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Working Paper

Voter responses to fiscal crisis: New evidence on preferences for fiscal adjustment in emerging markets

IDB Working Paper Series, No. IDB-WP-1545

Provided in Cooperation with:

Inter-American Development Bank (IDB), Washington, DC

Suggested Citation: Ardanaz, Martin; Hübscher, Evelyne; Keefer, Philip; Sattler, Thomas (2024) : Voter responses to fiscal crisis: New evidence on preferences for fiscal adjustment in emerging markets, IDB Working Paper Series, No. IDB-WP-1545, Inter-American Development Bank (IDB), Washington, DC,
<https://doi.org/10.18235/0012884>

This Version is available at:

<https://hdl.handle.net/10419/299408>

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**Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library**

Voter responses to fiscal crisis: new evidence on preferences for fiscal adjustment in emerging markets / Martin Ardanaz, Evelyne Hübscher, Philip Keefer, Thomas Sattler.

p. cm. — (IDB Working Paper Series ; 1545)
Includes bibliographical references.

1. Taxation-Latin America-Econometric models. 2. Expenditures, Public-Latin America-Econometric models. 3. Government spending policy-Latin America-Econometric models. 4. Voting-Latin America-Econometric models. I. Ardanaz, Martin. II. Hübscher, Evelyne, 1975- III. Keefer, Philip. IV. Sattler, Thomas. V. Inter-American Development Bank. Fiscal Management Division. VI. Series.

IDB-WP-1545

JEL Codes: D72, E62, H62

Keywords: fiscal adjustment, taxes, public expenditures, conjoint experiment

<http://www.iadb.org>

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Abstract*

Though governments regularly implement fiscal adjustments to avert crisis, voter attitudes towards competing adjustment strategies are still poorly understood. A conjoint experiment with 8,000 survey respondents in Brazil, Colombia, Costa Rica, and Peru confirms that individuals prefer spending- to tax-based adjustments in general. However, preferences change dramatically depending on which specific tax and spending adjustments are included and on individuals' personal characteristics. Consistent with their broad preferences for spending- over tax-based adjustments, respondents oppose increases in the personal income tax and support public employment cuts. However, they support or are indifferent towards higher corporate income or value-added taxes and they oppose cuts in social assistance. Preferences for fiscal adjustment also depend on voter characteristics that are unrelated to their pecuniary interests. Ideology, social beliefs, and trust in government significantly influence their preferences for tax- or spending-based adjustments in general and for the specific composition of those adjustments.

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1 Introduction

Although fiscal adjustments are politically and economically consequential, evidence about voter preferences regarding these adjustments is still mixed and often paradoxical. For instance, one strand of the literature argues that voters prefer spending-based over tax-based adjustments. Others conclude that voters oppose spending cuts more than tax increases, despite evidence that the latter may be sub-optimal since they are less effective in meeting macro-fiscal objectives and relatively costlier in terms of foregone economic growth. Our results from a large conjoint experiment with 8,000 participants from Brazil, Colombia, Costa Rica, and Peru account for these findings.

Respondents prefer spending- to tax-based adjustments in general, but are highly sensitive to the composition of the adjustment package and to respondent characteristics. They *oppose* packages that increase personal income taxes or cut social spending and strongly *prefer* packages that increase corporate income taxes or cut public employment. They generally prefer packages that are in their material self-interest, but behavioral characteristics such as trust in politicians, ideology, and beliefs about the sources of income (e.g., luck versus effort) also lead them to support packages that are incompatible with their pecuniary motivations.

We use a conjoint experimental design to examine how voters react to changes in the composition of fiscal adjustment. Fiscal adjustments usually entail policy changes in several budgetary categories. The evaluation of these packages represents a multi-dimensional choice problem that cannot be examined with simple survey questions or standard vignette experiments. Using the conjoint approach, we estimate respondent preferences over adjustment packages that vary across three types of taxes (the value-added tax, corporate income tax, personal income tax) and four types of spending (public employment, energy subsidies, social assistance, and public investment).

The conjoint design incorporates several innovations. First, it requires all adjustment packages to reduce the fiscal deficit by the same magnitude. Prior research usually asks participants to compare adjustment packages that reduce the deficit by different amounts.

In such cases, respondents may express a preference for a package simply because it is smaller, rather than because it has more appealing components. In the context of fiscal crises, however, governments often need to hit a specific deficit reduction target; the key issue is therefore only the composition of the adjustment package, not its magnitude. Voter preferences over the composition of a fiscal adjustment can differ significantly depending on whether their choices are budget-constrained or not.

