Climate Action from Abroad: Assessing Mass Support for Cross-Border Climate Transfers

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Abstract

Experts argue that resource transfers from developed to developing countries are central to international climate policy efforts. Yet as countries grapple with the political difficulties of provisioning and accepting climate funds, understanding why voters support or oppose international climate finance becomes critical. Focusing on domestic audiences in both donor and recipient countries, we investigate the determinants of public support for cross-border climate transfers. Theoretically, we focus on the effects of emphasizing the compensatory purposes of funding, highlighting mitigation over adaptation activities, and prioritizing partnerships between donor and recipient agents—three factors that generate both normative and material benefits, and thus build support among broader coalitions of voters. Paired survey experiments in the United States and India corroborate the relevance of these transfer features for citizens in donor and recipient countries. Taken together, our findings shed light on the domestic political economy attributes of transfer agreements that can unlock support for cross-border climate cooperation.

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1 Introduction

Effectively reducing fossil fuel emissions and fighting climate change necessitates coordinated policy efforts. Many developed countries have begun to domestically tackle greenhouse gas emissions, but continue to face significant political hurdles (Bergquist, Mildenberger and Stokes, 2020; Meckling and Nahm, 2022; Colgan, Green and Hale, 2020). Meanwhile, in the Global South, decarbonization and adaptation programs requiring structural reforms face vigorous public opposition (Gaikwad, Genovese and Tingley, 2022; Blankenship et al., 2022). International cooperation can alleviate these domestic difficulties by spreading the responsibility of action abroad. *Financial transfers*, defined as monetary flows from industrialized to developing countries for setting up climate-related projects, facilitate collective action on mitigation and adaptation (Landis and Bernauer, 2012; Pickering and Skovgaard, 2017; Graham and Serdaru, 2020; Elhard, 2022). Transfers are cost-efficient in the aggregate, can catalyze carbon pricing and green industrial policy practices, and address issues of internal and cross-national climate justice (Mattoo and Subramanian, 2012).

In polarized domestic and global environments, however, it is not obvious that donor countries are politically prepared to provide, and recipient countries are willing to accept, international climate funding.[1] Because policymakers sign international agreements, the politics of their creation are to an extent technocratic. But since climate politics are increasingly litigated in the public domain in democratic countries, public opinion broadly influences policymakers' ability to domestically ratify and implement international climate finance commitments. This is especially the case with climate finance channeled via bilateral transfers, which are subject to heightened public scrutiny (Skovgaard et al., 2023). As discussed below, such international transfers are debated by political parties and covered by the media, leading the public in turn to take positions on them.

What are the determinants of public support for cross-border climate transfers? The

[1] A pledge of 100 billion USD a year to poor countries by 2020 at the Copenhagen climate meeting remained largely unfulfilled in 2024, notwithstanding some progress (Bos and Thwaites, 2018).

answer to this question is not immediately obvious. On the one hand, a growing body of research suggests that because 'home bias' dominates preferences for climate investments, public opinion in both donor and recipient countries should be stacked against international transfers (Buntaine and Prather, 2018; Gampfer, Bernauer and Kachi, 2014). On the other hand, evidence suggests that citizens can have positive attitudes toward the international implementation of public good projects (Hirose et al., 2024; Clark, Dolan and Zeitz, 2023). Prior work indicates that citizens support international cooperation to halt the climate crisis, are cognizant of historical responsibilities and recognize the importance of redressing harms experienced by others, especially communities that are vulnerable to climate change and decarbonization (Bechtel and Scheve, 2013; Tingley and Tomz, 2014; Gaikwad, Genovese and Tingley, 2022; Orlove et al., 2014; Leiserowitz et al., 2023; Flynn et al., 2024; Mildenberger et al., 2023). This suggests that climate transfer agreements can be designed to incorporate features that cultivate support across societal coalitions.[2]

In this paper, we offer a theoretical framework and a series of empirical tests to study how citizens in both donor and recipient countries form opinions on and evaluate distinct design elements of climate transfer agreements. To begin, we consider how tangible factors such as costs and conditionalities and normative factors such as reciprocity and peer-acceptance shape public support for bilateral climate transfers, given that the literature on public support for international cooperation routinely emphasizes such determinants (Lancaster, 2007; Heinrich, 2013; Kohno et al., 2021; Huber, Wicki and Bernauer, 2020).[3] Next, we propose three focal factors that inherently encapsulate both material and normative logics, building on recent research showing that climate policy attitudes intrinsically reflect mixed motivations (Tingley and Tomz, 2014; Mildenberger and Tingley, 2018; Bechtel, Genovese and Scheve, 2019). We argue that domestic audiences view *targeted compensation*, the involvement of *domestic partners* from both donor and recipient countries, and the goal of

[2]Appendix A discusses the characteristics of transfers debated in both donor and receiving countries.

[3]Focusing on policy domains such as trade and foreign aid, this debate typically juxtaposes pocketbook logics of self-interest (e.g., income protection) with motivations such as altruism and other-regarding attitudes.

mitigation over adaptation as materially benefiting their communities and countries while also embodying principles of climate justice that are key to sustaining long-term cooperation.

We empirically probe these expectations with a series of original survey experiments on representative samples in the United States and India—the world's two largest democracies and top emitters of greenhouse gases. We find that the public has systematic preferences regarding climate-motivated foreign investments, as citizens understand the implications of different international financing designs and weigh the tradeoffs of various types of cross-border funding.[4] A key take-away is that public opinion is malleable to design-based features of transfer agreements.

Patterns of similarities emerge across both countries. Voters consistently privilege transfers that allocate more funds to compensate those harmed by climate change and climate policy; in fact, compensation is among the biggest overall drivers of support for transfers. Both donor and recipient country citizens prefer transfers that target mitigation over adaptation goals—a noteworthy finding in light of elite-based discourse that emphasizes support for international adaptation efforts. And transfers that provide grants to a mix of home and foreign firms muster most acceptance, pointing to a zone of intersecting support for donor and recipient countries often assumed to have distinct partnership preferences. Because these factors encapsulate mixed considerations, they cultivate buy-in from various sections of society, including among those more skeptical of international climate action.

Our experiments reveal additional insights. Citizens in donor countries are sensitive to the costs of climate transfers and evidence a home bias in their spending preferences. Meanwhile, citizens in recipient countries prefer having fewer conditionalities and more monitoring. Given that donor countries also value monitoring, this points to an area of shared interest in the design of transfer agreements. Interestingly, we find weak evidence for an effect of duration and strong evidence of the meaningfulness of social norms like reciprocity and peer-acceptance in both samples.

[4]This is in line with prior work on the determinants of public support for foreign aid and international organizations (Heinrich, Kobayashi and Bryant, 2016; Brutger and Clark, 2023).

Overall, the series of symmetrical findings across the United States and India indicate that climate transfer agreements can be designed in ways that satisfy domestic coalitions in both donor and recipient countries. We shed light on how specific features of climate transfer agreements can help bolster public support even in polarized political contexts and build legitimate transfer mechanisms that hold the possibility of withstanding popular backlash over the long run.

2 Theoretical Framework

We focus on public opinion on cross-border climate transfers because citizens in democracies constrain the policy actions of their elected representatives, and international policies that entail major financial commitments have direct and indirect repercussions in domestic economies, in which voters have a stake. This section theorizes why public opinion is important for understanding the politics of international climate finance, and how different attributes of transfer agreements can lead domestic audiences in archetypal Global North and Global South countries to become most favorable of climate financing. We assume that congruity across countries in preferences for specific design features increases the possibility of transfers being negotiated and domestically ratified.

2.1 Climate Finance and Public Opinion

The Landscape of Climate Financial Transfers The call for international climate finance first emerged from the United Nations Framework Convention on Climate Change (UNFCCC) in the 1990s. The Global Environmental Facility was launched in 1992 for this purpose; in the 2022-2026 cycle it budgeted more than 5 billion USD. As of 2024, several multilateral banks exist that cater to international climate finance. Other mechanisms include bilateral finance, climate related export credits, and private funds. In 2023, the bulk of international climate finance comprised multilateral and bilateral transfers, which together

accounted for more than 80% of funding (Falduto, Noels and Jachnik, 2024).[5]

We focus on the determinants of support for *bilateral* climate transfers, and specifically bilateral climate grants, where we expect public opinion to matter most, both on the donor and the recipient side.[6] Bilateral climate finance effectively targets similar goals and incorporates similar conditions as multilateral finance.[7] At the same time, bilateral agreements have become more relevant with the recent fractionalization of international climate politics (Sabel and Victor, 2017) and disagreements between strategic donors such as China and the United States (Falduto, Noels and Jachnik, 2024). Bilateral climate transfers have also increasingly become an actionable commitment among countries that are historically less willing to engage with multilateral organizations, such as Australia and the United States.

In terms of recipients, bilateral climate finance has so far targeted mainly low and upper middle income countries, a group with significant emissions and adaptation needs. The sharp rise in global interest rates since 2021 could plausibly alter these countries' demand for bilateral climate transfers. Presumably, resistance to taking on further debt may lead developing countries to push for more grants and reject increased debt burdens. However, this does not mean that bilateral climate grants and subsidized debt will be systematically favored and unconditionally accepted. Cross-national evidence from recent inflationary years suggests that various developing countries have rejected cheaper conditional finance in the past, despite its efficiency (Carnegie and Dolan, 2021; Clark, Dolan and Zeitz, 2023). As we will show, most types of climate finance, even in the form of grants, face varying degrees of public support and opposition.[8]

[5]Appendix B offers an overview of the current landscape of international climate finance, including the increasing relevance of bilateral agreements. Appendix C highlights the importance that the international community has placed on transfers in the context of climate mitigation and adaptation. Appendix E reports public opinion evidence of higher support for bilateral than multilateral climate finance, though literature in adjacent fields highlights that such preferences can at times be altered (Milner and Tingley, 2013).

[6]On the donor side, taxpayers' contributions typically fund transfers; even in the case of private capital mobilization, governments serve as guarantors, making citizens de facto underwriters of transfers. On the recipient side, governments need the buy-in of citizens since investments often have major territorial, economic and social implications.

[7]See Appendix B for more context and details on the comparative nature of different climate finance arrangements.

[8]Recent OECD data also indicates that "the shares of climate financing through grants are high in some

The Role of Public Opinion in Climate Transfer Design As the discussion above indicates, international climate finance has been in the hands of multilateral funds for many years. By default, the politics of international climate transfers have been delegated to bureaucrats and diplomats, following the logic that financial agreements "are technically complex and well beyond the understanding of most citizens" (Frieden, 2016, 44). Nevertheless, recent turns in international debt and aid politics (Nelson and Steinberg, 2018; Dietrich, 2021) suggest that mass preferences matter after all, and public resistance to elite-driven economic deals has become more common (Bechtel, Hainmueller and Margalit, 2014; Nguyen and Bernauer, 2019; Dolan, 2020). Similarly, while technocrats dominanted international climate agreements until recently, climate policy has now entered mainstream politics, becoming a central economic, geopolitical and security issue. Consequently, understanding the parameters of public support for climate action is increasingly crucial for forging successful climate commitments.

Against this background, we argue that public support matters for the politics of international climate transfers for at least three reasons. First, public opinion is a crucial test of the credibility of elite discourse in this area. It is reasonable to expect that extensive political leaders' discussions of climate transfers shape popular support for climate finance efforts (Huber, Fesenfeld and Bernauer, 2020).[9] Global politics and great power rivalry are also factors that when linked to international economic policy elevate the role of public support for ratification (Carnegie and Gaikwad, 2022), and international climate policy is increasingly couched in geopolitical terms. Public positioning on climate transfers is then feasible; scholarship shows that citizens understand the trade-offs of different designs of international agreements in similar areas (Milner and Tingley, 2013; Heinrich, Kobayashi and Bryant, 2016; Brutger and Clark, 2023; Carnegie and Gaikwad, 2022).

countries, such as Ethiopia and Ghana, while they are much lower in others, such as Nigeria and Kenya" (Falduto, Noels and Jachnik, 2024, 28). This suggests that different conditions on the ground may make voters more or less supportive of bilateral climate grants, as we discuss later in this section.

[9]Political leaders in the US, Canada, France, UK, Brazil and India publicly discuss climate finance in ways that capture media attention and influence voters' preferences (Appendix D).

Second, climate transfers are already on the political agendas of various industrialized and developing countries in meaningful ways, with climate finance currently discussed on media platforms and reported in debates of widely broadcast events. It has also increasingly become an issue of electoral campaigns and pledges.[10] Third, there is evidence that voters in both donor and recipient countries expect to be part of the conversation around climate policy and climate transfers (Leiserowitz et al., 2023; Flynn et al., 2024; Kim and Wolinsky-Nahmias, 2014).[11] Our own surveys indicate that voters believe that the public should have as prominent of a role in ratifying cross-border climate transfers as businesses and political elites.[12] We therefore theorize how support for climate transfers can be built based on the various design features of transfer agreements, and what coalitions may emerge for or against such transfers.

2.2 Background Considerations: Determinants of Public Support for Climate Transfers

The discussion above suggests that transfer agreements that feature properties deemed more desirable by voters should muster greater public approval. We now theorize *how* various considerations and attributes can be incorporated into the design of cross-national climate transfer agreements to amplify public support in developed and developing countries.

We begin by focusing on determinants of preference formation previously established in relevant scholarship. This allows us to distinguish the main drivers of policy preferences, which prior work typically classifies in either material or ideational terms. We discuss how each of these factors informs support for design features of climate transfer agreements, and how we should expect them to tilt support for climate finance. Recall however that our innovation is to propose additional factors that, we believe, increasingly capture the

[10] See Appendix D.

[11] Appendix D also presents evidence of how the mass public is exposed to political agendas around climate transfers via political commentary, media reports, and NGO advocacy.

[12] Appendix E reports survey evidence indicating that individuals hold salient views on climate finance and think members of their community feel the same way. Furthermore, in new representative samples of the United States and small island countries, we find that individuals think the general public should have an equal say in climate finance issues compared to government elites and business groups.

more complex, intersectional nature of material and non-material concerns in the climate policy space. Therefore, in the next section (Section 2.3) we discuss three under-investigated features that, we argue, boost public support for climate finance in both donor and recipient countries.

To start, the climate public opinion literature agrees that self-interest is a rational and strategic determinant of individual behavior. Accordingly, pursuing personal economic motivations is a key driver of decisions to fund climate agreements (Bechtel and Scheve, 2013; Bechtel, Genovese and Scheve, 2019). Effectively, various features of climate transfers can embody this type of motivation. We highlight three: **costs**, **conditionalities**, and **durations** of transfers.

Firstly, the price of climate transfers should elicit powerful material concerns. In richer countries, citizens bear financing *costs*, either through increased direct or indirect taxes or by curtailed access to other services at home. The structure of transfers is likely to also matter for public support; for example, citizens should care about whether transfers exclusively benefit recipient country actors or whether they can bring benefits to constituents in donor countries. In the United States, this is precisely the framing of the debate: for example, the Republican Party has articulated a prioritization of domestic energy security over support for the transition to clean energy sources (Barasso, 2022), while Democrats have pinned the shortcomings of the Green Climate Fund on the Republican Party's "refusal to engage on climate change in any meaningful way" (Friedman, 2022). Against this background, we first and foremost expect that transfers that entail a higher domestic burden to taxpayers should be less favored than those that entail lower costs (e.g., Ansolabehere and Konisky, 2014).

Similar considerations motivate public opinion in recipient countries. While these citizens do not incur direct costs when they receive international grants, the burden of these transfers usually takes the form of *conditionalities*. These impose policy costs for recipient governments and publics that impinge on domestic sovereignty. Indian authorities, for example, have emphasized the importance of developed countries fulfilling prior financing commitments

and have opposed conditionalities that they view as creating dependency for developing countries (Arasu, 2022). Consequently, we expect that climate transfer conditionalities to the recipient countries should elicit strong opinions among voters, and more conditions will be less favored than fewer conditions (Steckel and Edenhofer, 2017).[13]

Furthermore, the *durations* of transfer programs also have important implications for voters. While climate change requires immediate action, the products of climate policy will only be realized over extended periods of time. On the one hand, shorter-term transfers might be preferred by citizens in both donor and recipient countries since they involve fewer commitments and shorter bouts of efforts that can effectively decrease costs in the long-run. On the other hand, voters might prefer longer-term transfer programs that promise to spread the costs, in addition to potentially being more durable (Jacobs and Matthews, 2012). While the literature does not provide clear predictions about program duration and public attitudes towards climate agreements, the implications of time (in)consistency in climate policy for public opinion in this area are well scrutinized (Gazmararian and Tingley, 2023).

In addition to material self-interest, the literature soundly affirms that peer-related concerns are central in the public's understanding of climate agreements (Dolsak and Prakash, 2018). The actions of other countries have been known to motivate the public in many international climate policy-making spheres (Bechtel and Scheve, 2013; Tingley and Tomz, 2014). Concepts such as historical culpability and shared destiny underpin the climate crisis and set it apart from many other economic policy domains. Sensitivity to burden-sharing is seen consistently in public opinion scholarship on international cooperation and previous work shows its role in climate institutional design choices (Chilton, Milner and Tingley, 2020; Milner and Tingley, 2013). In the climate finance context, transfers might be expected to elicit more support if they embody similar principles, with other countries also participating in similar transfer schemes (Landis and Bernauer, 2012).

[13]Different kinds of conditionalities might be opposed to varying degrees. For example, voters might welcome conditions as a means of spurring domestic political change. We explore this possibility in our empirical tests.

In the donor country (Global North) literature, this has been nominally called **reciprocity**, referring to the joint conditional behavior across countries that can help sustain collective action around climate change. Donor country citizens might reject 'lone wolf' climate transfer proposals if they consider it unfair to have to shoulder the burden of overseas climate mitigation and adaptation efforts. This is, for example, the case in the United States, which has forcefully signalled that its funding decisions will be contingent on China's participation as a donor.[14] As more countries contribute to climate financing, perceptions of a shared global responsibility to fund transfers should motivate support among donor country citizens.

We argue that a somewhat parallel—though distinct and untested—logic applies to public opinion in recipient countries. Global South countries may be nudged into accepting agreements of climate transfers as a function of the transfers other developing countries have accepted. Given that transfer schemes typically entail conditionalities and real (or perceived) debts and obligations to donors, voters might be skeptical of climate funding that other developing countries have spurned. But as more countries accept transfers, the impression of an emerging global compact surrounding cross-border climate cooperation should galvanize approval. Based on this discussion, we expect that support for transfers in developing countries should increase in the number of other countries accepting similar policies. We call this recipient-side phenomenon **peer acceptance**.

Finally, the literature finds that 'home bias' considerations should undergird perceptions of the benefits and costs of climate transfers. On the donor side, concerns with foreign vis-à-vis home investments (**target**) and, on the recipient side, concerns with foreign vis-à-vis home observation (**monitoring**), should affect perceptions of, and public support for, international climate transfers in both sets of countries.

