeholder preferences to one of the six profiles ex-post. Therefore, unbeknownst to respondents, no inference can in fact be drawn from the six preference profiles.

a way that is exactly offset by selection out of parliament). All other control variables are far from statistically significant, too.[25]

Table 6: Politicians' aggregation preferences

VARIABLES	(1)	(2)	(3)	(4)
	Preference for compromise (scoring parameter s scaled from 0 to 100)		Assigned to benevolent rule	
Political party position				
Linear	1.800***	1.390**	-0.014	-0.013
	(0.609)	(0.556)	(0.009)	(0.010)
Square	-0.590**	-0.412	-0.002	-0.002
	(0.239)	(0.254)	(0.004)	(0.003)
Federal parliamentarian		3.863		0.002
		(14.174)		(0.072)
Political experience (years)		0.257		0.002
		(0.230)		(0.004)
Female		1.058		0.020
		(2.797)		(0.039)
Age		0.202		-0.001
		(0.131)		(0.002)
Observations	350	350	396	396

Notes: Columns 1 and 2 only use politicians assigned to a benevolent rule. Regressions do not include respondents not associated with a government party ("fraktionslos"). Political experience measures total years of experience in federal and state parliaments. Columns 2 and 4 include fixed effects for the 16 state parliaments. Party position represents overall ideological stance on the left / right spectrum from Bakker et al. (2020), measured on a scale from 1 to 10, de-meaned. $^{*}p < 0.1$,$^{**}p < 0.05$,$^{***}p < 0.01$.

Columns 3 and 4 show that our results are not an artifact of focusing on respondents classified as benevolent. We regress an indicator for whether a politician is assigned to a benevolent rule on the same predictor variables as in columns 1 and 2, respectively. All coefficient estimates are close to zero and statistically insignificant.[26]

Our data also let us interpret politicians choices in the framework of cardinal welfare maximization. 238 politicians provided complete beliefs about stakeholder's willingness to pay (WTP) to trigger the donation of €30 to their first, second, and last-ranked foundation, or to prevent it (indicated by negative numbers). If politicians chose social alternatives by maximizing the sum of these willingnesses-to-pay, what choice distribution would we observe? Column 1 of Table 7 lists mean WTP beliefs by preference rank.[27] The difference in WTP between obtaining one's first-ranked rather than second-ranked alternative is more than one-and-a-half times as high as that between obtaining one's second-ranked rather than third-ranked alternative. Accordingly, if politicians aggregated preferences according to a utilitarian welfare function, they would frequently prefer the majority option over the compromise option. As column 2 shows, utilitarian maximization selects options A, B, and C in 64%, 30%, and 6% of the cases, respectively. These values differ substantially from the actual choice frequencies for this

[25] We have also collected politicians' self-reported time, risk, and social preferences. These are not associated with aggregation preferences, possibly due to social desirability bias in politicians' responses; see Appendix E.3.

[26] Moreover, Appendix D.2 shows that we obtain similar, though less pronounced results if we assign every politician to their best-fitting benevolent scoring rule.

[27] Believed WTP ranges between −€30 and €30.

Table 7: Beliefs about willingness to pay and implied utilitarian choice

	(1) WTP in €		(2) Implied utilitarian choice	(3) Actual choice
Preference rank		Choice Option		
Best	17.849	A (majority winner)	0.637	0.407
	(1.141)		(0.022)	(0.028)
Middle	6.362	B (compromise option)	0.301	0.562
	(0.723)		(0.021)	(0.028)
Worst	-0.711	C	0.062	0.031
	(0.862)		(0.012)	(0.008)

Notes: WTP is the believed amount in € a politician believes a stakeholder would be willing to pay to trigger or prevent (negative WTP) a donation to the foundation in his first, second, and third preference rank, respectively. Implied utilitarian choice is the choice a politician would make if she selected alternatives by maximizing the sum of believed WTP. Actual choice is the actual choice the politician made. Standard errors in parentheses, clustered by subject. Table based on data from politicians who provided WTP beliefs about each preference rank.

subsample, listed in column 3. The majority-preferred option A is chosen 23 %-points less often than predicted by the utilitarian benchmark, whereas the compromise option B is chosen 26%-points more often. Hence, on the assumption that politicians aggregate preferences based on their beliefs about cardinal utilities, they place substantially more weight on equity than utilitarians.[28]

Overall, this analysis shows that politicians' social welfare criteria in the domain of preference aggregation substantially deviate from those commonly employed in economics research. They demonstrate a strong preference for compromise, especially among members of moderate parties. They place significantly more weight on stakeholders who end up with their least-preferred alternative than the utilitarian or Condorcet-type aggregation often employed in economics.