Second, the experiment is anchored in the actual choices that governments typically make. The packages reduce the fiscal deficit by 1 percent of GDP, similar to the typical size of adjustment packages implemented across Latin America and the Caribbean (LAC). The adjustment packages also reflect seven policy areas that have been at the center of fiscal adjustment in recent decades. This disaggregation allows us to more precisely identify whether respondents preferences for tax- or expenditure-based adjustments depend on the specific tax and expenditure components of the adjustment.

Third, the focus on middle-income countries in Latin America complements prior research on austerity politics based on advanced economies (Barnes and Hicks, 2018; Hübscher, Sattler and Wagner, 2021; Bojar et al., 2022; Bansak, Bechtel and Margalit, 2021). Emerging markets have been in general even more vulnerable to debt crises, which Latin American countries in particular have often resolved through fiscal adjustments.¹ The survey results from Latin America therefore provide novel evidence of the sensitivity of voters to adjustment policies in an understudied setting and a better understanding of the political equilibrium that underpins these policies.

Previous studies conclude that most voters support austerity (Bansak, Bechtel and Margalit, 2021) and that governments are not punished (Alesina, Carloni and Lecce, 2013; Arias and Stasavage, 2019), or can even be rewarded (Brender and Drazen, 2008), for austerity.

¹According to the global database of financial crises in Reinhart and Rogoff (2009), the typical LAC country spent 34 years in default between 1900 and 2016. This value is eight times higher than the rate for advanced economies and the highest compared to other emerging regions (i.e., countries in Sub-Saharan Africa register the second highest debt crisis prevalence with an average of 16 years in default).

However, other recent research shows that fiscal adjustments reduce voter support for the incumbent (Hübscher, Sattler and Wagner, 2021; Bojar et al., 2022; Bremer and Bürgisser, 2023), are positively correlated with social unrest (Ponticelli and Voth, 2019; Passarelli and Tabellini, 2017), and create a breeding ground for the emergence of populist electoral shifts (Fetzer, 2019; Duque Gabriel, Klein and Pessoa, 2022; Dal Bo' et al., 2023; Baccini and Sattler, Forthcoming) and party system polarization (Hübscher, Sattler and Wagner, 2023).

A possible explanation for these diverse findings is variation in the composition of fiscal adjustment packages. Using country-level data, Alesina et al. (2021) and Ardanaz, Hallerberg and Scartascini (2020) find that tax-heavy consolidations impose higher electoral costs than expenditure-based adjustments. The small universe of austerity episodes makes it difficult to further disentangle the effects of different combinations of spending cuts and tax increases with observational data, however. Using survey vignettes and conjoint analysis, Hübscher, Sattler and Wagner (2021) conclude that voters oppose spending cuts more than they oppose tax increases. As the model in Bierbrauer, Boyer and Peichl (2021) predicts, their respondents are more supportive of adjustment programs that tax the wealthy. Barnes, Blumenau and Lauderdale (2021) ask British respondents whether they prefer the current allocation of spending across three spending areas or a proposed reallocation. Some proposed re-allocations entail greater spending and higher taxes. Their respondents prefer higher social and pension spending financed by higher taxes and spending cuts elsewhere.

We contribute to this literature by showing that voter reactions to fiscal adjustments depend on the specific tax and spending measures adopted, and that broad classifications of adjustment episodes, such as tax-based versus spending-based austerity, cannot fully capture the trade-offs faced by voters when evaluating fiscal plans. These findings resolve the tension between the macro and micro literature on preferences for spending- versus tax-based adjustments. Similar to Alesina et al. (2021) in their study using country-level data, our results show that respondents broadly prefer spending-based to tax-based fiscal adjustment packages. However, these preferences reverse when tax-based adjustments increase the

corporate income tax or value-added tax, rather than the personal income tax; and when spending adjustments focus on cuts to social assistance spending rather than cuts to public employment.

Finally, we also show that behavioral characteristics of voters strongly affect their fiscal adjustment preferences. For example, the Latin American respondents in our survey oppose cuts to social spending, similar to the British respondents in Barnes, Blumenau and Lauderdale (2021). However, we find that respondents exhibit little support for protecting social spending if it must be financed by increases in personal income taxes, particularly among respondents with little trust in government (most of them) and among respondents with higher-incomes. More generally, voter attitudes often deviate from their pecuniary interests, and this deviation can be explained with non-pecuniary concerns such as trust in government, social beliefs, and ideology.

2 Preferences over Fiscal Adjustment Packages

Voter preferences over fiscal adjustment packages should vary with the composition of these packages. Previous research on the composition of adjustments primarily distinguishes tax-based and spending-based adjustments (Alesina, Favero and Giavazzi, 2019; Alesina et al., 2021). In practice, however, within tax and spending categories, packages exhibit substantial variation, relying on budget items that serve different purposes and have distinct effects on voter welfare. An analysis of voter attitudes, therefore, requires that we first decompose adjustment packages into their main elements.