On the donor side, citizens of richer countries are known to have home-centric preferences (Buntaine and Prather, 2018; Gampfer, Bernauer and Kachi, 2014). This may be due to

[14]See Appendix A for more discussion of how this discussion features in real world climate finance politics.

the incurred material costs that climate action abroad entails as well as concerns related to national status and patriotism.[15] Effectively, for donor countries, climate investments abroad could be substituted with investments *at home*; indeed, while the Paris Agreement encourages international transfer commitments, it also recommends domestic action.

Citizens in recipient countries might also hold home bias driven by material and non-material considerations. Prior climate transfers have largely been structured as loan-based investments requiring repayment, which developing countries have largely resisted (Timperley, 2021). But national pride may also motivate opposition to transfers, for example, due to the *monitoring* that typically accompanies transfers. Monitoring encompasses concerns of surveillance, trust, and sovereignty. Accordingly, the public in poorer countries may evaluate international climate financing as a function of how involved the foreign country is in tracing the money and potentially threatening withdrawal (Sabel and Victor, 2017). A home bias in developing countries would suggest that domestically monitored transfers will be preferred to foreign monitoring.[16]

2.3 Expanding Coalitions of Public Support: Three Focal Factors

In addition to the factors outlined above, certain attributes of international transfer agreements provide a mix of material and non-material benefits, which in turn expand appeal among broader coalitions of voter groups. Designing agreements to incorporate these attributes should thus increase prospects for ratification and approval. Along these lines, we now propose three factors that we argue bolster domestic support for cross-border climate transfers. We analyze the factors separately, elaborating for each our expected effects.

2.3.1 Compensation

Climate transfers have stark welfare implications that, if left unaddressed, may undermine their purpose. For that reason, **compensation**, which has become a cornerstone of 'just

[15] See Diederich and Goeschl (2018).

[16] In contexts where corruption could disrupt the appropriate use of funds, monitoring by external parties might be welcome. We explore this with subgroup analyses in Appendix I.

transition' theories, can soften vigorous political opposition among powerful constituencies that are otherwise negatively impacted by the distributional implications of climate projects. In this spirit, at COP27 in 2022 nearly 200 countries signed on to an agreement that developing nations cannot be held legally liable for payments related to climate action (Bearak and Gross, 2022).

A growing literature explores how various voter groups support national targeted investments in specific domestic communities that will lose from climate change and decarbonization policies (Bergquist, Mildenberger and Stokes, 2020; Blankenship et al., 2022). Nonetheless, it is a priori unclear whether incorporating compensation mechanisms into the design of *international* transfers can increase support for these schemes. Thus, we investigate whether voters favor more transfers that allocate a proportion of funds to compensate groups directly impacted by the effects of climate change and by emissions reduction policies.[17]

We expect the public in donor and recipient countries to be most inclined to compensate domestic vulnerable communities over international communities, precisely for the reasons that home investments are preferred to international ones. However, we also theorize that voters in both donor and recipient nations will evince high levels of absolute support for international compensation, for both material and ideational reasons. On the material side, citizens may be inclined to give resources to communities abroad for the purpose of decreasing the likely externalities of foreign vulnerability, for example migration (Arias and Blair, 2022). Meanwhile, voters in developing countries may consider transfers that include targeted compensation as an effective redistributive policy (Gaikwad, Genovese and Tingley, 2022). On the ideational side, compensation activates other-regarding attitudes. Transfers that redress the harms borne by vulnerable groups may instill in individuals a higher moral purpose, a sense that climate justice is being achieved, and a commitment to global solidarity (Marwege, Gaikwad and Shaefer, 2024). Overall, we predict that targeted compensation embedded in international transfers can unlock support for climate transfers in both donor

[17]We do not elaborate on the exact purpose of compensation here; we engage with purpose when we theorize subsequently about the *Goal* of transfers.

and recipient countries.

2.3.2 Partners

The implementation of climate finance implies resourcing actors that deploy projects for the purpose of decarbonization or, alternatively, climate change adaptation. For donor countries, climate finance programs require deciding whether the financing will involve organizations within the donor country and/or within the recipient country. That is, who will be the **partners** that receive funds to implement projects? We focus here on implementation via donor or recipient country *companies* and *governmental agencies*.[18]

Projects implemented (or handled) by domestic actors might be seen more favorably by domestic publics due to perceived preference alignment and latent home bias. Independent of home bias, with the involvement of domestic agents indirect benefits may flow to stakeholders in the involved countries (Dietrich, 2021; Milner and Tingley, 2015). Consider first donor countries. On the one hand, material benefits to donor constituencies could boost interest in providing climate transfers (Milner and Tingley, 2013). For example, people may think that the domestic employees and owners of firms involved in transfers abroad may circulate their economic returns at home. On the other hand, the involvement of domestic partners is also closely tied to questions of control over climate arrangements and may be politically, rather than economically, beneficial.[19] This is why countries including Canada and members of the European Union have developed public-private partnerships and derisking initiatives aimed at the mobilization of private sector participation.[20]

Citizens in recipient countries might prefer recipient country firms and government agencies to be involved in the management of transfers for similar reasons.[21] The public might believe that organizations in the recipient country are better suited to implement climate

[18]We bracket the implementation by other third parties, e.g. a third country, as this is usually uncommon in bilateral climate transfers.

[19]See, e.g., Hawkins et al. 2006; Milner and Tingley 2013.

[20]See, for example, the scope of the EU's International Platform on Sustainable Finance.

[21]Mildenberger et al. (2023).

projects due to superior local contextual knowledge. They may also have strong preferences against interventions that can be viewed in neo-colonial terms. Conversely, if programs that involve donor agents have greater political support in the donor country, then these projects may be seen as more credible and likely to be continued (Gazmararian and Tingley, 2023). This could lead to a greater openness for the involvement of donor country actors. Along these lines, Indian government officials from the Ministry of Environment, Forest and Climate Change publicly called for "enhanced climate finance that is largely public, grant based and concessional" (PIB, 2023).

To be sure, the choice of partners need not be a binary decision. Precisely because they optimize material and ideational benefits, partnerships between donor and recipient actors could meld a range of expertise, increase accountability, and build domestic political support in both countries.[22] We therefore hypothesize that voters in both donor and recipient countries will view collaboration between donor and recipient country firms positively.

2.3.3 Goal

We finally consider the **goal** of climate transfers as a potential source (or deterrent) of public endorsement. Climate spending can be used for the purposes of *mitigating* emissions or *adaptating* to climate change. Mitigation reduces warming impacts in the future by minimizing global risks and transitioning local areas to a greener economy. Adaptation helps build resilience to climate shocks, and provides relatively more concentrated benefits for particular communities facing climate vulnerability today.[23]

Evidently, these goals are not mutually exclusive and both have positive collective externalities. At the same time, they constitute two separate areas of investments and, importantly for a public perspective, mitigation and adaptation highlight different economic and

[22]Some donors have forged partnerships with private sector actors. Canada's $5.3B climate finance commitment comprises grants (40%), and Unconditionally Repayable Contributions (60%), which mobilizes private-sector investment; the EU's climate investment strategy both provides grant financing directly to developing countries and induces domestic private sector participation.

[23]'Loss and Damages' represents an emerging third goal of climate finance. However, as our survey data in Appendix E shows, the public perceives it to be a relatively minor goal of cross-border transfers.

political tradeoffs. Thus, while voters may care about transfer programs that target both mitigation and adaptation efforts, as most areas are increasingly pressed to transition to decarbonization while maintaining resilience (Dechezlepretre et al., 2022), it is possible that highlighting one of these two goals may mobilize more support.[24]

We theorize that people evaluating climate transfers may assign more value to mitigation, at least in the Global North. Mitigation efforts stand to directly benefit broad sections of society so they are likely to elicit approval in industrialized economies where the material costs of mitigation are higher (Timperley, 2021). Furthermore, the public discourse in the Global North is fixed on mitigation policies as a strategy for re-industrialization and job creation (Bergquist, Mildenberger and Stokes, 2020). Consequently, mitigation activates the appeal of a new growth model and a green future (Green, 2015). Along these lines, it is not surprising that mitigation financing efforts have commanded nearly three times more financing than adaptation efforts (Falduto, Noels and Jachnik, 2024).

As for the mitigation versus adaptation preferences of recipient countries, we have weaker priors. While acknowledging that prominent policy proposals discussing climate transfers at COP meetings have increasingly focused on adaptation efforts, voters in developing countries face competing pressures regarding the goal of transfers. They may recognize that international transfers allow their countries to meet long-term mitigation goals that benefit their economic welfare. But the domestic costs of mitigation projects, e.g. internal fossil fuel job displacements, may dampen support. Vice versa, facing the reality of climate change and its effects on vulnerable populations, voters in receiving countries might prefer to focus efforts on adaptation (Dolsak and Prakash, 2022)—although this would imply losing the opportunity for new technology acquisition and economic decoupling.[25] While we expect mitigation to be the preferred goal of climate transfers for donor constituencies, we remain agnostic with respect to the preferences of voters in recipient countries.

[24]This is also what happens consistently in news coverage of climate policy debates, where mitigation and adaptation are often juxtapposed.

[25]Mitigation in its current forms can be more commercial than adaptation investments, which are harder to fund commercially and may look more like 'traditional' aid projects.

3 Experimental Designs and Findings

To test our pre-registered predictions, we conducted a series of original survey experiments in the United States and India—the world's largest democracies, second and third largest emitters, and key climate finance donor and recipient nations, respectively. The paired design of the experiments allow us to compare how the results vary across developed and developing countries, with implications for the odds of North-South climate finance agreements. We employ conjoint experiments to investigate the relative importance of the factors theorized above.[26]

We report the United States and India design and results in turn. We offer a discussion of the scope conditions of these findings by summarizing additional conjoint data based on the profile of donors and recipient countries, as well as additional analyses, in Appendix J.

3.1 United States Experimental Design

We fielded a conjoint survey experiment in August 2022 on a general population sample of 2,006 American respondents.[27] The design introduces respondents to pairs of policies that vary on our theoretical dimensions. After viewing a pair of policy profiles, respondents chose their preferred profile and then ranked each profile on 10-point scales. The first outcome, which is a forced choice, lets us assess the effect of each attribute value in the evaluation of one profile relative to another. The second outcome lets us evaluate each profile independently (Hainmueller, Hopkins and Yamamoto, 2014). The experiment began with a preamble;[28] it then described each dimension to ensure that respondents understood the underlying

[26] In vignette experiments on nationally representative samples in the United States and India, we confirm that home bias systematically trumps efficiency considerations (Appendix F).

[27] The respondent pool is the United States general population based on gender, race, education and age quotas.

[28] "The US government has made an *international commitment to combat climate change*. It has pledged to take action *domestically*. It has also pledged to take action abroad by *helping developing countries* meet their commitments in combating climate change. These policies can take many different forms and target different goals. We would like to get your opinions on different types of policies."

concepts.[29]

Table 1: Donor Policy Conjoint: Attributes and Their Levels

Attribute	**Conjoint Values**
Background Considerations	
Cost*	\$16
	\$64
	\$256
Duration	2 years
	6 years
	10 years
Target*	United States
	Developing country
Reciprocity	10% of rich countries are pursuing similar policies
	50% of rich countries are pursuing similar policies
	90% of rich countries are pursuing similar policies
Focal Attributes Of This Study	
Compensation	0% of funds for those harmed by climate change/climate policies
	15% of funds for those harmed by climate change/climate policies
	30% of funds for those harmed by climate change/climate policies
Partners	Grants to US companies
	Grants to foreign companies
	Grants split between US and foreign companies
	Grants to governmental agencies
Goal	Reducing emissions
	Adapting to effects of climate change

Note: *: Donor-specific features.

The policy options in the experiment comprise the attributes delineated in the previous section (Section 2); they include the factors already established in the literature, as well as the the three under-investigated features that we theorized would meaningfully affect support for international transfers. Table 1 reports their values, which we fully randomized.[30]

[29]We administered two comprehension checks, which the vast majority of respondents passed. Subsetting the analysis to those that passed both does not alter results.

[30]Appendix A synthesizes contemporary policy discussions focusing on these attributes.

For the levels of the donor-specific attributes of *Cost* and *Target* as well as the more general *Duration* and *Reciprocity*, we use the values employed in other published work (Bechtel, Genovese and Scheve, 2019; Tingley and Tomz, 2014). For example, we present the equivalent amounts of monthly abatement costs to the average household for three different scenarios ranging from 0.5% to 2.5% of the US GDP (Bechtel and Scheve, 2013). *Target* can either entail domestic spending or, importantly for this paper, spending in a developing country. We include the possibility of domestic targets (i.e., US investments) to keep with the logic of the Paris Agreement.

Turning to our key attributes, the *Compensation* dimension focuses on the amount of funding in the transfer agreement allocated to compensate individuals and communities harmed by climate change and decarbonization policy, respectively. We varied the earmarked amounts for compensation along three percentage levels of the full funds (0%, 15% and 30%), to capture different ranges of money potentially reaching the most vulnerable communities within the targeted countries in line with real world figures.[31] We expect more support for higher percentages of compensation.

The *Partners* dimension explores whether climate finance support differs depending on the organizations funded. Following our discussion in Section 2.3, we focused on the most likely options of transfer partners per the Paris Agreement (Timperley, 2021). These are: government agencies, domestic firms, foreign firms, and a combination of foreign and domestic firms. We expect domestic involvement to matter, and domestic private actors to capture a mix of efficiency and reputation benefits.

Finally, we vary the agreement's *Goal* by distinguishing between mitigation and adaptation, which we explained to respondents in detail.

Each respondent reviewed 4 pairs of climate transfer policy profiles, hence selecting 4 preferred choices and providing 8 ratings. The results pool the data from all selection rounds with standard errors clustered at the individual level.

[31] In 2022, only 8 percent of all of the total climate finance provided went to low-income communities. However, the ambition is to triple that level of financing (Doshi and Garschagen, 2020).

3.2 United States Results

Figure 1 presents the estimated average component marginal effects based on a linear probability model with the outcome focusing on respondents' preferred policy.[32] Recall that in this exercise American respondents confront proposals of climate transfers that can either be targeted domestically or at a developing country. We refer to the complete set of results here, but note that the findings remain consistent if we condition the variation of the other attributes to developing country programs only.[33]

Our estimates corroborate the findings of previous research with respect to material self-interest, on the one hand, and normative thinking, on the other.

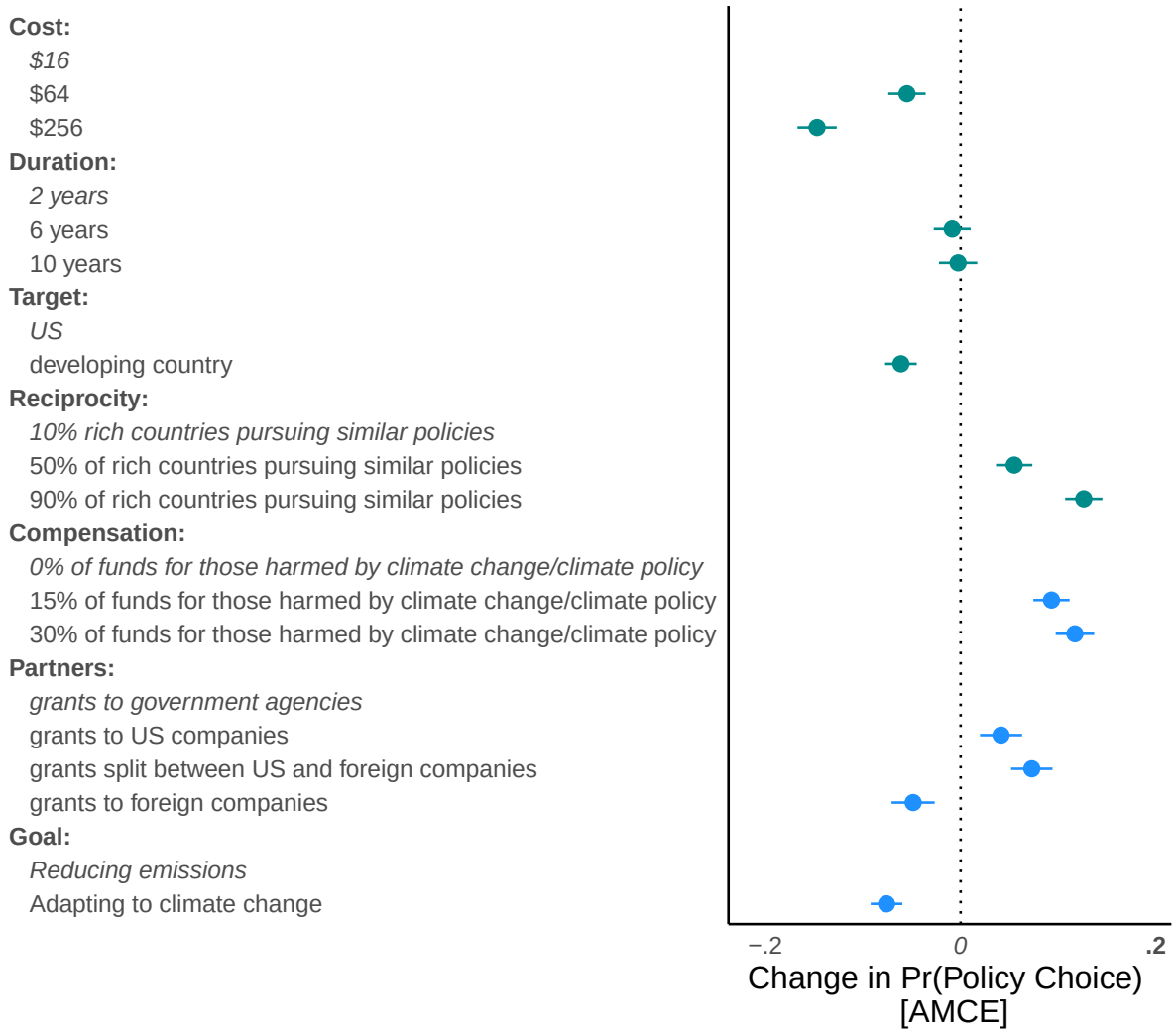
On the more material dimension, Americans are sensitive to the *Costs* of climate transfers. As the payment for transfers increases by 1 percent of the monthly American taxpayer's budget, public support for a climate program decreases by about 8 percentage points. Also in line with previous work, Americans on average prefer that the policy's *Target* is domestic action instead of action aimed at a developing country.[34] Notably, the *Duration* of the program does not appear to influence support.

We also confirm strong effects on the more normative dimension, i.e., *Reciprocity*. We observe that 50 and 90 percent of rich countries pursuing similar transfer policies increases support for the policy proposal by 5 and 11 percentage points, respectively. These quantities are on par with other public opinion scholarship on climate cooperation (Bechtel and Scheve, 2013).