4.2 Intervention: Preference conflicts within individuals

We now turn to politicians' intervention decisions. How do politicians trade off the objective of making sure citizens make choices they consider good on the one hand, and the objective to respect others' autonomy on the other hand? A subset of politicians provided valid responses in this second part of our survey (191 and 193 for the case without and with front-end delay, respectively, with 185 politicians providing valid responses in both cases).[29] We account for this smaller sample size by recalculating our regression weights.

Politicians' resolution of the tradeoff becomes apparent in Panel A of Figure 3. Two features stand out. First, politicians intervene frequently. They exclude the least patient option from the choice set over half the time. Second, politicians intervene to impose patient choice. The choice sets they construct exclude less patient options much more often than more patient options. Most politicians' decision whether to intervene is consistent across the two rounds. Only 6.1% of our respondents

[28] Appendix section D.4 estimates the parameter of a constant-elasticity cardinal welfare function in which cardinal utility u enters welfare through the concave transformation $f(u) = \frac{1}{\alpha}u^{\alpha}$. We obtain a parameter estimate of 0.74. Due to the limited sample size and possibly noisy elicited beliefs, the estimate is imprecise, with a standard error of 0.34.

[29] Six observations from five politicians who answered the pen-and-paper version of the survey are invalid because the choice sets they constructed in these cases are empty.

intervene in only one of the two rounds, whereas 61.2% intervene in both decisions, and 32.7% in neither.

Are politicians' decisions consistent with the long-run criterion, according to which citizens' intertemporal choices should be respected unless the lure of immediacy might bias them? The answer is No, for two reasons. First, as the figure shows, politicians do not remove alternatives substantially more often when immediate payments are available than when all payments are delayed. The lure of immediacy plays practically no role in politician's intervention decisions. Second, politicians' choices are inconsistent with the view that citizens' intertemporal choices should be respected if potential bias caused by the availability of immediate payments is not an option. Even when all payments are delayed by at least one month, politicians still exclude the least patient alternative more than half the time.[30]

Politicians do not simply remove options they believe no citizen would have chosen. Rather, their decisions reflect a genuine tradeoff between respecting citizen autonomy and enforcing patient decisions. Recall that each politician indicated the probability with which she believes an unrestricted citizen would have chosen a given option, for each option in the menu. This data shows that politicians assign 22.4% probability mass to options they excluded. Hence, politicians who remove options believe their decisions will change the choice of nearly one quarter of citizens.[31]

Next, we study whether politicians' interventions depend on their position on the political spectrum. On the one hand, politicians near the center of the political spectrum might more often respect citizen autonomy because they tend to display a greater preference for compromise (and thus respect for minority preferences) than those at the extremes, as Section 4.1 shows. This hypothesis predicts an inverted U-shape between interventions and political spectrum. On the other hand, politicians of parties more supportive of traditional values and norms (which typically view patience as a virtue) might be more willing to intervene to enforce compliance with these norms. If so, we should observe more interventions on the political right.