The adjustment dimensions that we consider constitute the main tax and spending categories in Latin America. Table 1 summarizes these in the four countries included in our experiment.² The importance of these categories is roughly similar across countries. The

²The data come from multiple sources, including the World Economic Outlook Database of the IMF; the Revenue Statistics in Latin America and the Caribbean by the OECD, IADB and others; and national sources, mostly ministries of finance websites. See also Pessino, Izquierdo and Vuletin (2018).

value-added tax is the largest revenue category, followed by the corporate income tax. Income taxation contributes less to public revenues (except for Brazil).³ Public employment is the largest expenditure category in all countries, followed by energy subsidies (except for Peru). Social assistance expenditures are roughly similar across countries, but there is more variation in infrastructure investment.⁴

Table 1: Size of Main Tax and Spending Categories (as a percent of GDP)

<i>Tax categories</i>		Brazil	Costa Rica	Colombia	Peru	Median
Value-added tax	(VAT)	7.0	4.4	5.8	6.4	6.1
Personal income tax	(PIT)	3.0	1.4	1.2	1.9	1.7
Corporate income tax	(CIT)	2.9	2.8	4.8	3.8	3.3
<i>Spending categories</i>						
Public employment	(EMP)	9.4	6.8	5.3	6.1	6.4
Energy subsidies	(SUB)	2.4	2.7	5.0	1.0	2.6
Social assistance	(ASS)	1.5	2.0	2.4	1.4	1.8
Infrastructure investment	(INV)	1.7	2.0	4.8	3.8	3.6

Table 1 illustrates that the simple distinction between tax-heavy and spending-based consolidations misses important variation. The VAT is a regressive tax, while the PIT and CIT are progressive. Social assistance is the most redistributive spending category. The tax categories have diverse impacts on consumption, investment and, therefore, growth. The spending categories are also economically diverse, constituting transfers (social assistance), public goods (infrastructure), and government consumption (public employment expenditures). The macroeconomic and distributive effects of adjustment packages depend significantly on these within-spending, within-tax variations (Ilzetzki, Mendoza and Végh, 2013; Lustig, 2018). Thus, how voters think about adjustment policy, no matter if they take a

³The VAT is the main source of revenue in Latin America, with receipts above 6.5 percent of GDP for the typical country. In contrast, personal income taxes are among the lowest in the world, accounting for less than 1.5 percent of GDP, compared to an average of 8.4 percent of GDP in advanced economies (Corbacho, Fretes and Lora, 2013).

⁴Compensation of employees accounts for about 30 percent of spending in the region, which is somewhat higher than the 24 percent in the OECD. The share of transfers, including subsidies, grants, and pensions, is larger in the OECD (33 percent) than in LAC (29 percent). Finally, capital spending per capita in LAC is about half the level observed in advanced economies (see Pessino, Izquierdo and Vuletin (2018) for details).

personal (egocentric) or macroeconomic (sociotropic) perspective, should vary from category to category.

Our analysis compares adjustment packages that reduce fiscal deficits by 1 percent of GDP. This threshold is based on the actual size of fiscal adjustments implemented across the region in recent decades: across 76 fiscal adjustment episodes in 14 LAC countries (1989-2016), the IMF estimates that the average fiscal adjustment was about 0.91 percent of GDP (David and Leigh, 2018). Governments cannot easily meet this goal without adjusting major budgetary categories. Hence, LAC governments usually resort to increasing the rates and/or bases of consumption and income taxes on the revenue side, and concentrate expenditure rationalization on the major current (wages, subsidies, transfers) and capital (infrastructure investment) expenditure categories.⁵

2.1 Pecuniary Motivations

Analyses of fiscal adjustments typically highlight their impact on voter incomes (Alesina et al., 2021; Alpino et al., 2022; Bierbrauer, Boyer and Peichl, 2021; Baccini and Sattler, Forthcoming). Based solely on their pecuniary interests, voters should prefer adjustments that target others. Hence, the VAT, a highly regressive tax, should be unpopular among low-income voters. Individuals with a higher income should more strongly oppose increases in personal and, potentially, corporate income taxes. Where income distribution is more skewed, as in Latin American countries, the pecuniary logic implies an even stronger tendency to support increases in personal and corporate income taxes more than the VAT.