Turning to our focal variables, our results illustrate the importance of domestic control and welfare concessions in driving public support for climate programs. As expected, earmarking a fraction of the financial allocations for purposes of *Compensation* catalyzes policy support. Allocating 15 percent of funds to people harmed by climate change or decarbonization policy increases support by about 10 percentage points compared to the baseline case

[32]The results are qualitatively identical when we run models using ratings (Appendix G.1).
[33]Appendix H presents selected interaction models.
[34]This result mirrors findings from our vignette experiment (see Appendix F).

Figure 1: US Policy Conjoint Results



Average Marginal Component Effects with 95% confidence intervals (respondent-level clustered standard errors). Individual choice of a policy proposal is the dependent variable.

of no compensation.

With respect to *Partners*, compared to the option of giving grants to US government agencies, we confirm the hypothesis that most Americans prefer grants to be given to US companies. But importantly for international cooperation and concessions: similar levels of support are detected for policies that involve grants split equally between US and foreign companies. By contrast, Americans seem less enthusiastic of climate transfers that give

full responsibility to foreign companies: the coefficient of the 'grants to foreign companies' attribute is negative and statistically significant. Finally, US respondents show less support for commitment *Goals* that focus on adaptation vis-à-vis mitigation. This preference for mitigation plausibly corresponds with both the notion that mitigation produces globally diffuse benefits as well as the logic that mitigation technology and strategies have a powerful business case. By contrast, adaptation has more locally concentrated benefits and must be tailored to geographically-specific impacts, making it plausibly less appealing.

Overall, the results indicate that donor publics have clear preferences over climate finance, and that different features of climate-oriented transfers can mobilize but also deter public support. American citizens' home bias, sensitivity to costs, and preferences for international reciprocal behavior align with findings of studies in other domains of climate policymaking. Importantly, however, the results indicate that the under-investigated factors identified in our theoretical discussion can sway the public in favor of supporting climate transfers; these factors do not simply involve material considerations, but also include issues of domestic agency and compensation embodying principles of climate justice.[35]

3.3 India Experimental Design

We now move to opinions about climate transfers in a recipient country. We use survey data collected in November 2022–April 2023 with 1,459 online Indian respondents.[36] Online samples are more educated and wealthier than the average Indian citizen; these sample characteristics could bear on some of our findings.[37] That said, such voters are likely more in tune with climate politics and influential in foreign policymaking deliberations, therefore making them an interesting and intrinsically important group on which to focus. Respondents chose

[35]In Appendix H, we interact several attributes. When focusing on developing countries as the target, grants to US companies are strongly supported. Analyses subsetting the data document similar results. Appendix I explores heterogeneous effects by pre-treatment covariates; partisan ideology drives large part of the heterogeneity.

[36]The respondent pool is an internet-based population sample based on gender, education, age and household income quotas provided through Qualtrics.

[37]For example, preferences for mitigation versus adaptation goals may reflect the composition of our sample, as we discuss in the findings.

policy profiles based on randomized policy pairs and also rated each policy independently. Similar to our US design, respondents read a short preamble,[38] and then received detailed explanations of each of the conjoint's attributes. The experiment included seven attributes, and each respondent reviewed 4 pairs of climate transfer profiles and returned 4 choices (and 8 ratings).[39]

Table 2 reports the values of the randomized attributes. For the levels of the focal variables (*Compensation*, *Partners*, and *Goal*), we use identical values to the US-based conjoint, adjusted to India. For the material self-interest variables, we rely on categories that are politically meaningful to Indian voters. Because the India-based experiment focuses on the scenario in which transfers are only coming from abroad, instead of household costs (not directly incurred by Indian taxpayers), we study *Conditionalities*, which reflect the notion that in order to receive international transfers, recipient governments are required to change domestic policies to meet certain donor conditions (Winters, 2010). We specifically focus on gender equality, religious integration and preferential trade, following real-world debates (see Appendix A). Furthermore, international transfers in this context may have different principals, so we use different providers of *Monitoring* to capture the idea that the use of funds can be monitored by various domestic or international governmental organizations or NGOs (Bechtel and Scheve, 2013). We use the three levels of the US conjoint for *Duration*. As for *Reciprocity*, we use the values of 10%, 50%, or 90% of other developing countries accepting such transfers, mirroring the level values for donor reciprocity in the US conjoint.

[38] "The Indian government has made an international commitment to combat climate change. As part of this international commitment, developed countries have agreed to transfer funds to developing countries like India to help them reduce emissions and adapt to climate change. But in order to receive these funds, developing countries must pursue costly policies that will reduce fossil fuel emissions and invest in adapting to climate change. These transfer policies can take many different forms and target different goals. We would like to get your opinions on *different types of policies*."

[39] Respondents went through an attention check and two comprehension checks.

Table 2: Recipient Policy Conjoint: Attributes and Their Levels

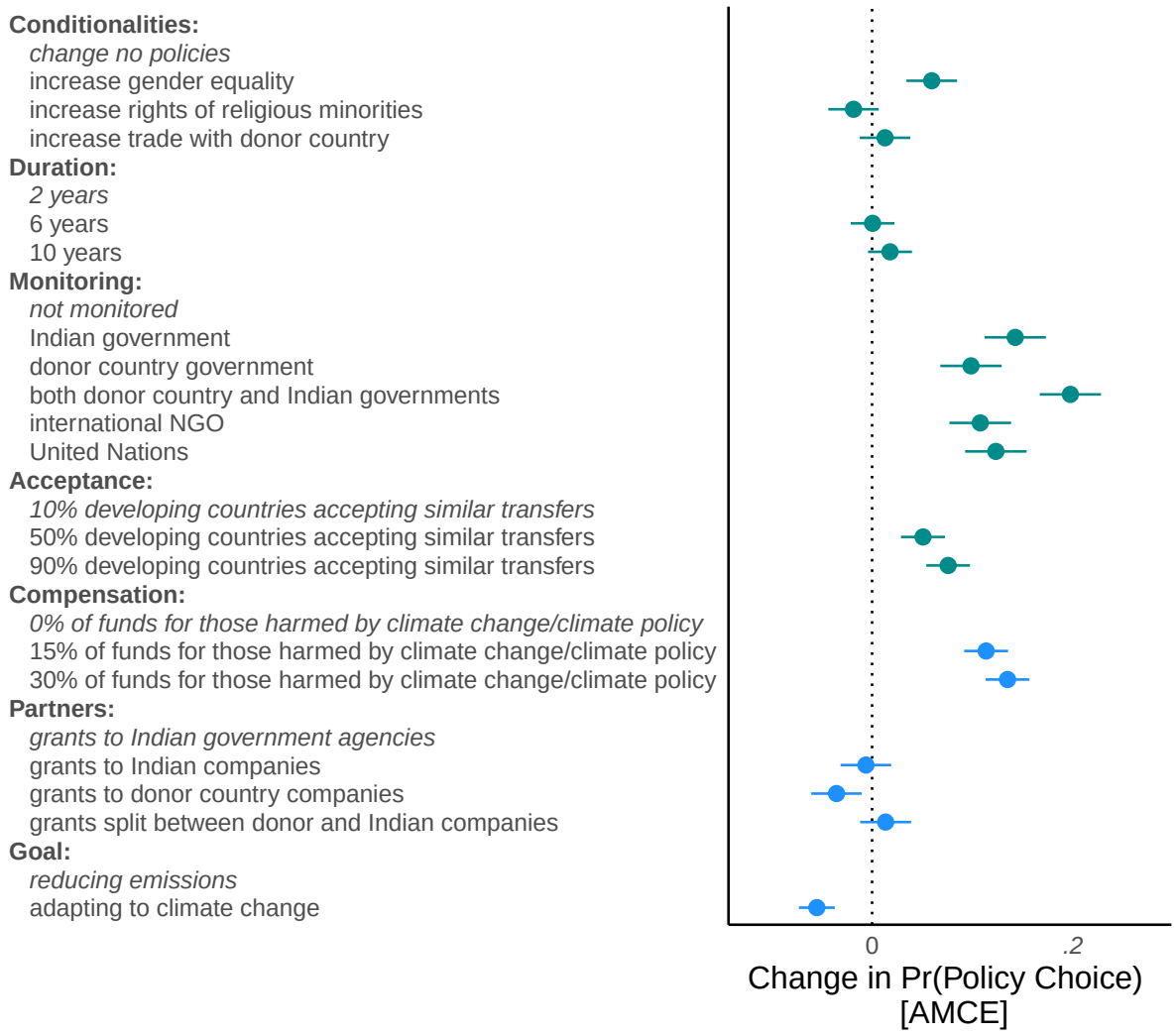
Attribute	**Conjoint Values**
Background Considerations	
Conditionalities*	Increase gender equality
	Increase religious minority rights
	Increase trade with donor country
	No policy change
Duration	2 years
	6 years
	10 years
Monitoring*	Donor country government
	Indian government
	Both donor and Indian governments
	United Nations
	An international NGO
	No monitoring
Peer Acceptance	10% of developing countries accepting similar transfers
	50% of developing countries accepting similar transfers
	90% of developing countries accepting similar transfers
Focal Attributes Of This Study	
Compensation	0% of funds for those harmed by climate change/climate policies
	15% of funds for those harmed by climate change/climate policies
	30% of funds for those harmed by climate change/climate policies
Partners	Grants to donor country companies
	Grants to Indian companies
	Grants split between donor and Indian companies
	Grants to Indian governmental agencies
Goal	Reducing emissions
	Adapting to effects of climate change

Note: *: Recipient-specific features.

3.4 India Results

Figure 2 presents the estimated average component marginal effects and 95% confidence intervals based on the Indian data. The headline finding is that we observe a remarkable congruence in the preferences of India and US voters on various dimensions, which indicates that climate transfer agreements can be designed in ways that satisfy coalitions in both recipient and donor countries.

Figure 2: India Policy Conjoint Results



Average Marginal Component Effects with 95% confidence intervals (respondent-level clustered standard errors). Individual choice of a policy proposal is the dependent variable.

Like in the US experiment, we find weak evidence for an effect of *Duration* and strong evidence of the meaningfulness of social norms. *Peer Acceptance* has a positive and statistically significant effect: more developing countries accepting similar transfers leads to greater support for the transfers. Presumably, observing other countries accepting similar programs creates the impression of a shared sense of responsibility and an emerging global compact on cross-border climate cooperation, which voters seem to value strongly.

In terms of *Conditionalities*, the only policy adjustment that increases support for international transfers is mandated increases in gender equality—a salient policy issue in India's highly patriarchal society (Brulé and Gaikwad, 2021). Mandated increases in the rights of religious minorities decreases support for the plan, although this effect is statistically indistinguishable from the baseline case scenario of no conditionalities. Conditionalities to increase trade also have no effect. Together, the evidence suggests that citizens in general prefer fewer to more conditionalities, although their preference for gender equality is notable. Additionally, we observe greater support for transfers with any kind of *Monitoring*. The most preferred scenario implies monitoring by both the Indian and donor governments, although we also find high support for monitoring by Indian government's agencies.[40] Given that donor countries often prefer to be involved in monitoring, this highlights an area of shared interest between donor and recipient countries.[41]

Scrutinizing our focal attributes, we find that the results mirror the US conjoint results in magnitude and qualitative significance. We uncover tremendous support for *Compensation* policies that redress communities harmed by climate change and decarbonization policy. This finding points to the popularity of just transition policies that protect the vulnerable through compensatory mechanisms (Gaikwad, Genovese and Tingley, 2022) and that find voice in climate advocacy efforts in the Global South (Mattoo and Subramanian, 2012). It

[40]This result diverges from research in rich countries finding greatest support for monitoring by independent commissions (Bechtel and Scheve, 2013).

[41]Interaction models show that donor-Indian government monitoring increases support for compensation but lowers support for grants split between donor and India companies (Appendix H). This suggests that particular *Monitoring* arrangements may diminish support associated with including foreign *Partners*.

also shows that incorporating compensation into the design of transfer agreements is one of the most effective ways by which policymakers can drum up public support for cross-border finance.

Regarding the *Partners* attribute, unsurprisingly, climate funding channeled only to donor country companies is the least preferred outcome—significantly lower than the baseline of grants to national government agencies. However, splitting grants between donor and Indian firms reverses this negative effect. Even more notably, partnering between donor and recipient firms is not statistically different from providing grants to the Indian government or solely to Indian firms. This suggests that there is room for citizen-backed compromise between recipient and donor governments. We previously showed that American respondents prefer involving US firms in international climate transfers; here we demonstrate that such corporate involvement does not decrease support among Indian respondents compared to other options.

Remarkably, and similar to the US results on *Goals*, our sample of Indian respondents strongly favors mitigation over adaptation. Developing countries receiving transfers may be expected to prefer to spend those funds on adaptation projects narrowly targeting their own protection. Consistent with this logic, Indian government officials have recently advocated for increased prioritization of adaptation efforts; additionally, India was a major proponent of the Loss and Damages Fund. However, our respondents on average favor mitigation, which has globally dispersed effects. Speculatively, this may be because this relatively wealthier and more educated set of Indians view mitigation transfers as a vehicle to allow their country to meet longer-term goals, especially in light of the global race for green growth. A reasonable interpretation is that citizens view adaptation efforts as limited in scope and temporary, and mitigation by contrast as a broader and more permanent response to the climate crisis, obviating the need for future adaptation investments.

In sum, the India experiment shows several features of policy design that can engender popular support, including some that are consistent with traditional pocketbook versus nor-

mative motivations of public opinion, but also others that, as we argued, have both material and ideational underpinnings and appeal to different sections of society. Importantly, the effects of these underinvestigated factors are congruent with those in the US conjoint, and thus point to the compatibility of their appeals across Global North and South audiences.

3.5 Additional Evidence

Subgroup analyses and interaction models strengthen the interpretation of our main results.[42] But notably, the preferences uncovered in our data may be latently driven by the type of donors/recipients the subjects had in mind. Therefore, in additional experimental conjoints described below, we explored the preferred type of climate transfer recipient (for the US sample) and donor (for the India sample).

3.5.1 Donor and Recipient Country's Profiles Conjoint

We study if there is variation in support for climate transfers based on the economic, political, and geopolitical features of the foreign countries potentially involved in transfer agreements. On the economic side, we focus on the foreign country's economic attributes either directly or indirectly related to emissions. We concentrate on GDP performance and (in the US) efficiency in abating greenhouse gases in absolute terms or (in India) efficiency compared to the donor country. We also include the cost of emissions abatement (in the US) and cost of emissions reporting (in India), as well as climate change preparation (i.e., vulnerability to climate-induced disasters). Additionally, we estimate the effect of regime characteristics of the partner country. These include whether the partner is a democracy or autocracy and whether the partner is an ally or adversary. For the US, we also study the racial make-up of the recipient country to study whether shared identity augments support or whether, conversely, voters support transfers to countries with colonial histories. Meanwhile, in India we also included the level of resource matching compared to the donor.

[42]See Appendix H and Appendix I.

Appendix J reports these results. Geopolitical factors are the strongest drivers of support for climate transfers to particular partners, corroborating findings in the public opinion literature on trade (Carnegie and Gaikwad, 2022). The average American and Indian voter prefers to engage more with countries with strong economic fundamentals and mitigation potential. However, these effects are dwarfed by preferences for partnering with geopolitical allies and democracies. These results speak to the scope conditions of our main findings. They also further underscore how geopolitical determinants highlighted in the international relations scholarship are key predictors of public support for cross-border climate financing.

4 Conclusion

Transfers from developed countries to developing countries are heralded to play a major role in global efforts to combat climate change. Yet past work points to reluctance in developed countries to send money overseas and increasing resistance to foreign transfers in developing countries. Overcoming these challenges requires proposing features of climate transfers that appeal to broad sections of societies in both donor and recipient countries. We argue that the most successful features will evoke wide-ranging material and normative motivations for support.

We investigate various distributional considerations that may increase public acceptance of climate transfers. In addition to studying factors such as costs and reciprocity that have appeared in prior work, we establish the scope of three specific design factors that blend self-interest and normative motivations: the role of targeted compensation, the involvement of domestic and foreign partners, and the goal of mitigation over adaptation. We argue that these three factors capture multifarious aspects of climate transfers that can be favored by domestic audiences on various grounds and, in turn, appeal to different political coalitions.

Using multiple original, paired surveys in the US and India, we find that, in addition to other established predictors of public support for climate transfers, compensation, partners and goals meaningfully increase levels of support among American and Indian citizens.

First, we reveal a democratic basis for policy discourse that emphasizes climate justice considerations and embraces compensation for climate change-vulnerable and decarbonization-vulnerable communities abroad. Second, we show that citizens favor transfers structured as grants split between donor and recipient country firms, consistent with real-world policies of donors such as Canada and the EU, as well as recipient countries such as Indonesia, which has promoted the Just Energy Transition Partnership. Finally, both donor and recipient publics support pursuing mitigation, in line with international deals that allocate around three times as much funding to mitigation as adaptation (OECD, 2022).

Overall, a key contribution of our findings is to highlight the politically inclusive dimensions of support for climate transfers, pointing a pathway forward for policymakers seeking the public's buy-in for such cross-border arrangements (Mohlakoana et al., 2023). For example, mitigation-oriented transfers that incorporate compensatory arrangements for communities at risk from decarbonization may be more likely to muster support from mass publics than generic adaptation transfers. At the same time, policymakers seeking to drum up support for transfers may wish to portray mitigation and adaptation efforts not as mutually exclusive but as complementary, since evidently mitigation reduces the need for longer-term adaptation.

A range of opportunities exist for additional work. Long-term support of transfers may be contingent on additional theoretical considerations, such as voters' responses to the size of prior transfers and perceptions that earlier funds have been effectively spent. As we have shown, voters are sensitive to country-specific factors in the allocation of climate financing, including regime type and alliance status; additional factors such as perceptions of recipients' institutions and state capacity might also influence support. Additionally, future studies may further unpack the motivations behind the popularity of partnerships, e.g., whether private agents are perceived to be less corrupt than public agents, and the mix of ideational and material motivations behind compensation support.

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Climate Action from Abroad: Assessing Mass Support for Cross-Border Climate Transfers

Appendices

A Scholarly and Policy Discussion on Climate Transfer Design Features

The discussion around the design features of international climate transfers is present in academic discourse and public policy debates. Here we report the main elements of this discussion and their more relevant references, which justify the selection of the factors presented in our paper.

Costs, Duration and Targets Governments in the Global North are limited in their capacity to disburse climate-related funding. This matters because the degree of financing allocated towards the green transition may be a concern that overlays with the question of whether or not climate policy should be prioritized at all. Notably, in the US, the Republican Party has articulated a prioritization of domestic energy security over support for the transition to clean energy sources domestically or, in fact, anywhere (Barasso, 2022). Democrats have pinned the shortcomings of the Green Climate Fund on the Republican Party's "refusal to engage on climate change in any meaningful way"(Friedman, 2022). Additionally, Democrats have highlighted the lack of ambition also in terms of durable commitments. The backdrop of very high inflation rates globally has only served to further politicize the issue, as has the energy crisis brought on by the Russia-Ukraine conflict. Recent scholarship suggests that within donor countries, the current share of emissions (e.g., the polluter pays principle) ought not to be the predominant determinant of the distribution of costs associated with adaptation finance, with a dimension rooted in the donor's 'ability to pay,' (Kruse and Atkinson, 2022).