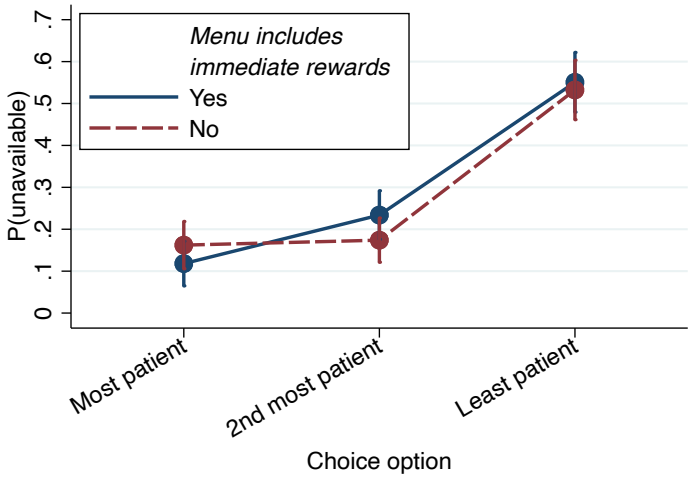
As Panel B of Figure 3, politicians towards the right (but not the left) of the spectrum tend to exclude a larger number of options from the choice sets they construct, consistent with the second hypothesis above. To document this effect econometrically, Column 1 of Table 8 regresses the number of excluded options on party position measured on a scale from 1 to 10 by Bakker et al. (2020). We find that a politician on the very right of the political spectrum excludes an additional 0.53 alternatives per menu than a politician on the very left ($p < 0.1$). This effect increases to 0.79 and becomes statistically significant at $p < 0.01$ as we include demographic control variables (age, gender, education, state), an indicator for whether the respondent is a federal or state politician, and the respondent's political experience in state and federal parliaments in years. As in the case of preference aggregation, we find no effect of political experience or of being a federal parliamentarian. There are substantial effect

[30] The availability of immediate payments neither affects politicians' beliefs about unrestricted citizens' choices, nor does it affect the actual choices of these subjects (see Appendix B.2). Even so, politicians violate the long-run criterion by intervening when no immediate rewards are available.

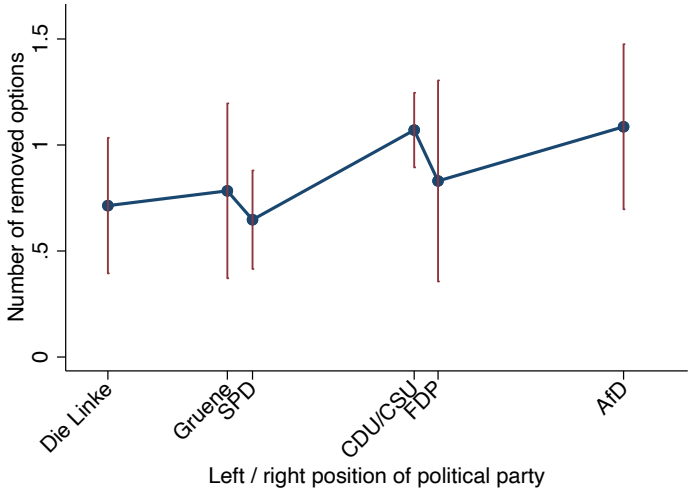
[31] As described in Section 3, to prevent artificially consistent choices, we elicit beliefs about slightly different menus than those from which the respondent has previously constructed choice sets. Strictly speaking, beliefs and intervention choices are thus not directly comparable. We estimate a model of how beliefs respond to the six specific payment amounts that characterize a menu. We estimate a two-equation system that expresses the elicited beliefs that an unrestricted citizen would choose options A and B, respectively, on all payment amounts and on the relative prices of gaining one additional present Euro in terms of future Euro from selection option A rather than B, as well as the respondent's intervention choices. We obtain estimates of the beliefs about unrestricted citizens that are corrected for the difference in payment amounts as the predicted values of this regression. This correction raises the believed effectiveness of the chosen interventions from 22.4% to 23.1%.

Figure 3: Politicians' intervention decisions

A. Interventions by front-end delay



B. Interventions by political party



Notes: Panel A displays the fraction of cases for which politicians exclude options from the choice set they construct, categorized by relative patience. The solid (dashed) line corresponds to choice sets constructed from menus that include (exclude) immediate rewards. Panel B displays the average number of excluded options by party position, measured as ideological stance on the left / right spectrum by Bakker et al. (2020). Whiskers denote 95% confidence intervals, standard errors clustered by subject.

of age and gender, however, as column 2 shows. Female politicians remove 0.26 additional options ($p < 0.05$), and each additional year of age is associated with excluding an additional 0.02 options ($p < 0.01$).