Similarly, in the case of expenditure cuts, high-income voters benefit less from social assistance expenditures and should be less opposed to adjustment packages that reduce them. They have at least two reasons to support packages that cut spending on public sector employees. First, they are less likely to receive the government services that public

⁵For example, a decomposition analysis of the 76 fiscal adjustment episodes in David and Leigh (2018) show that VAT, PIT, or CIT measures have been present in all except one episode, that included adjustments to other types of taxes.

employees deliver (health, education, even policing). Second, they are less likely to be direct beneficiaries of government employment.⁶ Energy subsidies in Latin America (and generally) are known to be regressive, so support for these subsidies among the middle class and rich should be greater than their support for social assistance spending. The incidence of public investment is more ambiguous. Both richer and poorer households can benefit more from public infrastructure than other types of spending, but this depends on the specific projects that infrastructure spending finances.⁷

2.2 Non-Pecuniary Motivations

Although pecuniary explanations are prominent in research on fiscal adjustment, behavioral research also highlights the likely relevance of non-pecuniary explanations. Since fiscal adjustment policies concern the distribution of the costs of adjustment across individuals, the literature on free-riding in public good provision is relevant. The pecuniary incentives of individuals should always lead them to free-ride. However, as Fischbacher and Gächter (2010) and many others demonstrate, social preferences can lead individuals to contribute to public good provision even when there is no penalty for free-riding. Stantcheva (2021) argues that preferences for redistributive taxes also depend on social preferences, independent of the pecuniary circumstances of individuals.

Voters motivated by social preferences therefore judge economic policies based on their effects on their own incomes *and* on inequality and the well-being of their fellow citizens (Guisinger, 2017), as well as on national macroeconomic performance (Quinn, Sattler and Weymouth, 2023). These distinct strands of research all imply that voters with the same pecuniary interests may still have opposing views on adjustment policies because of differences

⁶Public sector employment in the region offers a substantial wage premium for low-level positions, such as those that lower-income households might occupy, but a wage discount for higher-level positions, such as those that higher-income households might hold.

⁷For instance, poorer households benefit from better public transport, while richer ones benefit from investment into private transportation solutions, such as airports. Our analysis below does not distinguish types of infrastructure.

in their non-pecuniary motivations.

We examine several non-pecuniary considerations. The first is trust in government. Trust affects preferences for fiscal adjustment in at least two ways. Low-trust individuals expect government to shirk on its obligations. They are more skeptical that the government transforms tax revenues into welfare-promoting expenditures. Keefer, Scartascini and Vlaicu (2022), for instance, find that individuals with low trust in government are more likely to prefer that governments channel expenditures to transfers and away from public goods. Hence, given a choice between adjustment packages that reduce expenditure and those that increase taxation, low-trust individuals should prefer the former. Moreover, among expenditure reductions, they are more likely to prefer cuts to funding for public employees, whom they regard as prone to shirking, than cuts to social transfers, which are easy for voters to monitor and offer little space for government shirking.⁸

Fiscal adjustment policies also differ in the degree to which they expose individuals to opportunistic behavior by government. Less trusting voters are more concerned about this. Adjustment packages that require individuals to provide personal information to the government, as through the personal income tax, leave them more vulnerable to potential abuse than policies that do not require such information, as with the value-added tax rate. Low-trust individuals are likely to oppose adjustment packages that rely on personal income tax increases.

The second, non-pecuniary motive is respondents' beliefs about fairness and the determinants of income.⁹ These beliefs guide voters in their assessment of the impact of adjustments on others and society as a whole, beyond the direct and pecuniary impact on themselves.

⁸Using vignettes that they incorporated into a survey of Latin American respondents, Keefer, Scartascini and Vlaicu (2022) find ample evidence that low-trust voters prefer transfers and public investment over government consumption. The expenditure categories that respondents considered in our conjoint analysis match the categories that Keefer, Scartascini and Vlaicu (2022) analyze: public employment expenditures are public consumption; energy subsidies and social transfers are transfers, and infrastructure is public investment.

⁹On the role of such beliefs in shaping policy preferences, see Alesina and Angeletos (2005) and Bénabou and Tirole (2006).

Those who believe that income is a result of luck rather than effort should regard it as more fair to raise taxes on higher-income individuals. They should be less averse to progressive adjustments, such as personal income tax hikes, and less supportive of VAT hikes. Voters who believe that income is the result of luck should be less concerned about the impact of income taxes on incentives to generate jobs.

Beliefs about income determination should also influence how voters view expenditure cuts. Those who believe the income distribution is unfair should advocate public spending to redistribute income to poorer households. Among the expenditures categories that we examine, social assistance has the strongest and most direct redistributive effect. Respondents who believe that income is a result of luck should therefore be less likely to support packages that cut social transfers. Other expenditure categories, such as public employment, energy subsidies, and infrastructure, have a more ambiguous effect on redistribution and so should be less affected by social preferences around fairness.