From the perspective of developing countries including India, cost is a major factor in policy discussions. With significant inflation and rising interest rates, there are concerns that higher cost of capital may have adverse effects on capital-intensive decarbonization investments, particularly in the context of emerging markets where investments are typically associated with a higher risk profile. However, climate economists suggest that this concern is mostly unfounded, with little to no impacts predicted (Bhat and Purohit, 2022). Given growing energy demand and the development of India's economy, Indian government officials and policymakers have emphasized the need for international cooperation and financing to take advantage of the low-carbon opportunities required to transition. While social and transaction costs are significant, the largest challenge is associated with capital costs. Indian government officials have emphasized the importance of developed countries fulfilling their prior financing commitments as these pose a dependency for developing countries; a government official from the Ministry of Environment, Forests and Climate Change, said in the lead up to COP27 that "[the funding gap] needs to be met by international climate public financing to attract investors in the renewable energy domain," (Arasu, 2022). Importantly, Indian government officials have positioned the decision to facilitate the transition as binary (i.e., to transition or not to transition) based upon reaching a critical threshold of international financing, using this as a critical condition which, if not met, will preclude the nation from setting adaptation and mitigation targets (Koshy, 2021*a*).

Conditionalities and Monitoring A recent debate suggests that important differences between climate finance and traditional development finance may render typical "institutionalist turn" frameworks less applicable, which could offer a potential explanation for why

conditionalities around institutional development may be less pervasive in climate-related lending (Browne, 2022). However, some literature suggests that developed countries make financing decisions not only on the basis of climate change vulnerability, but also with consideration of the institutions present in the recipient country as a proxy for how 'well-governed' these states are (Weiler, Klöck and Dornan, 2018), the extent to which corruption and waste are associated with existing regimes (Gampfer, Bernauer and Kachi, 2014), institutional capacity (Doshi and Garschagen, 2020), as well as the potential economic and political benefits for the home country. These factors are taken into consideration when states make funding decisions, but also impact public opinion for or against funding, suggesting that selection could be occurring in an earlier stage of the financing decision making process without the use of explicit conditionalities.

Reciprocity Developed countries have publicly advocated for reciprocity on the basis of current emissions as opposed to national wealth or GDP or level of development, with the US in particular signalling that its funding would be contingent on China's participation as well (see SIPRI's November 2023 commentary on 'climate finance and geopolitics: The China-US factor'). Research suggests that public opinion towards the disbursement of climate finance is positively impacted by the involvement of other countries; specifically, if the share of total financing taken on by other countries is greater than the share of financing deployed by the country from which the respondent is from (Gampfer, Bernauer and Kachi, 2014).

Partners The *who* to do climate transfers with is increasingly an important matter of practical, policy discussion. Developed countries including Canada and the US have predominantly partnered with non-private bilateral and multilateral partners (i.e., developing country governments, non-governmental organizations, multilateral organizations, and dedicated climate funds and financial mechanisms, such as GCF and GEF). However, countries including Canada and members of the European Union have also developed initiatives aimed at the mobilization of private sector participation. This discussion has trickled down to developing countries, where governments involved in climate transfers negotiations (e.g. in the JTEPs in South Africa and Indonesia) are scoping the role of domestic versus businesses in leading local energy transitions. At the same time, developing countries mantain a concern for private enterprises engagement. For example, Indian government officials from the Ministry of Environment, Forest and Climate Change have also publicly called for "enhanced climate finance that is largely public, grant based and concessional" (PIB, 2023).

Compensation At COP27 in November 2022, nearly 200 countries signed on to a United Nations agreement to compensate developing countries for loss and damage resulting from climate change. In response to prior concerns expressed on behalf of developed countries (Harvey, Lakhani and Gayle, 2022), the agreement states that nations cannot be held legally liable for payments (Bearak and Gross, 2022). Many of the details around the implementation of this agreement are yet to be determined; over the course of 2023, representatives of 24 countries aimed to align on the structure of the fund, contributors, and recipients. Recent scholarship has found that voters in developed countries have preferences towards funding on the basis of need (Kruse and Atkinson, 2022). However, existing evidence does not seem to suggest that developed countries are making financing decisions primarily on the basis of vulnerability to climate-change related hazards (Doshi and Garschagen, 2020). There is mixed evidence on the relationship between perceived vulnerability and public opinion.

Large developing nations like India and China have played an important role in international negotiations around climate compensation. For example, India was a major proponent of the Loss and Damage Fund at COP27. On one hand, the political stances of large developing countries on loss and damage are an important signal of solidarity with other countries that are similarly at risk due to climate disasters, in particular smaller states that may have less of an international platform from which to demand support from developed states. On the other hand, some developing countries including small island developing states (SIDS) have called for countries such as India and China to bear some responsibility, given the large share of global emissions for which they account, in financing the Loss and Damage fund and supporting adaptation and mitigation efforts in smaller countries (Goswami, 2022). Their refusal will likely have significant implications for the buy-in of other countries such as the US. The link drawn between climate-related reparations as a form of compensation aimed at benefiting those who are adversely impacted by historical systems like colonialism, and mitigating the influence of 'neocolonial' institutions (e.g., IMF, World Bank) is also becoming increasingly prevalent (Harvey, Lakhani and Gayle, 2022).

Goals Policy discussions and government statements surrounding transfers have touched upon both adaptation and mitigation efforts. While mitigation financing efforts have commanded nearly three times more financing than adaptation efforts per OECD estimates, the goal to raise $100 billion per year by 2020 specifically for mitigation purposes, which was initially set in 2009, has only been met in 2023 (Falduto, Noels and Jachnik, 2024). Mitigation financing may be preferred by developed states as there is a greater ability to measure success through the quantification of avoided or captured emissions compared to assessing the effectiveness of adaptation efforts (Green, 2015). Further, adaptation efforts require a deeper understanding of geographically-specific consequences of climate change. Given that adaptation efforts are more likely to be required in countries characterized by developing markets, there is a higher risk-profile associated with these investments. The literature suggests that public opinion in developed countries towards climate finance is impacted by the explicit objective of the financing, with funding targeted at both mitigation and adaptation more acceptable than funding for adaptation alone (Gampfer, Bernauer and Kachi, 2014).

As for developing countries, recently policymakers have been encouraging a prioritization of adaptation efforts over mitigation, although not in consistent ways. At COP27, India and other developing countries successfully pushed for the agreement to establish a Loss and Damage Fund for countries that are particularly vulnerable to climate-related disasters. Given vastly different micro-climates across the Indian subcontinent, researchers and activists have highlighted the importance of local, region-specific adaptation efforts that also take into account variances in the socioeconomic and cultural realities faced by Indians. Indian government officials have also recently advocated for increased prioritization of adaptation efforts. For example, Indian government officials have stated that achieving the objectives of their Nationally Determined Contributions would be conditional upon their receipt of a trillion dollars in climate finance and that funding for adaptation purposes specifically must be increased (Koshy, 2021*a*). At the same time, the increasing relevance of the energy transition frame suggests that the nation and government officials are also active in discussing mitigation targets, in particular the adoption of technology to start decoupling the economy from greenhouse gas emissions (Arasu, 2022).

B International Climate Finance: Overview of Practices

The need for international climate finance first developed out of the United Nations Framework Convention on Climate Change (UNFCCC) (United Nations, 2024). Today, there are many more funds for multilateral finance, bilateral finance, climate related export credits and private finance (which is mobilized in partnership with bilateral and multilateral finance initiatives coming from developed countries). The bulk of international climate finance today is made up of bilateral and multilateral finance (over 80%). These can however have many types of donors/recipients and be designed around specific rationales. Below is a brief overview of the core components of climate transfers that exist as of 2023.

B.1 Multilateral vs. Bilateral Finance

UNFCCC Multilateral finance passes through either systems set up by the UNFCCC or through non-UFCCC funds. Non-UNFCCC funds are largely made up of funds transferred through other UN agencies including the UNDP or a host of multilateral development banks, e.g. the World Bank Group. In 2023 developed countries are estimated to have contributed about US$38 billion in multilateral financing and about US$34.5 billion in bilateral financing (OECD, 2023). But estimates are debated and bilateral financing, which is largely underreported, may in fact be larger than multilateral finance (Oxfam, 2023).

The first multilateral fund formally launched through the UNFCCC in 1994 is the Global Environmental Facility (GEF). For the 2022-2026 year, the GEF budgeted $5.33 billion, up from $4.1 billion for the prior four years (gef, 2024). In 2011, a second mechanism was set up, the Green Climate Fund (GCF). The GCF describes itself as having "a country-driven approach, which means that developing countries lead GCF programming and implementation" (2024). GCF partners include banks, institutions, UN agencies and others that work in partnership with states to design and implement projects. According to the U.S. Department of Treasury, The US provided $2 billion at the start and is again doing so as of 2023 along with 25 countries (U.S. Department of the Treasury, 2023). In turn, the GCF's portfolio is documented as $13.5 billion in financing and $51 billion in co-financing of 243 projects (Green Climate Fund, 2024). This includes investment from US businesses. Aside from these two larger funds are several other UNFCCC funds including the Special Climate Change Fund established in 2001 to fund "projects relating to: adaptation; technology transfer and capacity building; energy, transport, industry, agriculture, forestry and waste management; and economic diversification;" the Least Developed Countries Fund to assist Least Developed Countries plans to adapt; and the Adaptation Fund as part of the Kyoto Protocol for adaptation related programs (UNFCCC Standing Committee on Finance, 2022).

Non-UNFCCC Outside of the UNFCCC, other UN agencies manage multilateral funds for climate change. The vast majority of this is through the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD) which was launched in 2008. UN-REDD claims to have contributed over $1 billion since its creation (UN-REDD Programme, 2024). Besides UN agencies, key contributors of multilateral finance are multilateral development banks who give assistance typically in the form of loans. The total funding by multilateral development banks for 2021 is documented at

$41.12 billion (Watson, Schalatek and Evequoz, 2023). The World Bank Group claims to have delivered $38.6 billion in fiscal year 2023, about 41% of its total financing for climate financing (The World Bank, 2023). The vast majority of this comes from the International Bank for Reconstruction and Development (offering loans to middle-income countries) and the International Development Association (offering loans and grants to the poorest nations). The World Bank Group's private sector branch, the International Finance Corporation also makes about 46% of its investments in climate finance (The World Bank, 2023). There are also a number of smaller country and region-specific collaborative funds. The largest of this is Brazil's Amazon funds including a commitment of $1.28 billion by Norway and Germany (Watson, Schalatek and Evequoz, 2023).

Trade-offs Despite the major historical role of UNFCCC-based multilateral financing, bilateral funds make up a significant share of climate financing. The largest donors in this respect are Japan, Germany and France, who reportedly account for 71% of all climate finance funds given by developed countries (Donor Tracker (SEEK Development), 2023). As noted above, with the fractionalization of international climate politics bilateral finance has increased substantially in the past decade. This has generated different views of the value of either type of financing.

Generally, multilateral finance is considered to be more friendly to the recipient country and allows more room for ownership and agency by the recipient (see for example the recipient country centered approach of the GCF) (Green Climate Fund, 2024). Aid sent through multilateral channels is also considered less politicized and less fragmented (Biscaye, 2024). Multilateral aid helps states reach non-allied countries whereas bilateral aid is largely limited to allies and considered more strategic (Biscaye, 2024). When it comes to financial flows more generally, this has largely found support in the scholarship (Dreher et al., 2022). Publicly, countries largely attest to the importance of both initiatives (see for example the joint statement by India and US) (The White House, 2023).

B.2 Donors

Although donations have been steadily increasing over the past decade, transfers from developed countries still remain below targets and need. A 2023 OECD report documents that in 2021, developed countries donated US$89.6 billion, short of the goal of $100 billion from the Paris Agreement. This OECD number has been criticized by many as an overestimate. Notably, Oxfam's Climate Finance Shadow Report 2023 posits that real contributions are a small fraction of the amount specifically $\$21 - 24.5$ billion, by highlighting the difference between committed and actually reported and disbursed funds. According to CARE International (2023), most of this money is not "new and additional" but rather anywhere from $52\% - 93\%$ is diverted from development assistance. It is also largely insufficient. Estimated total climate finance needs are repeatedly quoted as $1 trillion+ (Macquarie et al., 2020).

Not all developed countries contribute the same. According to a 2022 working paper using methodology agreed to in COP26, Colenbrander and Cao determine that "only seven countries provided and mobilised their fair share of climate finance in 2020 ... [specifically] Sweden, France, Norway, Japan, the Netherlands, Germany and Denmark. Meanwhile, looking forward to 2025, only four countries have made climate finance commitments com-

mensurate with their fair share: Norway, Sweden, France and Japan." Notably missing are the United States, Australia, Canada, the United Kingdom, Italy, and Spain. Since then, US President Biden pledged much more for climate finance. The amount reached $5.8 billion in 2022 with the expectation of going up to $9.5 billion by 2024 (U.S. Department of the State, 2023). The European Union is a big player in climate financing, claiming to have provided 23 billion euros in 2021 including contributions by the Union, Member States and the European Investment Bank (Jensen and Roniger, 2023). The contribution of the European Commission specifically was 2.50 billion Euros.

B.3 Recipients

Regardless of multilateral versus bilateral nature, most funds go to Low Middle Income Countries (LMICs) and Upper Middle Income Countries (UMIC), with Low Income Countries making up a smaller but significant portion (OECD, 2023). There has also been a steady increase in aid to affected small island nations.

Most funds given multilaterally are specifically disbursed in partnership with trusted and accredited entities (who are steadily increasing in number), including public and private, national, regional and international groups (Green Climate Fund, 2024). These entities manage and monitor specific projects. There is increasing interest and push for public private partnerships (e.g. The White House (2021)). However, currently, there are many more entities capable of working on climate change related issues than there are funds disbursed to those eligible and in need (Watson, Schalatek and Evequoz, 2023).

B.4 Rationales of International Climate Finance

Goals There are several reasons funds may be given. In 2021, the majority (60%) were allocated for mitigation, 27% for adaptation and 13% were crosscutting across the two (OECD, 2023). The main sectors targeted are "energy" followed by "transport and storage," "agriculture, forestry and fishing" and finally "water supply and sanitation" (OECD, 2023). Notably absent is compensation in terms of loss-and-damages which states have only recently committed to and have yet to be formally institutionalized. As of 2022, a new "Loss and Damages Fund" was to be set up following COP27, which was reinforced at COP28 (UNFCCC Standing Committee on Finance, 2022).

There has been a sustained effort to increase funds for adaptation, designed to provide assistance to vulnerable nations affected by climate change. The EU, for example, specifically seeks to allocate at least 40% to climate adaptation (Jensen and Roniger, 2023). The US likewise had vowed to increase adaptation assistance (U.S. Department of the State, 2023). The GCF promises to invest 50% in mitigation and 50% in adaptation (Green Climate Fund, 2024). Half too must go to the "most climate vulnerable countries." In general, thus far, multilateral public finance has focused more on mitigation whereas MDBs and bilateral financing does more for adaptation (UNFCCC Standing Committee on Finance, 2022). Mitigation finance is mostly loans whereas adaptation financing is often grants.

Conditions Climate finance can also be attached to substantive areas of policy action, and there can be instrumentalized climate transfers too. According to Oxfam's 2023 report,

only about 2.9% of climate finance today integrates gender inequality and an even smaller amount is locally led. However, the vast majority of finance is in the form of loans (more than 50% with estimates of up to 70%) and constitutes debt, coming with requirements for audits, monitoring and repayment (OECD, 2023). Most of these loans (about 75%) are non-concessional. Less than 20% of climate finance is in the form of grants. According to an article by the United Nations Conference on Trade and Development, "future loans will need to be contracted at significantly lower rates than is currently the case and for a much longer duration" (Kozul-Wright, 2023).

C IPCC Negotiations and The Centrality of Transfers and "Just Transitions"

The motivation behind the study of public attitudes towards climate transfers stems from the discussion on just transitions championed in various international organizations, including the Intergovernmental Panel on Climate Change (IPCC). An increasingly important part of global climate agreements is financing that is cooperative and actively engages recipient states and affected communities at the local level (Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 2022). The need for Just Transitions, as they are termed in IPCC negotiations have been recognized formally in both the Paris Agreement and the 2018 Just Transition Declaration at COP24. To ensure Just Transitions, international climate financing must be responsive to needs on the ground, especially of the most vulnerable including indigenous peoples, minorities, women, and the poor. Ideally, projects are designed and implemented in partnership with those same communities and states in the Global South.

Much of Just Transition comes out of a growing recognition that the least developed countries and the poorest communities suffer disproportionately from climate-related disasters. Global shocks like pandemics and recessions only compound the problem as several IMF reports have noted (for example Sedik and Xu (2020)). At the same time, those most vulnerable struggle the most to finance mitigation and adaptation efforts and also to provide assistance to those affected who lack any social safety nets. Just Transition hopes to bring in the human focus of climate justice, labor and environmental rights, social inclusion, and poverty alleviation to move towards greater equity. Reducing inequality and increasing social transfers may also lessen much of the social unrest that makes it especially difficult to implement climate policies (Furceri et al., 2021).

Several key priorities emerge from the Just Transition framework that have implications for international climate finance. For one, Just Transitions require that climate finance transfers that already occur from the Global North to the Global South prioritize low or no interest loans and grants with needed flexibility to address a wide range of concerns. Without this, low-income countries risk getting caught in debt traps and struggle to recover from climate related emergencies. Second, there needs to be an immense increase in the amount of transfers to meet actual need and at least to reach the stated goal of USD 100 billion as well as a need to standardize key definitions. Without standard definitions, financing occurs in a haphazard, uncoordinated and ad hoc manner.

Third, there is a need to support private initiatives in low income countries by pro-

moting public private engagement and access to funds including through public guarantee instruments. Much of this also necessitates greater standardization, clear and consistent definitions and mechanisms for accountability (Hourcadea, Dasgupta and Ghersi, 2021). On the other hand, not having clear operational rules and procedures can lead to fragmentation and distrust (Weikmans and Roberts, 2019).

Fourth, Just Transitions requires prioritizing and addressing job losses which can serve as a significant hindrance for countries to shift to low-carbon initiatives, reduce logging etc. (Zografos and Robbins, 2020). Fifth, climate financing needs to move to address consumption. Currently, the wealthiest in the population also have the highest carbon footprint as do certain sectors and cities, which disproportionately affect others (Ivanova and Wood, 2020). Several measures may be implemented to help address high carbon consumption including zoning restrictions, advertising regulation and taxes, subsidies and tax exemptions, and others (Reisch et al., 2020). Finally, Just Transitions calls for a change to how projects are done, aiming to create more support and ideas from local governments, universities, businesses and networks. This recognizes that those on the ground are often best suited to find options that fit their contexts.