Table 8: Politicians' intervention decisions

VARIABLES	(1)	(2)	(3)	(4)
	Number of options removed		Believed restrictiveness	
Mean of the dependent variable	0.837	0.837	0.150	0.150
	0.080	0.080	0.017	0.017
Political party position	0.053*	0.077**	0.012	0.018**
	(0.031)	(0.030)	(0.007)	(0.008)
Federal parliamentarian		-0.026		0.038
		(0.467)		(0.077)
Political experience (years)		-0.013		-0.001
		(0.009)		(0.002)
Female		0.262**		0.042
		(0.122)		(0.030)
Age		0.017***		-0.001
		(0.006)		(0.001)
Front-end delay	-0.025	-0.043	-0.006	-0.010
	(0.035)	(0.036)	(0.012)	(0.013)
Fixed effects				
Education		✓		✓
State of parliament		✓		✓
Subjects	195	195	180	180
Observations	369	369	339	339

Notes: Weighted regressions. Regressions do not include respondents not associated with a government party ("fraktionslos"). Political experience measures total years of experience in federal and state parliaments. Columns 2 and 4 include fixed effects for the 16 state parliaments. Columns 3 and 4 include a smaller number of observations due to non-responses on beliefs. Party position represents overall ideological stance on the left / right spectrum from Bakker et al. (2020), measured on a scale from 1 to 10, de-meaned. Standard errors in parentheses, clustered by subject. *$p < 0.1$,** $p < 0.05$,*** $p < 0.01$.

Are politicians further to the right knowingly more restrictive? An alternative hypothesis is that these politicians simply remove of options they believe nobody would choose, but greater apparent restrictiveness arises from the possibility that they have different beliefs about the choices unrestricted citizens would make. To distinguish between these mechanisms, we calculate the probability with which a politician beliefs her intervention changes the citizen's choice. As column 3 shows, this *believed restrictiveness* increases with political party position. While the corresponding estimate is not statistically significant, it increases in magnitude and becomes significant at $p < 0.05$ once we control for demographic and political background variables (column 4). A politician on the very right believes it is 18 percentage points more likely that her intervention forces a citizen to change his choice than a politician on the very left believes about her respective intervention. Hence, politicians further to the right intervene more than politicians on the left, and they do so knowing that they will change the choice of a larger number of citizens.[32] The tendency of female and older politicians to exclude more options, however, does not appear to reflect a desire to change the Chooser's choice more often. Older

[32]This result would obtain mechanically if beliefs-data were pure noise. Contrary to this interpretation, our beliefs data are highly predictive, as Appendix E.1 shows.

and female politicians simply believe that citizens are more patient than younger and male politicians believe, so that they do not realize that their interventions, though in fact more restrictive, are binding with a higher probability.

Overall, these results show that many politicians across the spectrum—but especially on the right—readily intervene to enforce choices they regard as good, even if that comes at a cost in terms of citizen autonomy. Yet, their decisions show no sign of support for the long-run criterion that is frequently used in economics research.

5 Welfare criteria of the general public

Representative democracy is based on the idea that politicians' value judgments represent those of the general public. Moreover, much research in positive welfare economics studies normative views of the general public (Almas et al., 2020; Bartling et al., 2021; Ambuehl et al., 2021; Ambuehl and Bernheim, 2021), even though actual policy making largely falls to elected representatives, which raises a question of external validity. Therefore, we now examine the extent of alignment between politicians' social welfare criteria and those of the general public. Throughout, we pool the data in survey versions *Public 2* and *Public 3* with the corresponding parts of version *Public 1*.