Studies using public opinion surveys find that ideology better explains variation in attitudes towards fiscal adjustment than variables representing pecuniary interests (Hübscher, Sattler and Wagner, 2021; Bansak, Bechtel and Margalit, 2021; Bremer and Bürgisser, 2023). Left-wing voters attribute a greater general role to government in correcting inequities and guiding economic development, while right-wing voters prefer less regulation and smaller size of government to strengthen the private sector. This means that left-leaning respondents should prefer adjustments that raise taxes sustaining the role of government. They should also be particularly supportive of more progressive income taxes and less supportive of more regressive value-added taxes.

Left-leaning respondents should also be less favorable to packages that reduce government spending. However, because no adjustment package can (or, in practice, does) rely exclusively on higher personal and corporate income tax rates, left-leaning respondents must accept adjustments on the spending side. Among those, cuts in social assistance should be least popular because of their role in reducing poverty and inequality. Ideological preferences

regarding expenditures on public employment, energy subsidies, and infrastructure are more ambiguous.

3 Conjoint Experiment

3.1 Data

The conjoint experiment that we use was embedded in an online survey fielded in May 2022 in Brazil, Colombia, Costa Rica, and Peru. In each country, we collected the answers of 2,000 respondents for a total of 8,000 individual respondents. The Latin American Public Opinion Project (LAPOP) fielded the survey using the online panels created and supported by two survey firms (Netquest and Offerwise).

In the conjoint experiment, respondents indicate their preferences over fiscal adjustment packages that vary on seven policy dimensions: increases in corporate or personal income taxes, or the value-added tax, and/or reductions in social assistance transfers, the public employment wage bill, energy subsidies, and infrastructure spending. We examine how pecuniary and non-pecuniary factors moderate respondent support for a package.

Respondents first answered questions about their gender, age, and region, and then questions about key potential determinants of their support for fiscal adjustment: trust, views on the tax administration, the attribution of responsibility, political participation and preferences, their time and risk preferences, and income perceptions. The conjoint experiment is in the second part of the survey. Respondents make 10 pair-wise comparisons of different policy packages. All reduce the fiscal deficit by the same amount but vary in their composition. Finally, respondents answer questions about their education, professional occupation, income, and household circumstances.¹⁰

¹⁰We pre-registered the survey at https://osf.io/48v2k/?view_only=657d447b6b0e4504ae97946c3475f6bf. The web interface of the survey can be followed interactively at https://vanderbiltpolisisci.col.qualtrics.com/jfe/form/SV_811fiZ9xjDyJx2e.

3.2 Conjoint Design

The conjoint set-up resembles that of previous studies (e.g., Bansak, Bechtel and Margalit 2021; Hübscher, Sattler and Wagner 2021), with the crucial difference that the size of the adjustment package is held constant in the present study. To implement this novel feature, each proposed adjustment package reduces the public deficit by 1 percent of GDP. This means, for example, that if most cuts fall on public employment, then the other spending (tax) categories are cut (increased) less. Or, if the measures are distributed equally across budgetary categories, then the spending cuts (tax increases) in all areas are more modest than if the measures are concentrated in a few categories.

Without the budget constraint, respondents could avoid adjustments in one policy area without having to make larger adjustments in other policy areas simply by expressing a preference for smaller adjustment packages. In the extreme, respondents could avoid any adjustment, contrary to the motivation of the experiment.¹¹ Reflecting the choice problem of governments, the setup requires respondents to make a trade-off between smaller adjustments in some areas and larger ones in others. The question for governments, and citizens, is not how much they want to adjust, but how they should distribute adjustments across policy categories to reach a specific adjustment goal.

The budget constraint raises a methodological issue. Estimates from conjoint analysis are unbiased if the policy profiles over which voter preferences are estimated are independent of each other. If policy profiles are not independent, estimates of respondent preferences may be biased (see, e.g., Assumption 3 in Hainmueller, Hopkins and Yamamoto (2013)). However, the introduction of the budget constraint necessarily makes adjustments in one area dependent on another. We describe the issue below, as well as a straightforward specification adjustment that addresses the problem.

In any conjoint analysis, respondents express their preferences across $\{M\}$ policy profiles,

¹¹See Bremer and Bürgisser (2023) and Barnes, Blumenau and Lauderdale (2021) for different approaches to the analysis of policy preferences in the presence of budget constraints.

each profile consisting of a set of different policies m_i , where $m \in \{M\}$ denotes the policy area (e.g., taxes or spending) and $l \in \{L\}$ denotes the level of that policy (e.g., how much taxes are increased or spending is reduced). As formally expressed in Appendix A.2, when policy profiles are budget-constrained, profiles are independent and estimates unbiased if preferences are estimated over any $\{M - 1\}$ policy profiles and $\{L\}$ policy levels, or over $\{M\}$ policy profiles with any $\{L - 1\}$ policy levels. We adopt this estimation strategy, as described in greater detail below, by collapsing two policy levels into one. Hence, our main estimates are based on comparisons across all policies and $\{L - 1\}$ rather than $\{L\}$ policy levels.