D Significance of Public Opinion in Climate Finance Politics

The designs of climate transfers can both reflect and influence public support for international climate finance, perhaps most intuitively because the cost of climate transfers is often incurred by the public of the donor country itself through the use of taxpayer money. Notably, climate finance and climate transfers are already on the political agenda in a meaningful way: politicians discuss climate finance and climate transfers publicly in a way that captures media attention, through which voters' attitudes and preferences towards climate transfers can be influenced. Climate finance has also been discussed and debated on various social media platforms, through which proponents and opponents both receive information and are also able to contribute to the discourse. Understanding the formation and current status quo of public preferences towards the design of policy instruments can therefore be informative as we theorize how support for climate transfers can be built and what coalitions may emerge for or against. Finally, we expect that widespread calls for uplifting voices of the Global South within broader conversations around adaptation and mitigation may influence public opinion in both developing and developed countries on climate finance, and that positive changes in public opinion in developed countries, as an enabler of the disbursal of climate finance from developed to developing countries, can in turn allow for the further amplification the voices of non-elites in the Global South. We elaborate upon these factors further in the following subsections.

D.1 Climate Finance and Transfers in Political Speeches

Climate transfers from developed to developing countries are part of a broader global recognition of a financing shortfall for adaptation and mitigation efforts, and have been the focus of domestic political speeches by executives, legislators, and bureaucrats in many major developed nations, including the United States, France, and Canada. However, politicians seeking to issue climate transfers must operate within domestic political constraints, including voter

attitudes and preferences towards climate change and climate aid, the political stances of key opposition parties, and the broader geopolitical context. All impact both the scope of policy commitments made, as well as the extent to which subsequent implementation occurs.

In some cases, important constituencies may favor climate aid commitments and punish rollbacks. In the UK, Prime Minister Rishi Sunak framed his rollback of previous climate aid commitments as an attempt to avoid imposing an undue burden on the British public, suggesting that the previous plan was characterized by "unacceptable costs on hard-pressed British families," (Sunak, 2023). Sunak's reversal, though, was met by backlash from industry representatives and the international community, with concerns around a diminished global perception of Great Britains leadership on climate change, as well as worries that inconsistencies in policy make it challenging for businesses to adapt (Harvey, 2022). In France, Macron has attempted to differentiate himself from right-wing candidate Marine Le Pen on the basis of pro-environmentalist stances, hoping to peel away support from The Ecologists' Yannick Jadot and left-wing candidate Jean-Luc Melenchon, both of whom have gained significant support from pro-climate voters in recent elections (Guillot, 2022).To do so, Macron has brought select ideas, such as 'ecological planning' into his campaign platforms from these oppositional candidates. On the topic of climate transfers specifically, Macron has publicly advocated for innovative financial solutions to support vulnerable countries in their climate change mitigation and adaptation efforts including a call to designate $100 billion in special drawing rights to vulnerable countries to extend the financial strategies employed during the COVID-19 pandemic to address climate challenges in developing nations (Macron, 2023).

However, other constituencies may criticize leaders who make climate aid commitments. For example, President Biden's pledge of $1 billion to the Green Climate Fund in 2023 was met with significant backlash from Republican candidates and right-leaning news agencies (Masters, 2023). Domestic political considerations may impact leaders' statements and commitments on the transfer recipient side as well. India is an example. While Prime Minister Modi has emphasized the need for climate transfers (The Week, 2023) and pledged to take on a greater role in global climate initiatives (BBC, 2021), India has also rejected aid for environmental disasters multiple times since 2004 (Carnegie and Dolan, 2021), prioritizing concerns around sovereignty and self-reliance where diplomatic strings or formal conditionalities may be attached to aid.

D.2 Climate Finance in (Social) Media and Grassroots Discourse

Media and social media act as catalysts in the climate finance discourse, enabling information dissemination, public engagement, and grassroots mobilization. Polling data and reports on public opinion regarding climate change and climate finance are frequently featured in media outlets targeting policy elites. Such coverage can influence policymakers by highlighting the public's stance on climate issues, potentially swaying government actions in response to the public's preferences as reflected in these polls. There appears to be increasing support among younger voters for climate action and the provision of aid abroad to address climate challenges (Leiserowitz et al., 2021).

Grassroots mobilization for climate aid is also visible in specific campaigns, such as those led by faith-based organizations like Catholic Churches in the US, which have called on President Biden to transfer funds abroad, as well as forgive and restructure debts, to assist

countries most at risk from climate change (Roewe, 2023). In the UK, 92 civil society organizations mobilized through a letter campaign to urge Prime Minister Rishi Sunak to fulfill his climate finance promises (Relief Web, 2023).

In recognition of the important role played by the media in the dissemination of information, climate advocacy groups such as Climate Power have deployed significant sums of capital in the way of $80 million to promote President Biden's climate policies and raise awareness of his pro-climate record in advance of the next election through television and digital advertising (Epstein, 2023). This highlights a critical pathway through which the media is used to shape public opinion and voter attitudes towards climate finance.

Additionally, recent scholarship suggests that since 2019, a growing right-wing and climate contrarian presence on Twitter has taken shape in response to a previously pro-climate discourse (Falkenberg et al., 2022). This suggests that these social media platforms can be important venues for ideological polarization in either direction on climate change and consequently, climate finance.

D.3 Climate Finance in Electoral Campaigns and at COPs

Taxpayers fund climate finance on the donor side, and constituents on the recipient side experience tangible implications of design decisions. So, public opinion is a relevant factor for policymakers to consider when determining the form that climate transfers may take. The exit of developing nations from discussions on the Loss and Damage Fund, in response to the EU and US-led proposal to manage the fund via the World Bank, highlights the need for constituent buy-in on the recipient sides (Murthy, 2023). At the same time, the sizeable gap between the amount the public is willing to contribute to climate transfers and the actual estimated financial resources required in order to achieve climate targets illustrates the need for public buy-in on the donor side (O'Garra and Mourato, 2016).

The public's support for climate funding is influenced by the degree to which donor and recipient countries collaborate in determining the use and allocation of financing, as well as the degree to which financing is being provided by other nations (Doshi and Garschagen, 2020). Voters also seem sensitive to considerations around governance quality, corruption levels, and potential benefits for the donor country, in addition to factoring in the immediate vulnerability to climate change when determining to whom aid should be given (Weiler, Klöck and Dornan, 2018) (Gampfer, Bernauer and Kachi, 2014).

For example, during his presidency, Bolsonaro accused France and Germany of attempting to "buy" Brazil's sovereignty through the provision of aid for fighting fires in the Amazon, in response to Macron accusing Bolsonaro of failing to make good faith efforts towards meeting Brazilian climate commitments (Taylor, 2019), highlighting tensions around both self determination on the recipient side and worries about developing countries reneging on climate targets on the donor side.[43] Relatedly, India has established the condition that an adequate amount of funding, specifically a trillion dollars over the next decade, must be

[43]Importantly, while the election of Brazilian President Luiz Inacio Lula da Silva signalled a shift in the national policy orientation towards accepting finance from developed states (Spring, 2022), at COP28, shortly after Lula presented Brazil's new climate commitments, including the target to cease deforestation of the Amazon by 2030, his Energy Secretary Alexandre Silveira put forth that Brazil would more closely align itself with OPEC in the future, contradicting these earlier pro-climate policy orientations (Watts, 2023).

mobilized in order for it to deliver on commitments regarding adaptation and mitigation efforts made by Prime Minister Narendra Modi (Koshy, 2021*b*).

The mandates of the Green Climate Fund and the Adaptation Fund, focusing on protecting the most vulnerable, further reflect public preferences in donor countries for equitable and need-based funding (Kruse and Atkinson, 2022). Scholarship suggests that financing mechanisms that prioritize the global public good of mitigation over adaptation are often preferred by voters in donor countries (Gampfer, 2014).[44]

Recent discourse around climate change has featured a strong awareness on behalf of both developed and developing countries that developed nations bear the brunt of the historical responsibility for global warming and should assist developing states in their pursuit of sustainable development, by fostering technological development, lending expertise, and providing financial support. Political officials representing developing countries, including Indonesia, South Africa, Brazil, and India, have signed onto agreements or otherwise issued public calls to developed countries on this. Brazil is an important example of a country where indigenous communities and activists are gaining a seat at the table, calling for climate justice. Upon his entry into office, Lula appointed Brazil's first minister of indigenous peoples, Sonia Guajajara, who also served as a representative for the country at COP28, where Brazil sent the second-largest delegation in the history of UN climate summits made up of, among others, civil society activists and Indigenous representatives (Syed, 2023; McSweeney, 2023). Activists have also raised concerns around the potential for developmental finance to serve as a channel for 'carbon colonialism', suggesting that dependence and conditionalities exacerbate existing structural power imbalances and reparations and rights-based approaches to funding are necessary (Bhadani, 2021). The term 'carbon colonialism' was explicitly included in the 2022 IPCC report as one of the key causes of global warming (Pörtner et al., 2022). Such views have contributed to the momentum around the idea of a 'Just Transition'.

E Additional Survey Evidence

We use additional survey data to corroborate the evidence presented in the main text. We start first with further exploring whether the public in developed and developing countries attach salience to public opinion on international climate transfers in the same way/on the same levels as the importance of business groups and government elites.

We also use the additional survey data to understand if this salience is meaningful and pertinent to bilateral transfers (as per the conjoint profiles in the main text).[45]

[44]Canada's commitment to allocate a substantial portion of its climate finance to adaptation projects (Government of Canada, 2023), though, despite the global trend of financing towards mitigation thus far, suggests that there is some appetite for integrated approaches, but balancing both sides of the funding need may depend on broader public acceptance

[45]Additionally, we have other results that shed light on subsequent questions. For example, we have evidence in our US sample that, when asked straight up if they would prioritize mitigation over adaptation operations with climate finance, this sample corroborates the main findings that the majority (64%) prioritises mitigation when thinking about the use of climate transfers. We also have evidence that, when confronted with a more refined distinction between the goal of adaptation and the up-coming purpose of Loss and Damage, most people in our US sample still prefer to invest in adaptation.

E.1 Importance of Different Groups in Deciding Over Climate Transfers

In the spring of 2024 we fielded a simple survey question designed to gauge how members of the public view the importance of different groups in determining how climate finance funds are used. In particular, we asked the following question.

Recently, large developed countries have committed to providing funds to help developing countries reduce their emissions. How important do you think it is that [business groups/ government elites/general public] in [developing/developed] countries have a say in how those funds are used?

The answers could be: 'Very important,' 'Somewhat important,' 'Somewhat not important,' and 'Not at all important.' Items in brackets were randomized, such that each respondent only received one version of the question. We scaled the response outcome from 0 (Not at all important), Somewhat not important (.333), Somewhat important (.666), to 1 (Very important).

We conducted two separate survey sampling strategies. For our first sample, we conducted a new quota based nationally representative survey (N=1,500) of the US population. For these purposes, we used the firm Qualtrics that we use for our analyses in the main text.

Our second sample comes from a survey fielded in 2024 to 52 small island nations via Meta/Facebook (Mildenberger et al., 2023). This approach used a campaign for each country, and then created an "ad set" for each demographic quota. Demographic quotas used for sampling included age, gender, and a geographic quota for capital regions versus outlying region. Advertisements and surveys were delivered in the most common language ((English, French, Spanish, Portuguese, Dutch). Respondents were entered into a lottery for a prize. Survey weights were constructed for most countries using raking methods from the svyweight package in R. Some countries did not have sufficient information and quotas were not weighted.

For this question set we merge the two samples together.

E.1.1 Group importance within recipient countries

Figures 3 and 4 present the results for the three groups within recipient countries. We split the respondents' countries of belonging apart into two separate graphs to ease presentation. We see that average responses for all three groups (government elites, general public, and business groups) are all above the midway point of the scale, with many well above. Furthermore, the importance of the general public is in line with government elites and business groups.

E.1.2 Group importance within donor countries

Figures 5 and 6 present the results for the three groups within donor countries. The results parallel what we observe for recipient country groups.

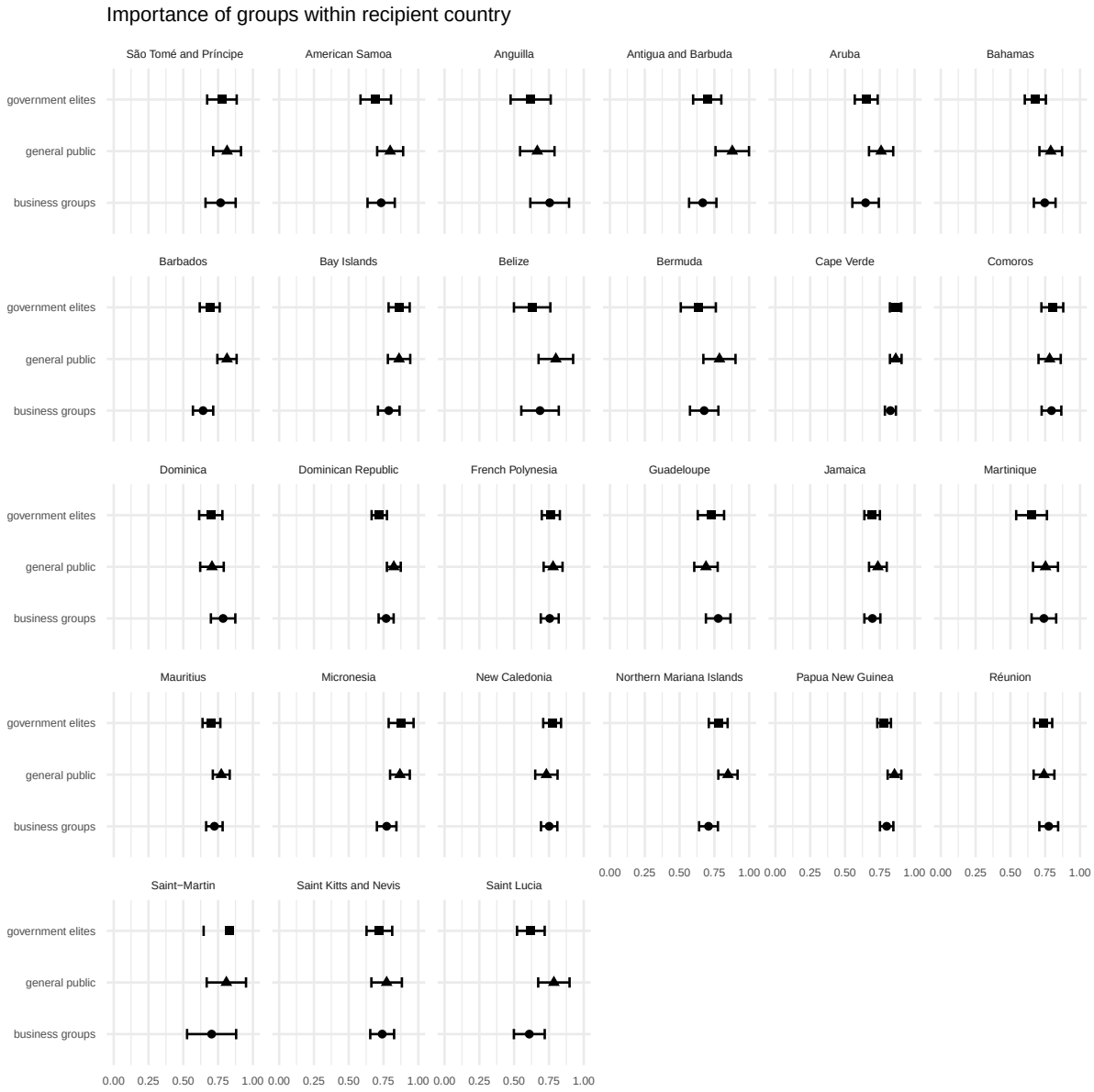


Figure 3: Group importance within recipient countries (first set of countries). Mean estimates with 95% confidence intervals.

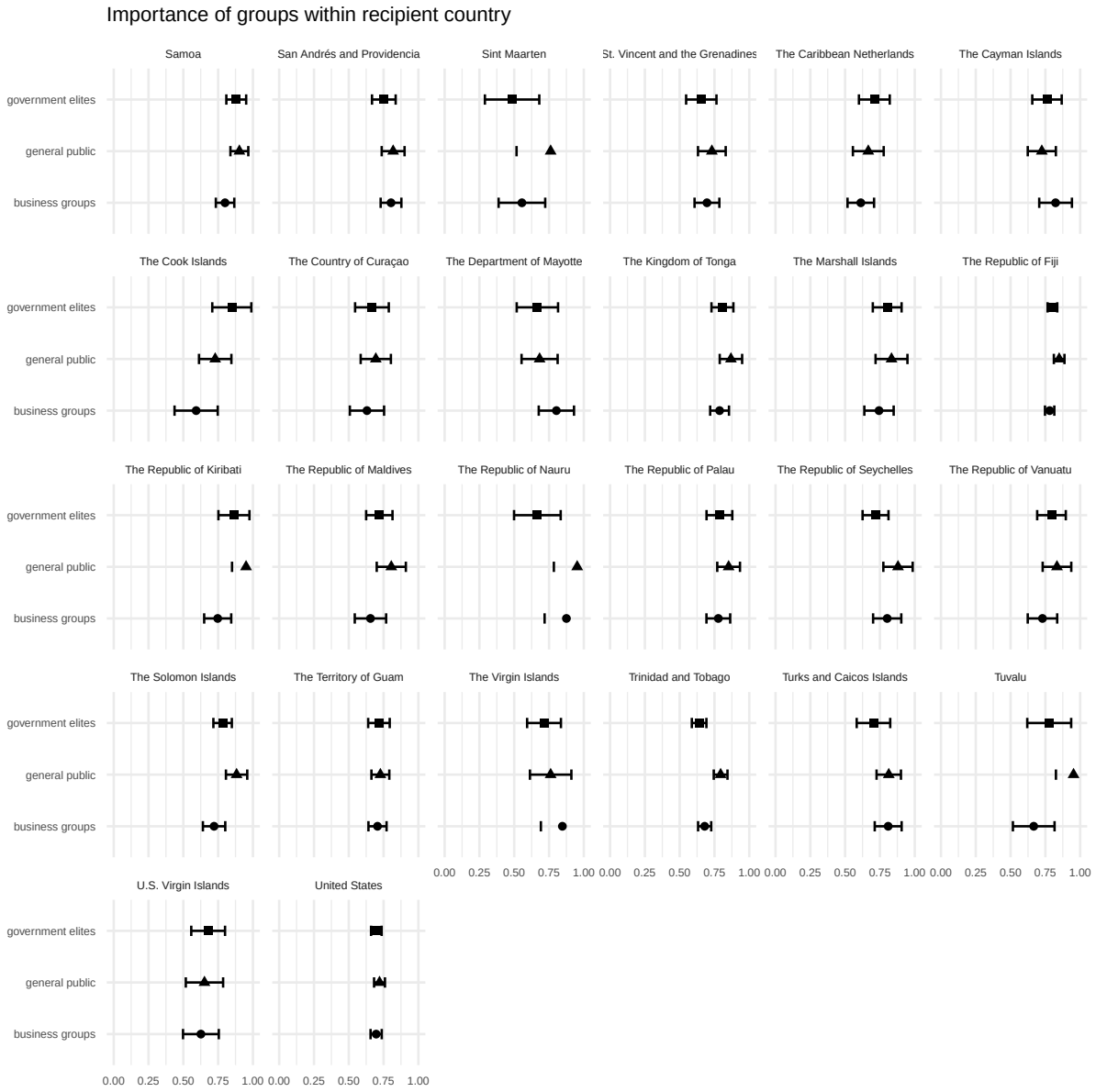


Figure 4: Group importance within recipient countries (second set of countries). Mean estimates with 95% confidence intervals.