5.1 Aggregation: Preference conflicts across individuals

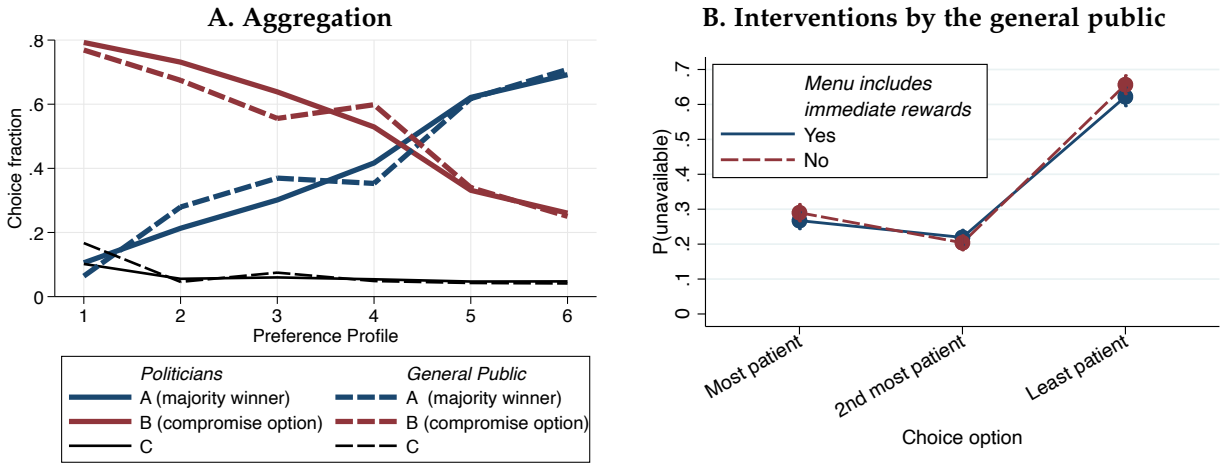
The distribution of aggregation choices among the general public is strikingly similar to that of politicians, as Panel A of Figure 4 shows. Averaged across preference profiles, the general public selects alternatives A, B, and C in 42.7%, 53.1%, and 4.2% of cases, compared to politicians' 40.8%, 54.8%, and 4.4%. Statistically, there are no significant differences between these distributions, and none emerge for separate comparisons for each preference profile. As a group, when deciding as an impartial social planner, politicians resolve preference conflicts across individuals in the same way as the general public.

We also do not find a difference in the distribution of best-fitting choice rules between politicians and the general public, as Appendix D.1 shows. Moreover, the distribution of best-fitting rules in our samples is highly similar to the distribution that Ambuehl and Bernheim (2021) find with Swedish and US general population samples in a case where stakeholders have preferences about which international charity will receive a fixed donation amount, and with Swiss student samples in which stakeholders have preferences about which Swiss party will receive a donation of Fr. 30 that cannot be split. This similarity suggests that our results are robust to variations in the domain of stakeholder preferences.

Yet, in contrast to politicians, the political position of the preferred party of members of the general public does not relate to their aggregation decisions, as Panel A of Figure 5 shows. The difference in party-dependence between politicians and the general public may have multiple causes, including the possibility that a politician's party affiliation is more strongly tied to her identity than a general population member's party preference is to his.[33] Yet, it does mean that some parties' electorate endorses

[33] We do not condition on whether general population respondents are registered party members. The reason is that only a small minority of Germans are members of a political party. In the year 2019, the six government parties had a total of 1.2 million active members (Niedermayer, 2020), which is 1.4% of the 83 million German population, or 2% of the 60 million Germans

Figure 4: Social welfare criteria of the general public



Notes: Whiskers denote 95% confidence intervals, standard errors clustered by subject.

systematically different social welfare criteria than those of the politicians representing the parties in parliament. Specifically, we find that voters of the left-wing party Die Linke have a significantly higher preference for compromise than their representatives and that voters of the center-conservative CDU/CSU have a significantly weaker preference for compromise than their representatives ($p < 0.01$ in both cases). Once we control for age, gender, education, and state, the difference remains statistically significant only for Die Linke.

To document the difference in party-dependence across politicians and the general public econometrically, column 1 of Table 9 regresses best-fitting scoring parameters on an indicator for the general public, the position of a respondents' preferred political party and its quadratic, as well as on the interaction between the general public indicator and the party position variables. We find that the difference in party dependence across the two populations is highly statistically significant. Column 2 shows that this conclusion is unchanged once we control for age, gender, education, and state.