Respondents obliged to make choices under a budget constraint are likely to express sharper preferences for some adjustments than others. Consistent with this intuition, compared to prior research, the results of our budget-constrained conjoint analysis exhibit considerably sharper differences (stronger support or opposition) in preferences for adjustments across policy areas, and more persistent support for some types of adjustment than others.

To make the conjoint experiment as realistic as possible, adjustment alternatives are constructed using real-world data on the size and composition of public expenditures and tax revenues in the countries under analysis (see Table 1 above). We use the median level of a specific budgetary category as percent of GDP across our four countries as the baseline for the computation of the adjustment sizes. This allows us to run the conjoint experiment with identical setups in all countries and to pool and compare responses from the different countries.¹²

Even expert respondents would struggle to compare policy alternatives that differ only slightly from each other. Hence, we ensure that respondents compare policy options that differ meaningfully from each other by constructing a policy space that has discrete steps for spending cuts and tax increases. Specifically, a spending or tax category can contribute

¹²Cross-country differences in the weights of the different budget items are in any case not large.

0, 1/10, 2/10, 3/10 or 4/10 to the total fiscal consolidation effort of one percent of GDP.

These particular discrete steps were chosen to ensure that respondents only see consolidation packages that affect at least three policy areas (spending and/or taxation). This again makes the exercise more realistic since, in practice, when governments implement consolidation packages, adjustments typically fall on multiple categories of spending or taxation. The realistic distribution of attribute levels in our setup corresponds to recent recommendations in the conjoint literature (de la Cuesta, Egami and Imai, 2022). Hence, respondents only see profiles that have adjustments to a minimum of three policy areas (e.g., $\{0.4, 0.4, 0.2, 0, 0, 0, 0\}$), but could see profiles that include changes to all budgetary categories, such as $\{0.2, 0.2, 0.2, 0.1, 0.1, 0.1, 0.1\}$.

A further design choice concerns how adjustments are presented to respondents. We could present adjustments to a particular policy dimension either as a percentage of the deficit reduction target, as in the examples in the previous paragraph, or as a percentage of the spending or taxation category. We assume that respondents care more about how much a policy adjustment differs from the status quo and less about how much it contributes to deficit reduction. That is, they care less that an adjustment reduces the deficit by 0.1 percent and more about whether it reduces spending on a particular budget category by 5 percent or 50 percent. We therefore describe policy profiles in terms of the impact that each policy adjustment has on the status quo levels of that policy. That is, we express adjustments as a percent of the corresponding baseline level of spending or tax category.¹³

The advantage of this second approach is that it makes tradeoffs clearer to respondents. They can immediately observe that spending categories that account for a smaller share of total public expenditures need to be cut more (in percentage terms) than categories that account for a larger share of total expenditures if they are to reduce the deficit by the same

¹³For instance, an adjustment package could propose a cut to public employment expenditures that amounts to 0.2 percent of GDP. Given a baseline level of public wages and salaries spending of 6.4 percent of GDP, the respondent would see the cut expressed as a three percent cut to this budget category.

amount. Similarly, taxes that account for a smaller share of total public revenue need to be increased more (in percentage terms) than taxes that account for a larger share of the total revenues the government generates to reduce the deficit by the same amount. Table 2 shows how an adjustment that corresponds to 0.1, 0.2, 0.3, and 0.4 percent of GDP translates into a percentage change of each budgetary category given a baseline level of taxes and spending, as shown in Table 1.¹⁴ The values included in this table serve as the basis for our conjoint experiment.

Table 2: Size of Policy Adjustments (as percent of GDP) and Corresponding Percentage Change of Budget Category

Adjustment target (in percent of GDP)	0	0.1	0.2	0.3	0.4
<i>Percentage increase to achieve adjustment target (taxes)</i>					
Value-added tax	0%	2%	3%	5%	7%
Personal income tax	0%	6%	12%	18%	24%
Corporate income tax	0%	3%	6%	9%	12%
<i>Percentage decrease to achieve adjustment target (spending)</i>					
Public employment	0%	-2%	-3%	-5%	-6%
Energy subsidies	0%	-4%	-8%	-12%	-15%
Social assistance	0%	-6%	-11%	-17%	-22%
Infrastructure investment	0%	-3%	-6%	-8%	-11%

Note: Each entry in the table is the percentage change in revenue/spending equivalent to an adjustment of different sizes in each budget category (0.1, 0.2, 0.3, and 0.4 percent of GDP).