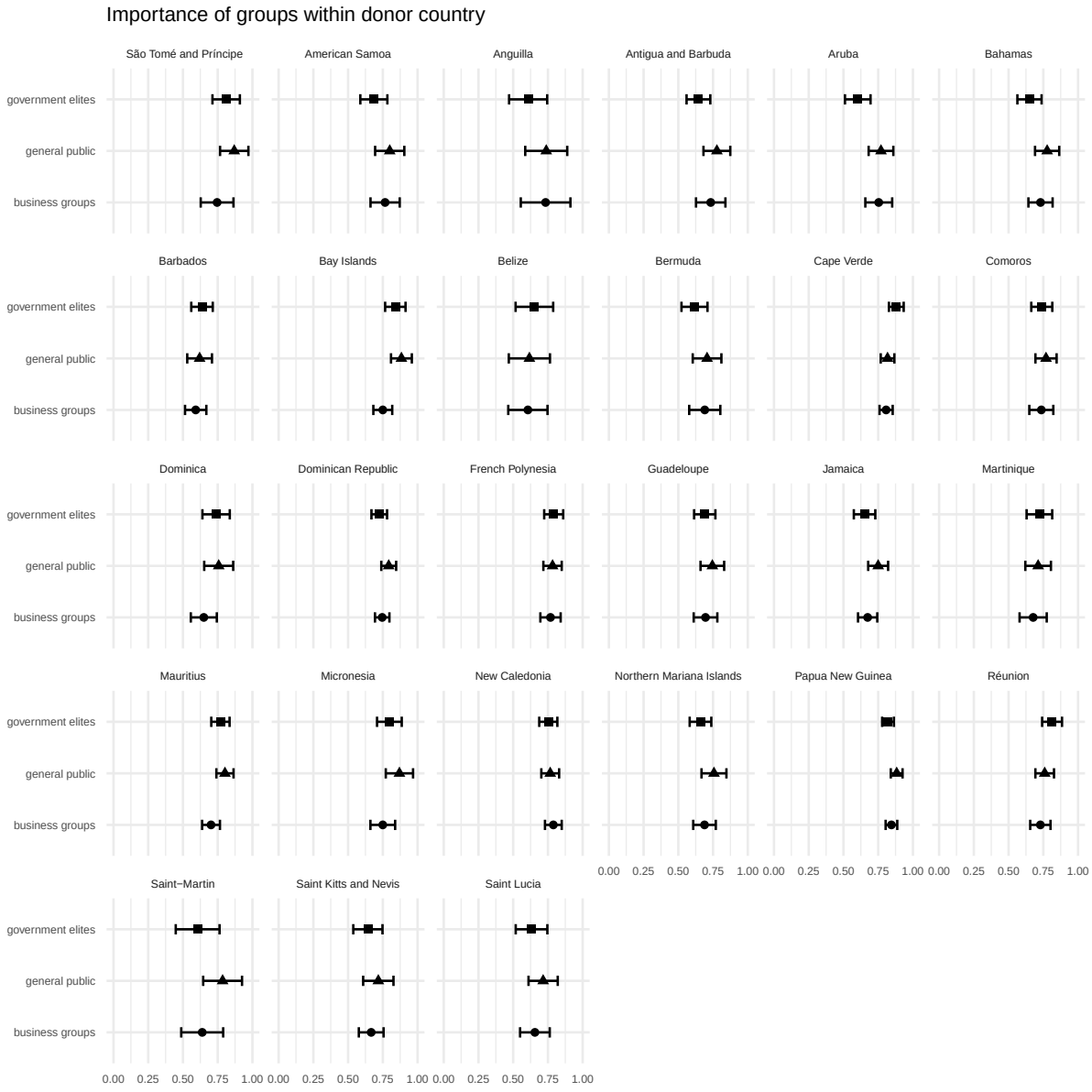


Figure 5: Group importance within donor countries (first set of countries). Mean estimates with 95% confidence intervals.

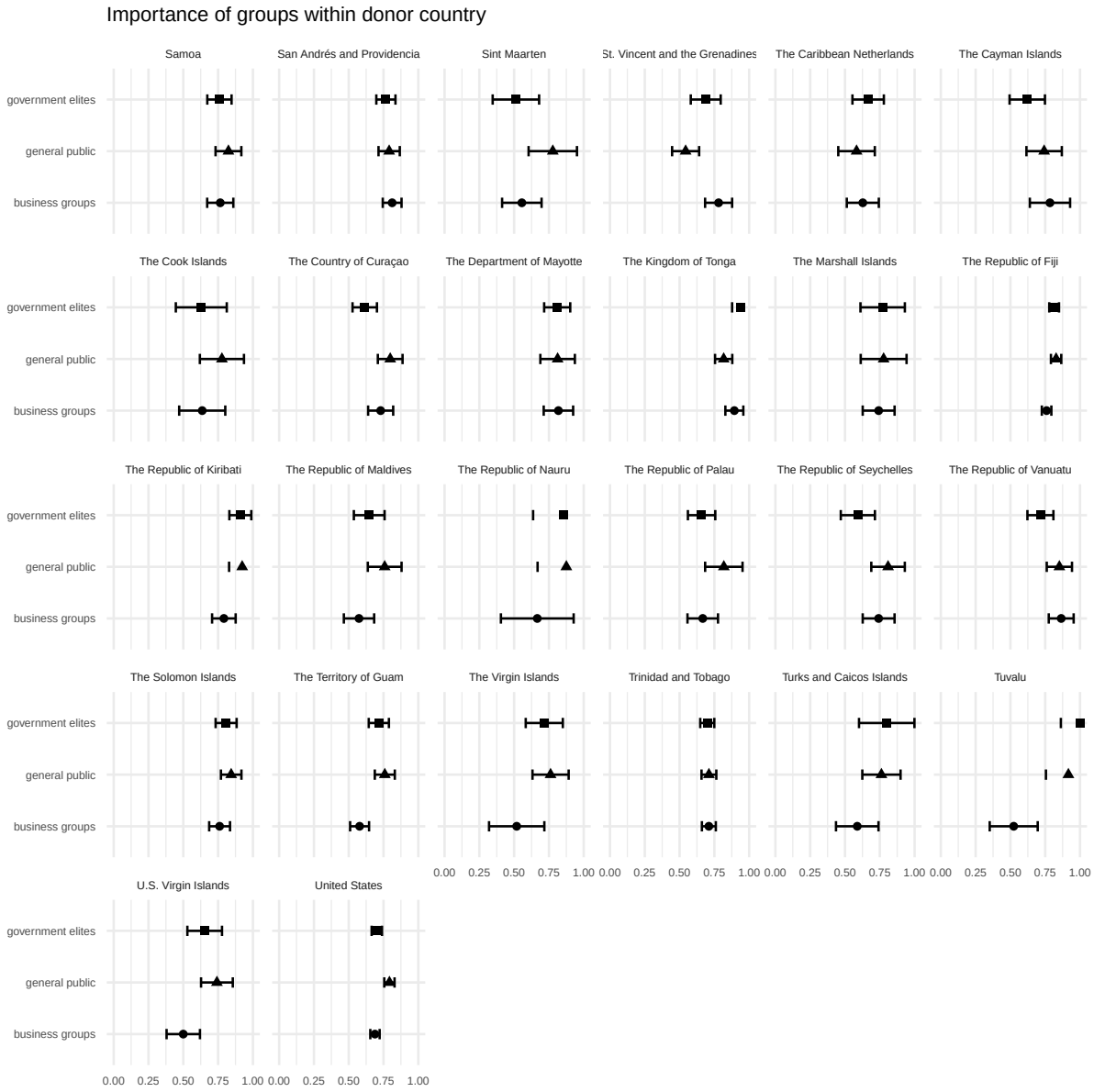


Figure 6: Group importance within donor countries (second set of countries). Mean estimates with 95% confidence intervals.

E.2 Opinion Salience

In the US-specific sample described above, we asked two additional questions to probe whether people have opinions about climate finance commitments. In particular, we asked:

The United States government has committed to providing funding to developing countries to combat climate change by reducing their fossil fuel emissions.

Do you think that people in your community/your neighbors would have opinions about whether or not the US should fulfill such commitments?

Responses ranged from: They would have strong opinions (1), They would have moderately strong opinions (.666), They would have weak opinions (.333), They would not care (0).

A potential advantage of asking about opinions of the members of their community instead of their own is that it would result in less social desirability bias. The average response in the sample was .60 (95% CI: .59, .62), or close to they would have moderately strong opinions.

Next we followed this question up by asking "*Do you have opinions on this topic?*" Responses ranged from I have very strong opinions (1), I have moderately strong opinions (.666), I have weak opinions (.333), I do not care (0). The average response in the sample was .62 (95% CI .6, .63), or close to they would have moderately strong opinions.[46]

E.3 Multilateral versus bilateral flows

In the US survey we also asked respondents about their preference over climate aid delivered through multilateral institutions versus their own governments. Specifically, we asked:

Funds from the US government that are used to help developing countries fight climate change can be delivered in two different ways. 1) Agreements between the United States and recipient countries directly or 2) International organizations funded by wealthy countries. These organizations control how the money is spent with the input of all contributors.

Which way would you prefer for the United States to deliver these funds?

A majority, 62%, of our sample preferred agreements directly between the US and recipient countries (bilateral transfers). A majority of Democrats, Independents, and Republicans shared this preference, though it was strongest amongst Republicans.

[46] We note that we did not engage in a cross-issue comparative analysis where we consider the importance of climate finance compared to other issues. This would require a much larger survey design.

F Vignette Experiment

Our vignette experiments probe the role of efficiency considerations and home bias in cross-border compensation preferences. The experiments vary the cost of climate mitigation as a function of the climate policy target. For donor country respondents, mitigating at home is more expensive than mitigation abroad. For recipient country respondents, mitigation financed by foreign transfers is cheaper than mitigating at home. Compensation also varies according to whether it is funneled to policy vulnerable communities at home or abroad.[47] Thus, developing countries accepting transfers must be willing to implement *more* emissions reductions than donor countries.[48] The experiments test whether home bias can be attenuated by economic efficiency considerations and whether compensation (conditional on household costs) shifts preferences for international transfers among donor and recipient country publics.[49] We deployed our vignette experiment on nationally representative samples in the US and India.[50]

F.1 US Experimental Design and Results

American respondents choose between two hypothetical policies the government could enact to achieve the same reduction in global emissions (bold figures reflect experimental manipulations):

> Suppose that in order to combat climate change, the US government can choose between two options, which would result in the same reduction of global fossil fuel emissions.
>
> Option A. The US government attempts to reduce the use of fossil fuels at home. The average household energy cost in the US is increased by $64. These funds are used to compensate American workers in the coal and oil industries who will lose jobs due to policies implemented in the US.
>
> Option B. The US government attempts to help the government of a developing country like India reduce the use of fossil fuels. The average household energy cost in the US is increased by [**$8** / **$32**]. These funds are used to compensate

[47] Specifically, we focus on compensating coal workers who risk losing jobs from decarbonization. Coal is the most polluting energy source and workers' compensation is a pressing political priority in both the US and India. Appendix A reviews public discourse around these issues.

[48] If poorer countries receive transfers to help transition fossil fuel workers to other sectors, then more emissions cuts—and more job losses in the recipient country as opposed to the donor country—would be required. Alternatively, costs for transitioning workers can be entirely borne by developing countries themselves, in which case emissions cuts would be lower and fewer individuals would lose jobs.

[49] We held constant additional theoretical determinants. For example, mitigation is the sole goal of the transfers, and national governments are the only transfer agreement partners. This allows us to first ascertain how the general public evaluates the tradeoffs between efficiency-based transfers and transfers motivated by other considerations.

[50] We also fielded the experiment on targeted samples in regions particularly vulnerable to decarbonization policy ("Coal Country" sample) and regions vulnerable both to the physical impacts of climate change and decarbonization policy ("Cross-Pressured" sample), following Gaikwad, Genovese and Tingley (2022). The findings, available upon request, were largely similar to the general population findings.

Indian workers in the coal and oil industries who will lose jobs due to policies implemented in India.

The cost of compensation is lower in the second option because wages are lower in developing countries, making it far cheaper to compensate workers who lose jobs there than in the US.

If you had to choose, which options would you pick?

		Option A: Support for High Home Costs [$64] & Domestic Compensation	Option B: Support for Low Cost Transfers [$8/32] & Foreign Compensation
Cost: $8	(n=936)	66%	34%
Cost: $32	(n=926)	74%	26%

Table 3: *US general population samples and preferences for Option A (higher costs, domestic compensation) and Option B (lower costs, foreign compensation). Rounded percentages.*

Table 3 reports the findings. Column 1 indicates the proportion of general population voters that supported the policy option targeting domestic emissions reductions, with average household energy costs rising in the US by $64. Column 2 reports support for international transfers resulting in the same net reduction of emissions. The upper panel of Table 3 considers international transfers that would raise average household energy costs in the US by only $8, while the lower panel focuses on international transfers that raise average US household costs by $32.

Strikingly, across both the $8 and $32 international transfers choices, the majority of American respondents eschew international transfers. Voters disfavor foreign transfers, even if it means that they must incur significantly higher costs to fund domestic transfers. That said, our results do indicate some cost sensitivity among respondents. Support for high-cost domestic transfers falls from 74% at the $32 international transfers option to 66% at the $8 international transfers option.[51] This treatment effect is statistically significant, although the magnitude indicates that efficiency considerations are secondary. Even when international transfers are substantially cheaper than domestic action, only one third of Americans support international transfers; the majority would rather incur higher personal costs to direct action domestically, evidencing home bias over efficiency considerations.

F.2 India Experimental Design and Results

We introduced a congruent set of tradeoffs to the general population in India. The first option proposes an increase in monthly household energy costs in order to compensate coal workers, with domestic emissions reduction in India proportional to emissions reduction in the US. Energy costs increased be either ₹140 or ₹2,240. The second option entails no cost

[51] In additional analyses (available upon request) we investigate the treatment effects by reporting the results of OLS regressions that adjust for pre-treatment covariates.

increase; compensation for Indian coal workers who lose jobs would come from the US, but India would be required to reduce a higher proportion of coal emissions relative to the US, with more Indian coal workers losing jobs. The increase in India's emissions at the lower cost option parallels the structure of our US surveys. The question was worded as follows:

> Suppose now that in order to combat climate change, the Indian government can choose between two options, which would result in the same reduction of global fossil fuel emissions.
>
> Option A. Indians increase their average monthly household energy costs by [**Rs. 140 / Rs. 2,240**] to compensate Indian coal workers who lose jobs. However, India will have to reduce the same proportion of coal emissions as developed countries like the US.
>
> Option B. Indians will not increase their household energy costs because the US will send money to compensate Indian coal workers who lose jobs. However, India will have to reduce a much greater proportion of coal emissions than the US and more Indian coal workers will lose jobs compared to Option A.
>
> Q. If you had to choose, which option would you pick?

		Option A: Support for Home Costs [₹140/2,240] & Lower Compensation	Option B: Support for No-Cost Transfers & Greater Compensation
Cost: ₹140	(n=1005)	66%	34%
Cost: ₹2,240	(n=1034)	62%	38%

Table 4: *India general population samples and preferences for increased energy costs and reduction equity versus foreign aid, no energy cost increases and greater emission reductions.*

Table 4 presents our findings. Across both levels of cost increases, a majority of Indians chose to incur higher costs and have equitable emissions reductions across India and the US than to receive transfers on the condition that India reduce more emissions. Evidently, the home-country bias we documented among donor country voters extends to voters in recipient countries. Indian respondents indicate more support for the policy that results in higher personal material costs than cost-neutral international transfers that necessitate greater emission reductions.

At the lower (₹140) cost level, 66% of respondents oppose international transfers; at the higher (₹2,240) cost level, 62% of respondents oppose such transfers. This treatment effect is small in magnitude and only marginally significant statistically. Increasing the monthly household energy costs associated with domestic action does not meaningfully lead voters to favor international transfers. Presumably, Indians would rather incur personal material

costs and oppose financing from the US because they consider it unfair that the transfers will result in more Indian coal workers losing jobs than if the country pursued mitigation domestically.