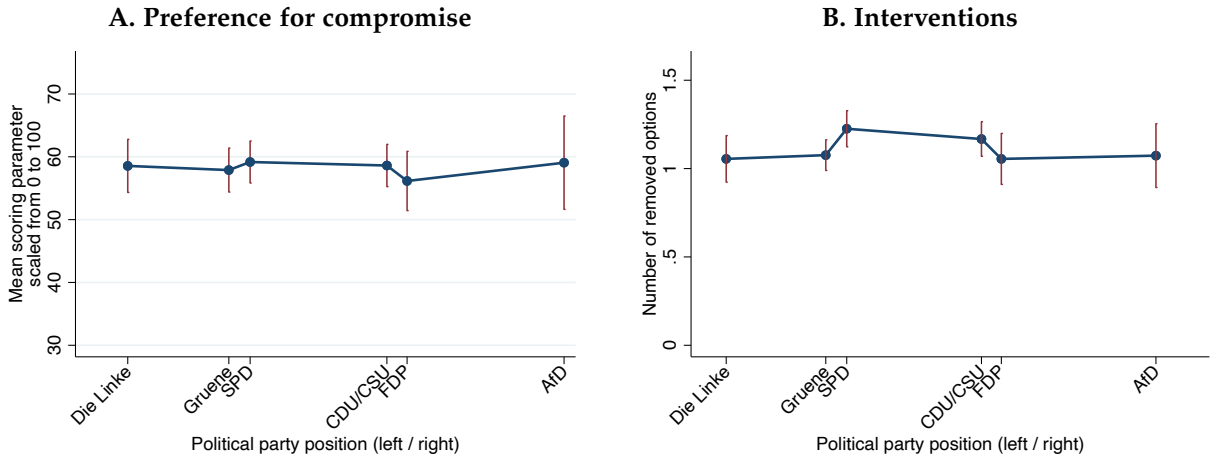
When we consider the general publics' beliefs about stakeholders' WTP to trigger or prevent a donation to their first, second, and third-ranked foundation, respectively, our results again parallel those of the politician sample. In particular, implied utilitarian aggregation based on these beliefs yield a choice distribution that places dramatically more weight on the majority winner than the general publics' actual choices. See Appendix D.3 for details.

5.2 Interventions: Preference conflicts within individuals

As is the case for politicians, the general public's choices are inconsistent with the long-run criterion. Panel B of Figure 4 plots the intervention rates of the general public by front-end delay. It shows that the availability of immediate rewards has no effect on the frequency with which members of the general public exclude any alternative. Moreover, even absent immediate rewards, members of the

entitled to vote (Der Bundeswahlleiter, 2021). In our sample 95 respondents making aggregation decisions and 80 respondents making intervention decisions report that they are a member of a political party. While these respondents represent 6.6% and 6.0% of our respective samples, they are still too few to permit statistical inference. Appendix E.2 shows that our conclusions pertaining to the general public remain unchanged once we account for political involvement measured as voting regularly in elections.

Figure 5: Social welfare criteria of the general public by party position



Notes: Whiskers denote 95% confidence intervals, with standard errors clustered by subject. Party position represents overall ideological stance on the left / right spectrum from Bakker et al. (2020).

general public intervene to remove the least patient alternative more than half the time, in contrast to the criterion's prescription to defer to citizens' preferences in that case.

There are, however, some differences between politicians' and general population respondents' interventions. First, general population respondents intervene more often than politicians. While politicians exclude 0.89 choice options on average from the choice sets they construct, general population respondents exclude 1.13 ($p < 0.01$). Second, unlike politicians, general population respondents remove the most patient alternative slightly more often than the middle alternative.[34] The difference in removal rates between the most patient and middle options, however, is an order of magnitude smaller than that between the middle and least patient option. Hence, for both samples, enforcing patient choice is the dominant concern.