In the conjoint task, respondents perform 10 rounds of comparisons of two different adjustment packages. The total number of adjustment package ratings is therefore equal to 160,000 (2,000 respondents \times 4 countries \times 20 packages). The adjustment packages that respondents assess are drawn randomly from the universe of possible adjustment packages that sum up to 1 percent of GDP. Across respondents we randomize whether spending cuts or tax increases are presented first, but to avoid respondent confusion, for any given respondent the order remains fixed throughout the 10 consecutive rounds of comparison. Similarly, across respondents we randomize the order of tax and spending categories, but at the level of individual respondents, we fix the order of budgetary categories within the

¹⁴Table A2 shows the distribution of increments in the universe of adjustment packages that sum to 1 percent of GDP.

spending block and the order among different types of taxes within the tax block. Figure 1 shows how respondents were asked to evaluate fiscal adjustment plans.

Figure 1: Example of a Conjoint Screen as Displayed to Respondents

	Option 1	Option 2
SPENDING CUTS		
Public Employment	-6%	-3%
Energy Subsidies	-4%	-4%
Social Assistance	-11%	-11%
Infrastructure Investment	No change	-8%
TAX INCREASES		
Value Added Tax (VAT)	+5%	+2%
Personal Income Tax	No change	+6%
Corporate Income Tax	No change	No change

Which option do you prefer?

Option 1	Option 2
----------	----------

Suppose a government were to implement these options and then an election was held. Please indicate how the implementation of each option would affect your vote on a scale of 1 to 5, where 1 means that it would make you very likely to vote against the government and 5 means that it would make you very likely to vote for the government.

	Very likely to vote against (1)	(2)	Would not affect your vote (3)	(4)	Very likely to vote in favor (5)
Option 1					
Option 2					

After reviewing the two options, respondents are obliged to choose between the two policies (“forced choice”), selecting the one that they prefer. Then, they are asked to rate each of the two options on a one to five scale, as shown at the bottom section of Figure 1. Before respondents start working on the the actual conjoint tasks, they complete a series of introductory screens. They first see a description of the seven budgetary categories and how they contribute to the overall public budget. With the help of a graphical illustration, respondents learn the relative size of each tax and spending category. Respondents are then informed how much a pre-specified percentage change in a particular category reduces the

fiscal deficit, so that they understand the principle that the smaller the budget category, the larger must be its percentage change to achieve a given reduction in the deficit.

After these educational screens, we run a series of comprehension checks. Respondents review a series of examples and then compare how much the different proposed adjustments reduce the fiscal deficit. This allows us to test if the respondent understood how much a particular change in a specific budgetary category impacts the fiscal deficit.¹⁵

3.3 Key Variables

The two outcome variables follow directly from the setup described above. First, we code a binary variable using the “forced-choice” exercise that takes the value 1 if the respondent chooses an option and 0 if she does not. Second, we code an ordinal variable that varies from 1 to 5 with 1 (5) representing lower (higher) support for an option. The explanatory variables are the values of the seven (tax and spending) policy dimensions included in each adjustment package.

The estimation strategy must account for the fact that all adjustments sum to 1 percent of GDP. To be consistent with the independence assumption of conjoint analysis, as discussed earlier, this simply requires that respondent preferences be estimated over $\{M - 1\}$ fiscal policy categories or $\{L - 1\}$ policy levels. We adopt the second option for our main specifications, estimating preferences over $\{L - 1\}$ policy levels. Specifically, we group the two middle adjustment levels (0.2 and 0.3 percent of GDP) into a single adjustment level. We then estimate preferences over low, medium, and high adjustment levels, rather than the four levels that were reflected in the options evaluated by respondents. This yields a set of dummy variables, one for each value per policy dimension. In total, there are 28 dummy variables because each of the 7 policy dimensions has 4 possible values: no adjustment, low, medium, and high adjustment. No adjustment is the reference category for each dimension, so 21 dummy variables enter the analysis.

¹⁵93 percent of respondents got at least one comprehension question right.

Finally, to directly link the analysis to the previous literature on tax- vs. spending-based adjustments, we also sort different policy profiles according to whether they are tax- or spending-focused. A profile is defined as tax-based if adjustments in the three tax categories account for more than 50 percent of the total adjustment. This exercise, by definition, demands that we combine budget categories and estimate preferences over $\{L - 5\}$ (or two) budget categories. These two meet the independence assumption so we have no reason to combine the two middle adjustment categories and estimate preferences over all five policy levels $\{M\}$.