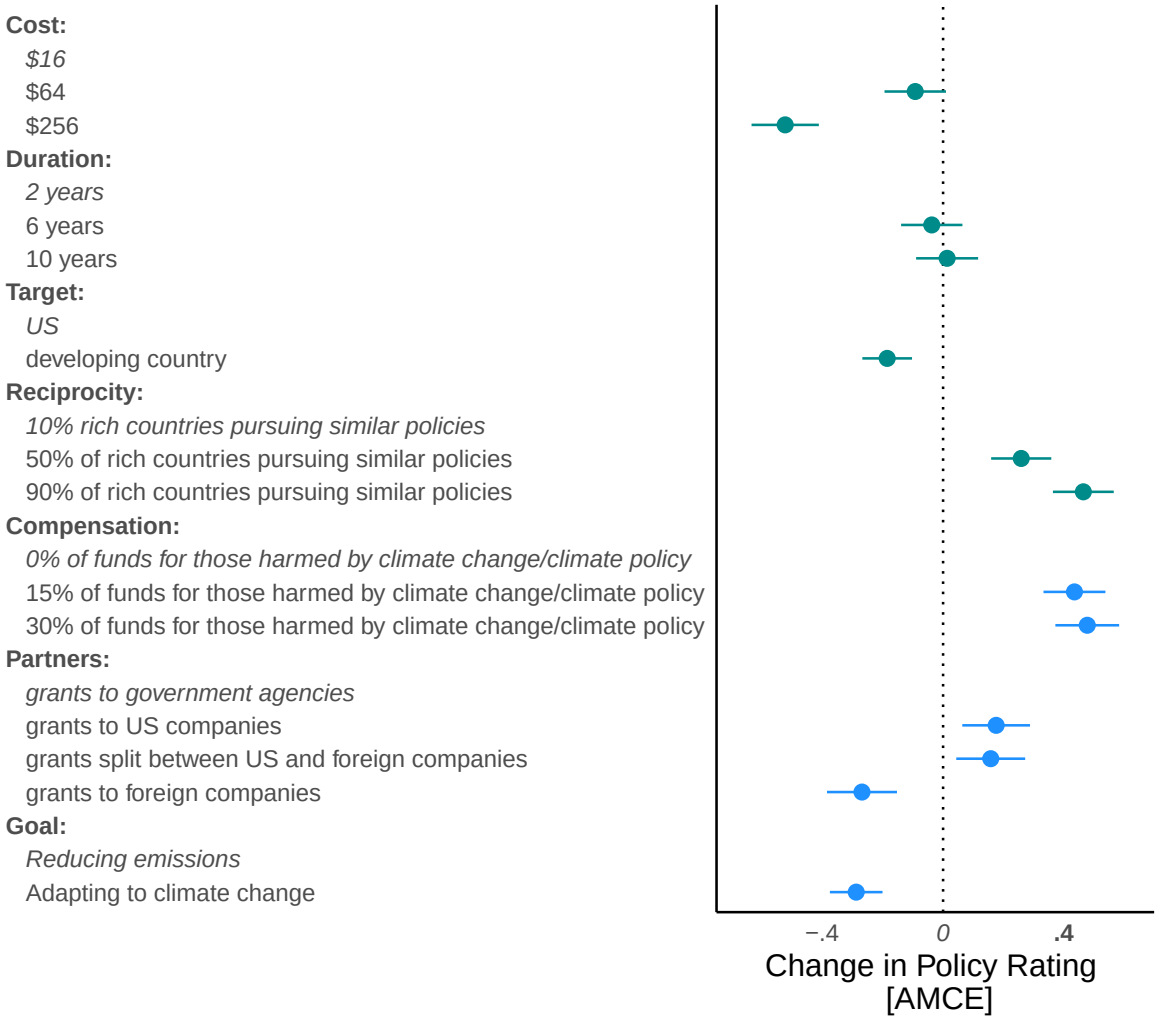
The India results corroborate the US findings. Home bias prevails among a majority of the electorate, which prefers domestic spending to economically more efficient international transfers, in both donor and recipient countries. Sharpening the global efficiency gains associated with transfers in the minds of voters does not augment support. These findings are instructive, but they raise a fresh set of questions. While a critical contingent of voters (approximately one-third in both the US and India) support international transfers, we cannot disentangle whether this is because—or in spite—of the compensatory features in the transfers.

G Additional Conjoint Results

G.1 Conjoint Results for Policy Ratings

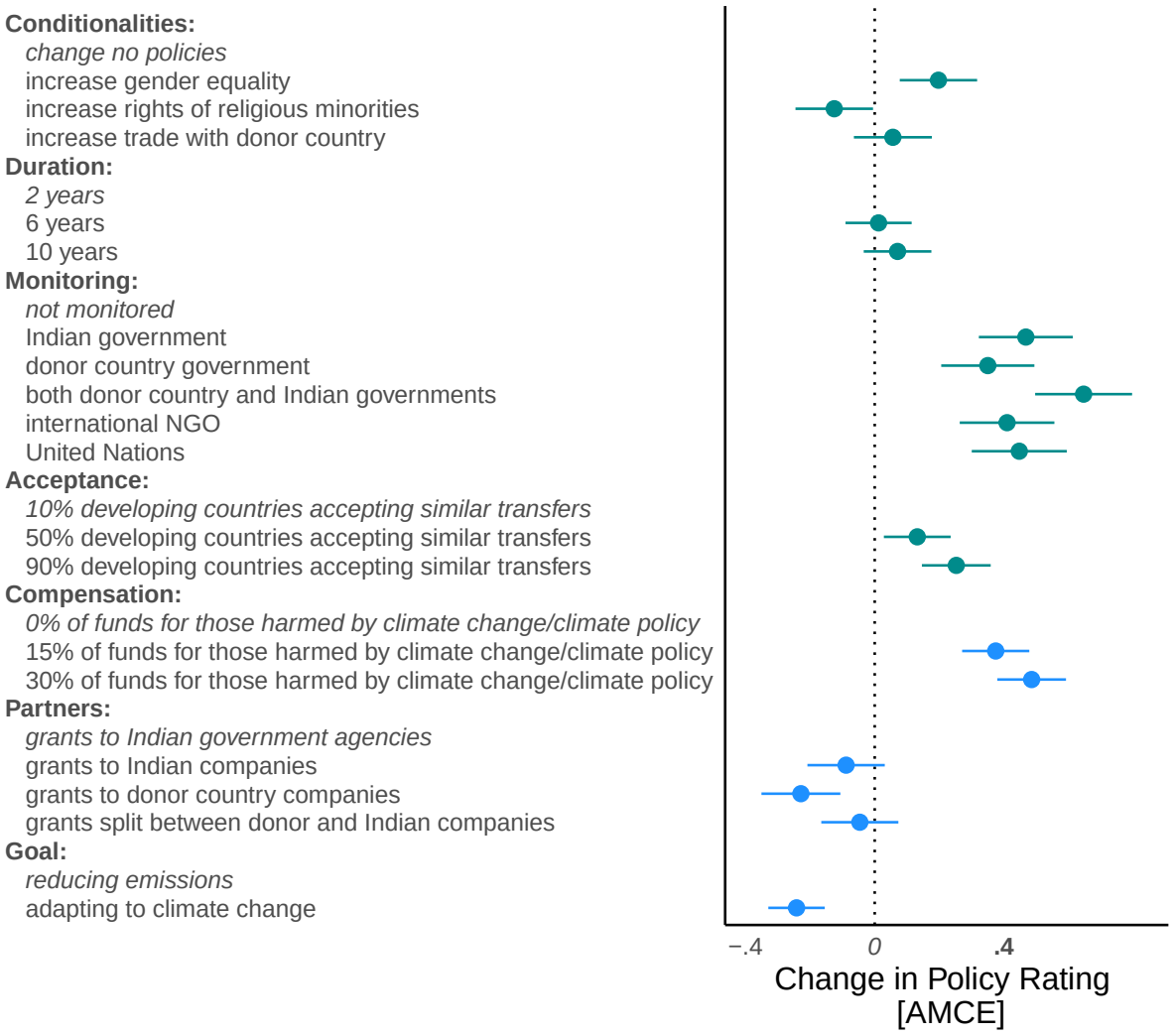
Figure 7 (US data) and Figure 8 (India data) report the conjoint results where the outcome variable is each policy's ratings (scale 1-10) instead of the choice between two policies. These results indicate that the main findings in the paper are not an artifact of the forced choice, and exist even in light of individuals with low tolerance for climate policies. On average the findings across attribute levels are consistent with the results reported in the main text.

Figure 7: US Policy Conjoint Results: Ratings



Average Marginal Component Effects (AMCE) calculated from the first conjoint rating experiment for the different dimensions with 95% confidence intervals (respondent-level clustered standard errors). Individual rating of each policy is the dependent variable. Points without bars indicate the reference category for a given dimension.

Figure 8: India Policy Conjoint Results: Ratings



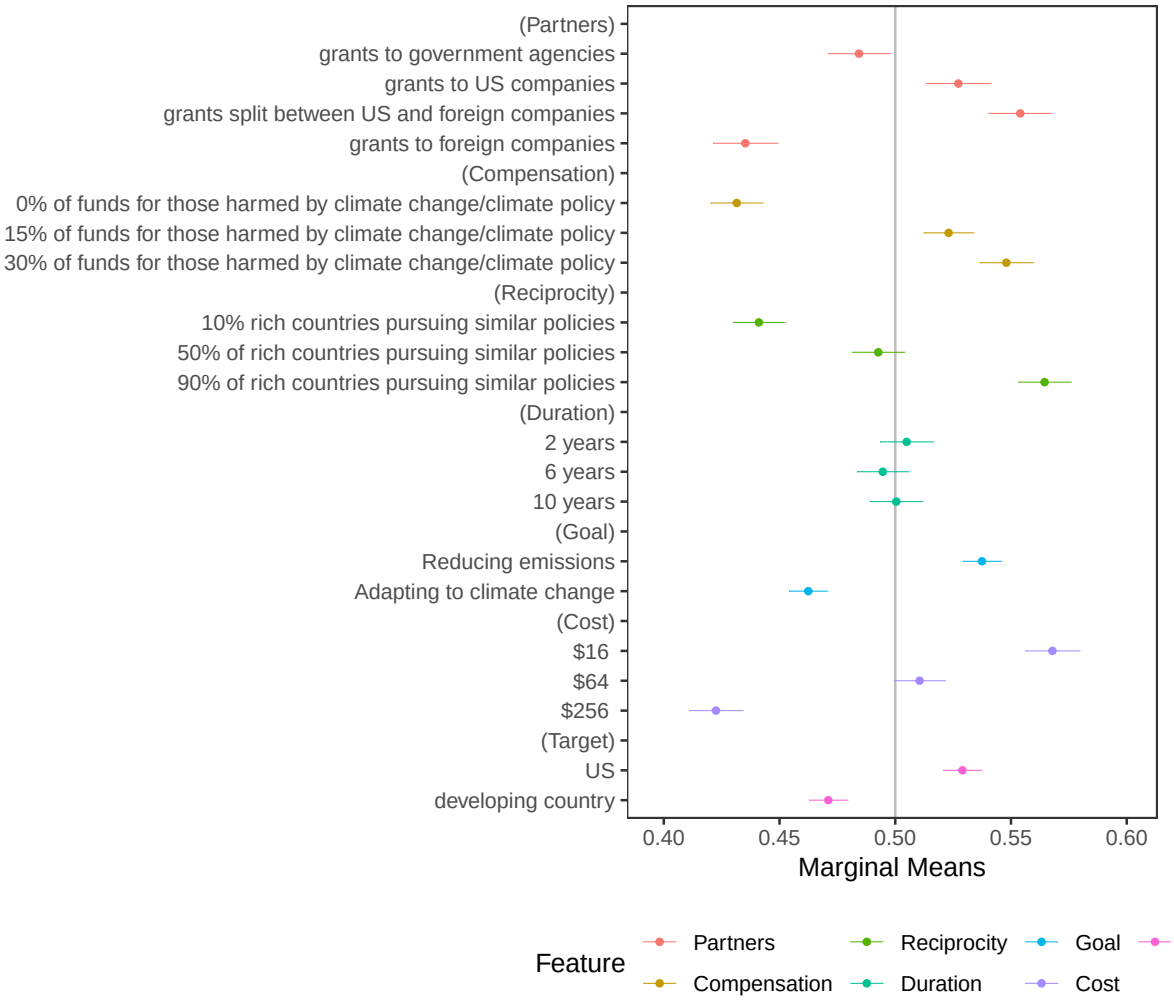
Average Marginal Component Effects (AMCE) calculated from the first conjoint rating experiment for the different dimensions with 95% confidence intervals (respondent-level clustered standard errors). Individual rating of each policy is the dependent variable. Points without bars indicate the reference category for a given dimension.

G.2 Conjoint Results: Marginal Means

We calculate marginal means to describe the level of favorability toward climate transfer policies with particular feature levels, ignoring all other features. These calculations allow us to explore, for example, if regardless of conditionalities, goals and configuration of partners, there are levels of favorability for any projects based on levels of monitoring (a basic feature of any type of project, regardless of the source of funding). The marginal means for the US and India, which corroborate the average marginal component effects in the main text, are

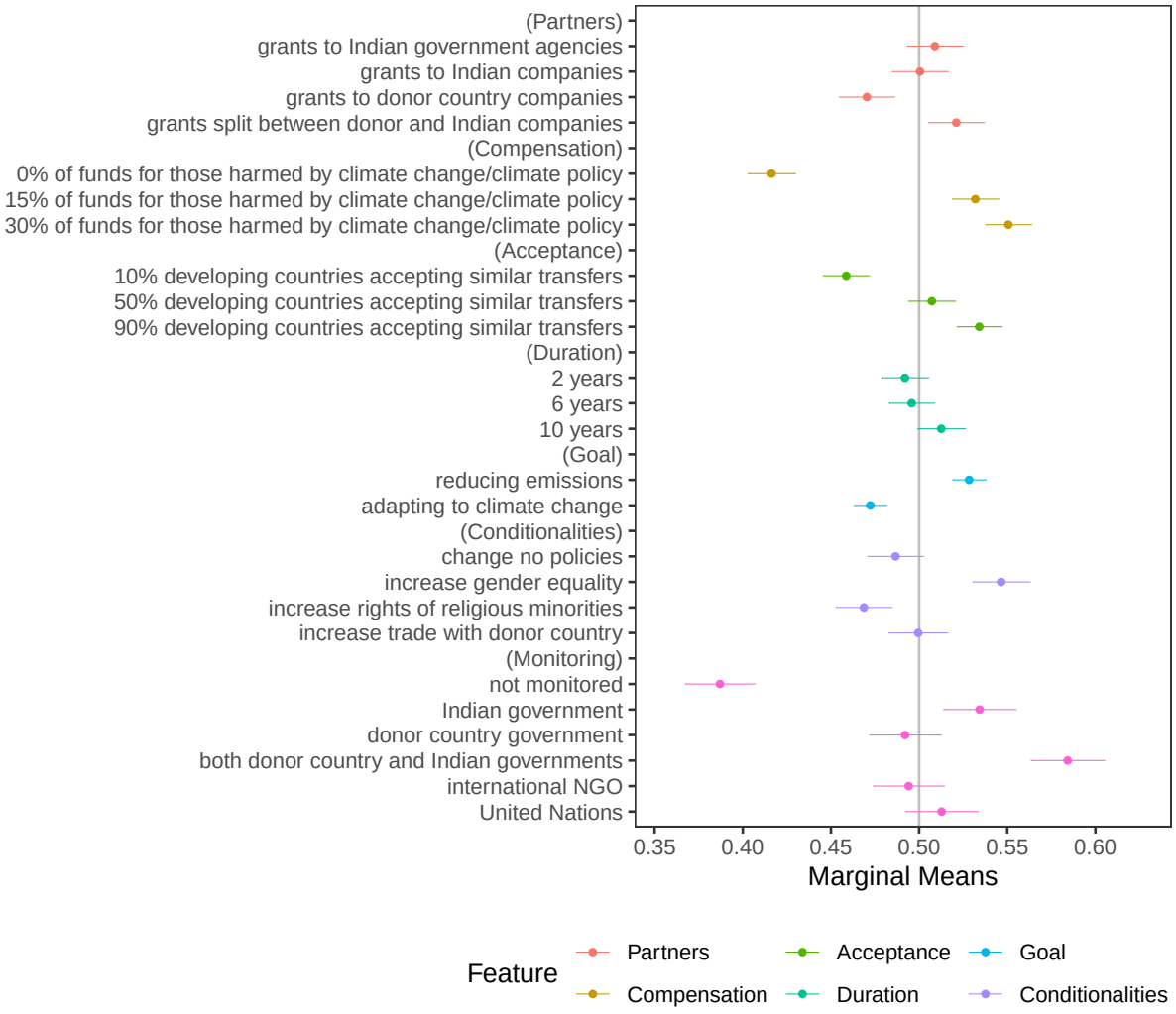
reported below. In the US, we find that climate transfer favorability drops most substantially for high levels of cost, 0% funds for vulnerable communities, and exclusive grants to foreign companies (are drastically below the 0.5 level). In India, we find that, with the exception of completely unmonitored projects and transfers that do not reach any vulnerables (which drastically decrease favorability), many features are around 0.5 or more.

Figure 9: US Policy Conjoint Results: Marginal Means



Marginal means calculated from the first conjoint rating experiment for the different dimensions with 95% confidence intervals (respondent-level clustered standard errors). Individual choice of each policy is the dependent variable. Points without bars indicate the reference category for a given dimension.

Figure 10: India Policy Conjoint Results: Marginal Means

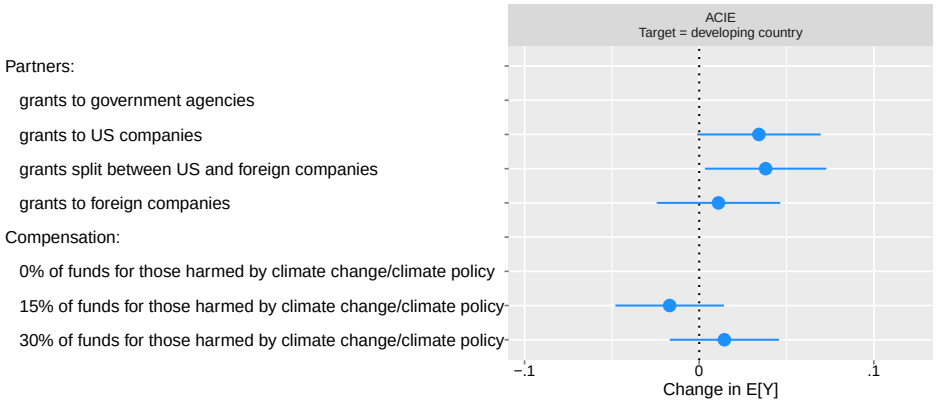


Marginal means calculated from the first conjoint rating experiment for the different dimensions with 95% confidence intervals (respondent-level clustered standard errors). Individual choice of each policy is the dependent variable. Points without bars indicate the reference category for a given dimension.

H Conjoint Dimension Interactions

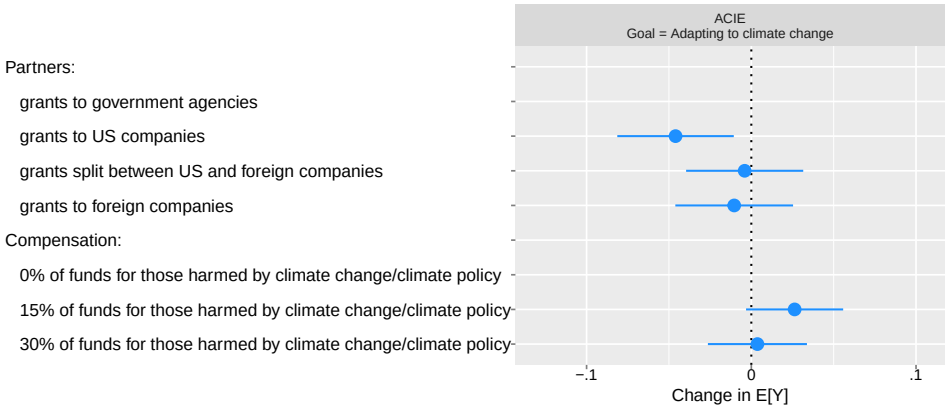
This Appendix reports the coefficients of the *partners* and *compensation* attributes conditional on fixed values of other dimensions. For the US, we fix the *target* to 'developing country' and the *goal* to 'adaptation'. For India, we fix the different levels of *monitoring* (see description in the main text) as well as the *goal* to 'adaptation'. The figures below report the average component interaction effects (ACIE) of these models where the dependent variable is the binary choice outcome. (Note that, as reported in the main text, for the US we also ran models where we subset the responses by the 'developing country' or 'US' levels of the *target* attribute, to find no major differences in the direction or significance of the other attributes).