Panel B of Figure 5 shows that there is no relation between interventions and political party preference among the general public, just as in the case of preference aggregation, and possibly for the same reasons. To document the effect of party position econometrically, we regress the number of excluded options on an indicator for general population respondents, the position of the preferred political party, and the interaction between the two. Column 3 of Table 9 displays the result. The negative coefficient on the interaction term almost exactly offsets the effect of party position for politicians, leading to a p-value of 0.89 for a dependence on political position among the general public. These results remain largely unchanged once we control for gender, age, education, and state fixed effects.

Just as in the case of preference aggregation, the fact that politicians' but not the general public's intervention decisions depend on their political position implies that the politicians of some parties more closely represent the social welfare criteria of the parties' supporters. We find statistically significant differences for left-wing party Die Linke ($p = 0.05$) and for the moderate-left SPD ($p < 0.01$). In

[34] This pattern is not driven by spite towards other subjects. To check this possibility, respondents decided whether to costlessly increase the Chooser's payment by €0.50, to leave it unchanged, or to decrease it by €0.50. 91% chose to increase the recipient's payment, only 3% chose to decrease it. The extent of non-monotonicity in intervention decisions remains nearly unchanged once we exclude spiteful respondents.

Table 9: General population vs. politicians

VARIABLES	(1)	(2)	(3)	(4)
	Preference for compromise (scoring parameter s scaled from 0 to 100)		Number of options removed	
Political party position	1.800***	1.388***	0.053*	0.057*
	(0.607)	(0.532)	(0.031)	(0.030)
(Political party position)^2	-0.590**	-0.496**		
	(0.239)	(0.232)		
General public				
× 1	-3.495	-2.781	0.286***	0.254***
	(2.223)	(2.345)	(0.081)	(0.088)
× political party position	-1.868**	-1.292*	-0.052	-0.060*
	(0.738)	(0.671)	(0.033)	(0.031)
× (political party position)^2	0.643**	0.558*		
	(0.299)	(0.288)		
Female		0.722		0.055
		(1.963)		(0.047)
Age		0.125*		0.010***
		(0.074)		(0.002)
Fixed effects				
Education		✓		✓
State		✓		✓
p-values				
Significance of party position for general public				
linear term	0.873	0.825	0.894	0.768
square term	0.770	0.738		
Observations	1,661	1,661	3,025	3,025
Subjects	1,661	1,661	1523	1523

Notes: Weighted regressions. Regressions exclude politicians not associated with a government party ("fraktionslos"). Party position represents overall ideological stance on the left / right spectrum from Bakker et al. (2020), measured on a scale from 1 to 10, de-meaned. Standard errors in parentheses, clustered by subject. $^*p < 0.1$,$^{**}p < 0.05$,$^{***}p < 0.01$.

both cases, politicians of the respective party intervene less than its supporters. Controlling for gender, age, education, and state fixed effects renders the effect for Die Linke statistically insignificant.

6 Beliefs about politicians' decisions

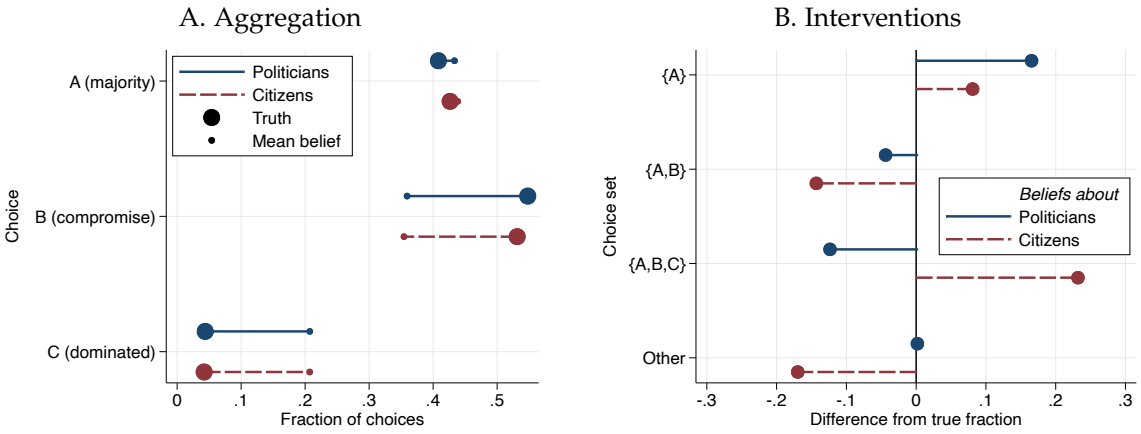
Having shown that the social welfare criteria of politicians and those of the general public largely mirror each other, we now examine whether respondents are aware of this fact.