Figure 11: US Policy Conjoint Results: Interactions with Developing Country as a Target



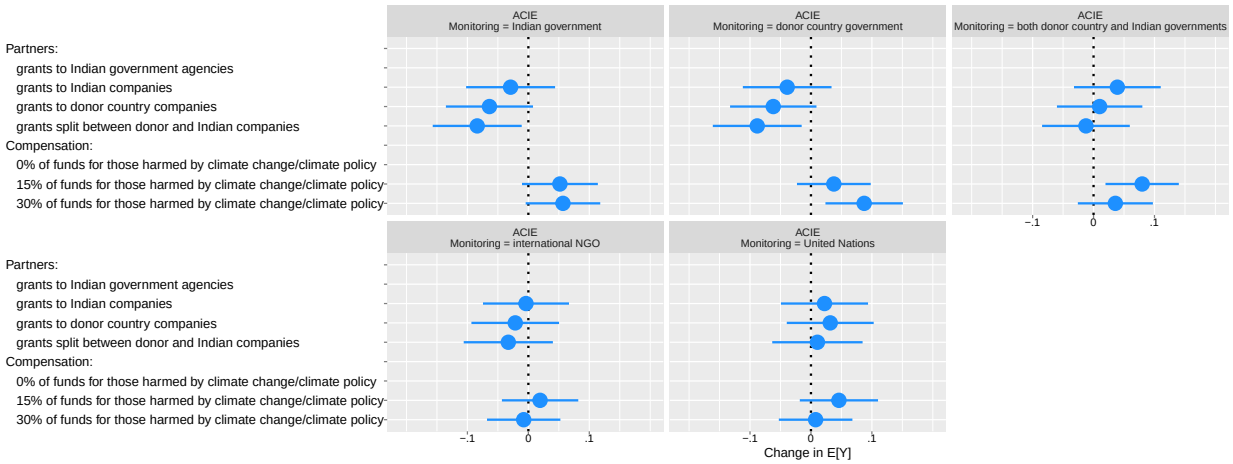
Average Component Interaction Effects (ACIE) calculated from the first conjoint choice experiment for the different dimensions with 90% confidence intervals (respondent-level clustered standard errors). Individual choice of each policy is the dependent variable. Points without bars indicate the reference category for a given dimension.

Figure 12: US Policy Conjoint Results: Interactions with Adaptation as the Goal



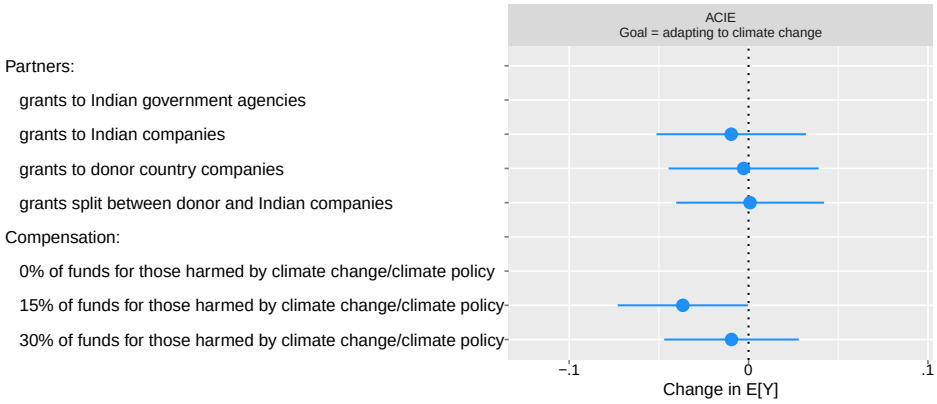
Average Component Interaction Effects (ACIE) calculated from the first conjoint choice experiment for the different dimensions with 90% confidence intervals (respondent-level clustered standard errors). Individual choice of each policy is the dependent variable. Points without bars indicate the reference category for a given dimension.

Figure 13: India Policy Conjoint Results: Interactions with Monitoring



Average Component Interaction Effects (ACIE) calculated from the conjoint choice experiment for the different dimensions with 90% confidence intervals (respondent-level clustered standard errors). Points without bars indicate the reference category for a given dimension.

Figure 14: India Policy Conjoint Results: Interactions with Adaptation as the Goal



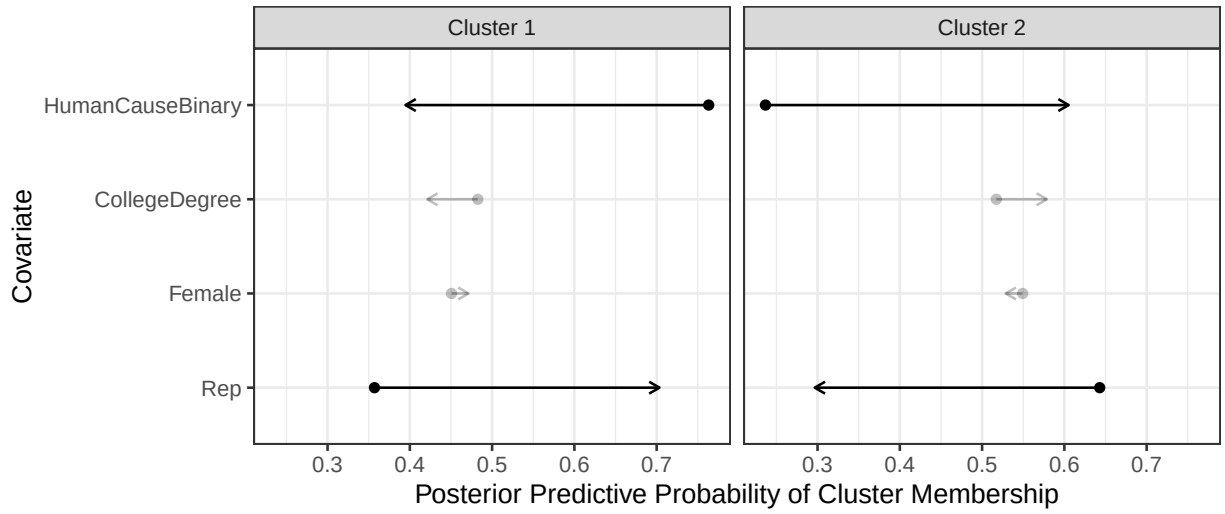
Average Component Interaction Effects (ACIE) calculated from the conjoint choice experiment for the different dimensions with 90% confidence intervals (respondent-level clustered standard errors). Points without bars indicate the reference category for a given dimension.

I Heterogeneous Effects in Conjoint Experiments

The effect of different conjoint dimensions can vary across pre-treatment variables that we observe. There are a variety of approaches to do this, including subsetting the data by covariate values or interacting treatment levels and pre-treatment covariates and utilizing sparse regression methodologies (e.g., Ratkovic and Tingley, 2017). Here we leverage new advances by Goplerud, Imai and Pashley (2022) that approaches the heterogeneous effect problem by identifying clusters, or groups of units, that correspond to different treatment effects. Methodologically, the approach uses mixtures of Bayesian logistic regression models with a sparse prior to prevent over fitting and the identification of covariate groups following (Goplerud, 2021). Additionally, unlike the traditional conjoint analysis approach that ignores the features of the "other" profile that respondents consider in their choice and rating exercise, this approach builds this information in using a differencing approach. That is, in choosing between A versus B, it is helpful to know not just the treatment profile of option A but also of option B. For more on this, see Egami and Imai (2018).

We report here the heterogeneous effects identified in the US data (similar plots are available for the India data). For each of our conjoints we use a relatively small set of covariates as potential moderators of the treatment effect. For the US conjoints we use the party ID, whether they identify as female, whether they have a college degree, or (in the US case) whether the respondent believes humans are causing global warming. We must also pre-specify the number of clusters to allow, which we set at 2. Similar results hold for 3 clusters. We report here the choice outcome models.

Figure 15: Effects of covariates on group membership for US conjoint

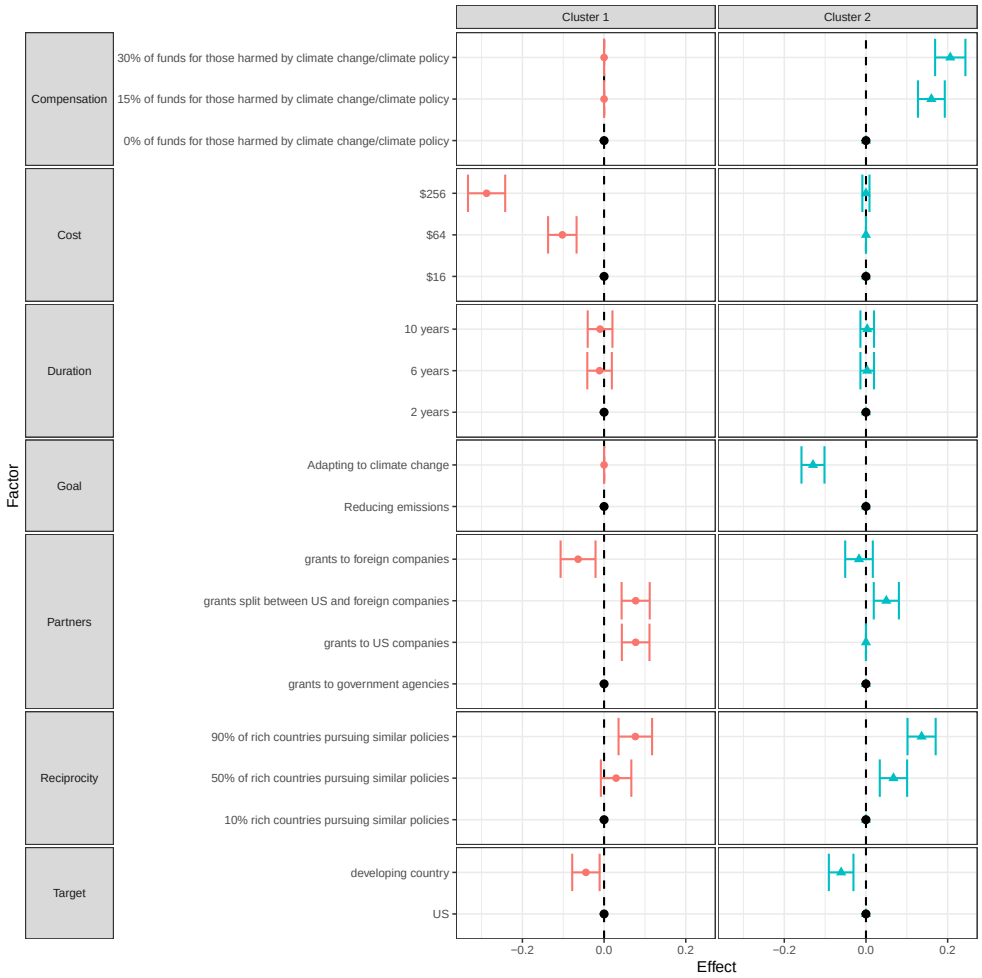


Probability of being in each group or cluster as a function of pre-treatment covariate values. Dark black lines indicate an effect with $p < .05$.

We see a salient effect of both being a Republican and believing the humans are causing

climate change on cluster membership. Republicans are more likely to be in the first cluster than in the second cluster. Believing that humans are causing climate change decreases the likelihood of belonging to the first cluster and increases the likelihood of belonging to the second cluster. Importantly, there is variation on the loading across attributes. The first cluster weighs the impact of *Cost*, heavily whereas the second cluster considers *Compensation* much more clearly. The role of *Partners* across the two clusters is heterogeneous, with individuals loading on the first cluster reacting more to this attribute but mattering for the second cluster too: While the first cluster negatively reacts to grants going to foreign countries, they significantly support grants to US companies (however, both clusters support the mixed foreign-domestic companies scenario). The effects of *Goal* activate more the second cluster.

Figure 16: Heterogeneous conjoint effects for US conjoint



Average Marginal Effects (AME) calculated from the conjoint using two latent "clusters".

For India we considered a range of factors including identification with the BJP party, education, income, gender, and several measures of trust to evaluate heterogenous effects.

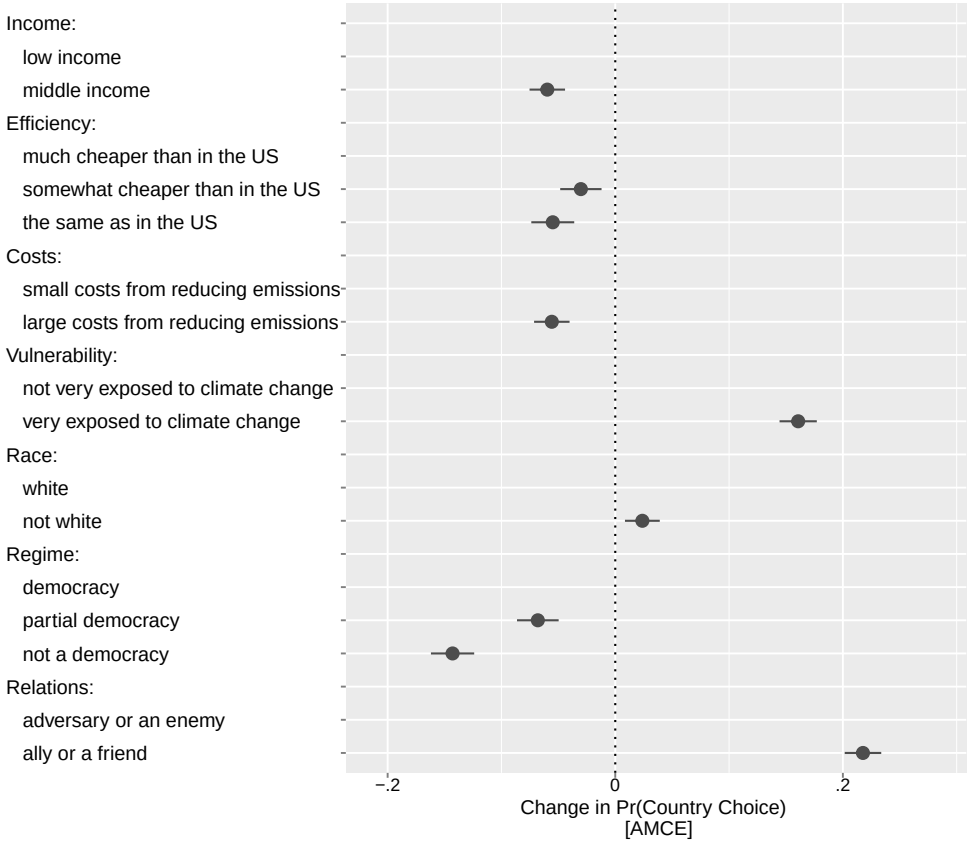
Unlike in the United States we did not find strong evidence of heterogenous responses to the conjoint dimensions following the modelling in Goplerud (2021); there is also essentially no heterogeneity by levels of trust in national government. Subgroup analyses indicate some minor heterogeneous effects with respect to trust in the national government and employment in fossil fuel (results available upon request).

J Donor and Recipient Country's Profiles Conjoint

In a second US experiment embedded in the original survey, we asked: 'We would now like your opinions on what types of countries should get funding for climate programs. Below we will describe different characteristics of the countries. You will indicate what types of countries you would prefer to support.' The Indian survey included a similar experiment where we asked a similar question referring to potential donor countries for India.

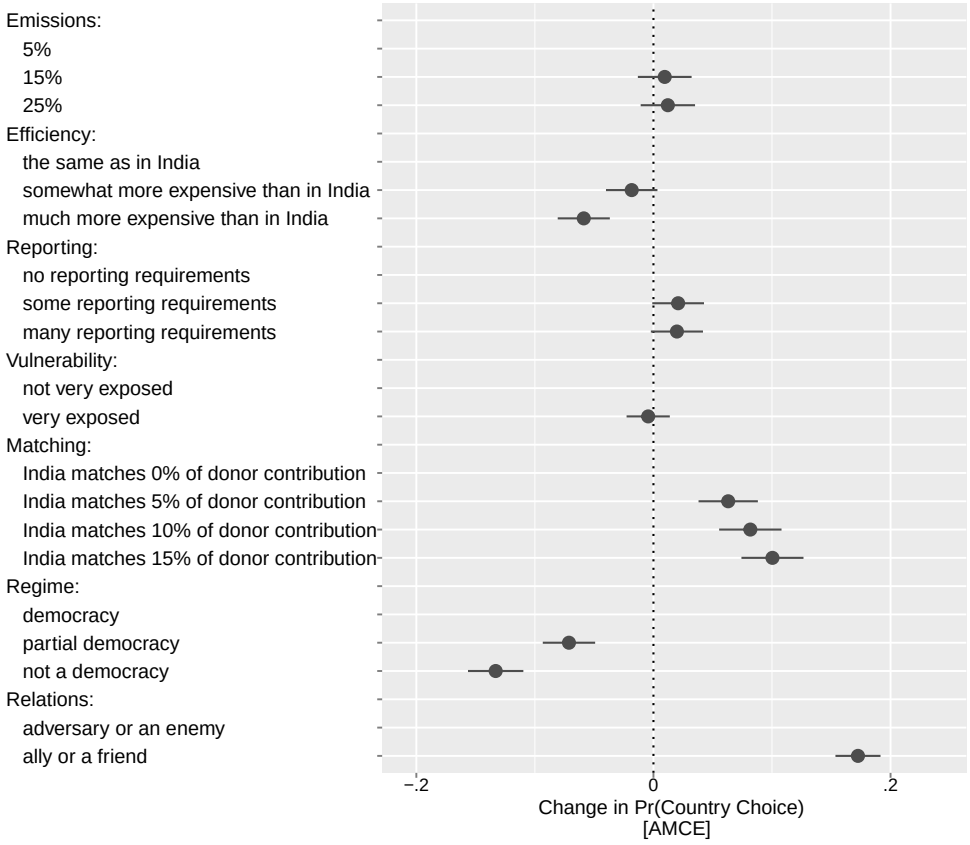
Figure 17 (US data) and Figure 18 (India data) report the conjoint results where the outcome variable is the forced choice (0-1) across the profiles of possible recipients (US case) or donors (India case). We distinguish between economic dimensions and geopolitical dimensions of variation (see main text). The results indicate that the geopolitical attributes of recipients/donors matter substantially more than their economic attributes.

Figure 17: US Profile Conjoint Results



Average Marginal Component Effects (AMCE) calculated from the second conjoint force choice experiment for the different dimensions with 95% confidence intervals (respondent-level clustered standard errors). Individual choice of each policy is the dependent variable. Points without bars indicate the reference category for a given dimension.

Figure 18: Indian Profile Conjoint Results



Average Marginal Component Effects (AMCE) calculated from the second conjoint force choice experiment for the different dimensions with 95% confidence intervals (respondent-level clustered standard errors). Individual choice of each policy is the dependent variable. Points without bars indicate the reference category for a given dimension.

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