For the preference aggregation domain, panel A of Figure 6 compares general population respondents' beliefs about other decision makers to their actual choices (focusing on the two profiles for which we elicited beliefs). Beliefs about politicians and about the general public resemble each other closely. Yet, they diverge from the actual choice probabilities. Most notably, while both politicians and the general public chose the compromise option substantially more often than the majority winner, respondents believe the opposite would be the case ($p < 0.001$ both for beliefs about politicians

and beliefs about the general public). Hence, general population respondents underestimate others' preference for compromise, both in politicians and in other general population respondents.[35]

In the domain of intervention decisions, beliefs are systematically distorted, too, as Panel B of Figure 6 shows. For easier visibility, we center the actual choice frequencies at zero and show the deviations from that benchmark. Subjects systematically overestimate how often politicians enforce patient choice. They overestimate the fraction of politicians who remove all but the most patient alternative A by more than 15 %-points, they underestimate the fraction of politicians who exclude only the least patient option by roughly 5 %-points, and they more strongly underestimate the fraction of politicians who include all alternatives by more than 10 %-points. In contrast, beliefs about the general public deviate from the truth non-monotonically. Respondents overestimate both the extent to which general population respondents remove all but the most patient alternative, and the extent to which they include all options. Overall, while beliefs about general population subjects are inconclusive, respondents greatly overestimate politicians' interventionism, both compared to their actual choices and compared to the general population. Appendix F.1 documents these effects econometrically.

Figure 6: Beliefs about politicians' and other general population respondents' choices



Notes: Panel A aggregates across preference profiles 2 and 5, for which we elicited beliefs. Panel B aggregates across menus.

7 Conclusion

Economic analysis often derives policy recommendations based on assumed social welfare criteria. The appropriateness of these criteria is typically left to the policy maker to judge. Little is known, however, about policy makers' normative views in a way that is amenable to this use. Our study begins to fill this gap. We conduct a behavioral experiment with German federal and state politicians that avoids confounds from political economy considerations. We complement it with parallel experiments with the German voting-age general public.

[35]Subjects also overestimate the frequency with which the rank-dominated option C would be chosen, possibly indicating their beliefs about how (in)attentively others would choose. Our results are unlikely a consequence of inattention to the belief elicitation itself, however. As Appendix F.2 shows, elicited beliefs vary sensitively with the particular preference profile for which we elicit these beliefs.

We document three main findings. First, when resolving preference conflicts across individuals, politicians assign substantially more importance to individuals who obtain their least-favored alternative than to receive their most-favored alternative, in contrast to both common aggregation mechanisms and the equal weighting inherent in utilitarianism and the Kaldor-Hicks criterion. Second, when resolving preference conflicts within individuals, specifically that between respecting citizen autonomy and ensuring outcomes that politicians believe to be good for the citizen, politicians place substantial weight on the latter motive. Their choices are inconsistent with the long-run criterion that is frequently used in behavioral public economics as a foundation for policy recommendations. Not only has the availability of immediate rewards virtually no effect on politicians' choices, but politicians still intervene frequently to enforce patient choice when we rule out the possibility that the lure of immediacy might bias citizens' choices. Third, the welfare criteria of politicians and those of the general public largely align—though general population respondents (wrongly) believe that politicians are less willing to compromise and more willing to limit others' autonomy both compared to general population respondents and compared to politicians' actual choices.

Our results provide guidance to researchers who derive policy recommendations based on social welfare criteria they wish reflect those of policy makers and of the general public. Additionally, our result that politicians' and the general public's welfare criteria align closely is encouraging for the field of positive welfare economics, which typically relies on general population samples. It increases our confidence that its results will generalize to elected policy makers both in Germany and in other representative democracies.

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