To estimate how preferences over adjustment packages depend on the material interests and non-pecuniary concerns of respondents, we measure four key variables: income, ideology, trust, and beliefs about the sources of personal success.¹⁶ Specifically, to measure income, we asked respondents to choose from 10 income brackets. We then converted these responses into a trichotomous variable: high, moderate, and low income. Similarly for trust, respondents answered questions about trust in politicians and other individuals based on a four-point scale. We converted these into dichotomous variables. Respondents were asked to place themselves on the ideological spectrum, ranging from 0 (the extreme left of the political spectrum) to 10 (the extreme right). We use a trichotomous version of these responses to categorize respondents as right, center, or left. Beliefs about the sources of personal success are measured using respondents' level of agreement with the following statements: *"People's income is an outcome of their individual effort."*, compared to *"People's income is an outcome of aspects that are out of control, such as luck."* We convert these responses into a dichotomous variable (see Appedix Table A1 for summary statistics).

¹⁶The analysis of heterogeneous effects in conjoint analysis is demanding given the large number of dummy variables needed to capture the different policy attributes. In the interests of tractability and interpretation, we simplify the information on these characteristics, using dichotomous and trichotomous variables.

4 Empirical Strategy

To estimate voter preferences over different adjustment packages, we proceed in three steps. The first specification distinguishes between tax- and spending-heavy adjustments, as described earlier, to examine whether our respondents' preferences mirror those found in earlier cross-country work that focuses on electoral responses to two types of adjustments (spending-based versus tax-based consolidations):

$$y_{ij} = \alpha_0 + \alpha_1 T_{ij} + \varepsilon_{1,ij} \quad (1)$$

where i refers to respondent and j to the policy package rated by the respondent; y_{ij} is either the binary or the 5-step ordinal choice variable; T_{ij} is a variable that captures to what extent an adjustment package is tax-heavy, as described above; and $\varepsilon_{1,ij}$ is an error term. The coefficient α_1 indicates how support for a package changes when a greater fraction of adjustment falls on taxes (and, by implication, a smaller fraction falls on spending).

In the next step, we examine the impact of each policy dimension and adjustment increment separately:

$$y_{ij} = \beta_0 + \sum_{k=1}^3 \beta_1^k VAT_{ij}^k + \sum_{k=1}^3 \beta_2^k PIT_{ij}^k + \dots + \sum_{k=1}^3 \beta_7^k INV_{ij}^k + \varepsilon_{2,ij} \quad (2)$$

where k refers to the 3-step increment of adjustment (low, medium, and high); VAT_{ij}^k are dummy variables that take the value 1 if the increment in VAT of policy package j that respondent i sees corresponds to increment k , and 0 otherwise. The same logic applies to the other six policy dimensions. In this specification, the coefficient β_1^1 is interpreted as the average preference of respondents for policy packages that included a low adjustment on VAT compared to policy packages that included no adjustment on VAT; the interpretation of the other coefficients follows the same logic.

We are also interested in how respondents vary in their reactions to different types of

adjustments. We therefore interact the treatments with variables representing different respondent characteristics. We start again with the simple distinction between tax-vs-spending heavy adjustments captured by Equation 1, which yields the following specification:

$$y_{ij} = \alpha_0 + \alpha_1 M_i + \alpha_2 T_{ij} + \alpha_3 T_{ij} * M_i + \varepsilon_{3,ij} \quad (3)$$

where M_i is an indicator variable that captures some salient respondent characteristic. For example, it takes the value 1 if respondent i is a high-income respondent, and 0 otherwise. The coefficient $\alpha_3 T_{ij} * M_i$ then indicates how support for high-income respondent i for a tax-heavy policy package T_j diverges from the support of middle- and low-income respondents.

Finally, we do the same for the separate policy dimensions:

$$\begin{aligned} y_{ij} = & \beta_0 + \beta_1 M_i + \sum_{k=1}^3 (\beta_{11}^k VAT_{ij}^k + \beta_{12}^k VAT_{ij}^k * M_i) \\ & + \sum_{k=1}^3 \beta_2^k PIT_{ij}^k \\ & + \dots \\ & + \sum_{k=1}^3 \beta_7^k INV_{ij}^k + \varepsilon_{4,ij} \end{aligned} \quad (4)$$

where M_i is again an indicator variable capturing a respondent characteristic such as income, trust, ideology, and beliefs about income determination.

5 Main Results

Following the order of the discussion above, we first examine respondent support for tax-versus spending-heavy adjustments using specification (1). We then examine preferences over specific tax increases and spending cuts using specification (2). In all cases, we estimate linear probability models relating support for fiscal adjustment packages to differences in

their composition.

5.1 Tax- versus Expenditure-based Adjustments

A perennial question in the literature is whether voters prefer tax- or expenditure-based adjustments. The results reported in Table 3, based on specification (1), reveal significantly greater opposition to tax-based than expenditure-based adjustment packages. Results are robust to the use of either dependent variable, the binary variable that forces respondents to select one out of two presented packages, and the 5-point scale that allows respondents to freely rate each packages. They are also robust to the use of either of two alternative variables to capture the tax intensity of an adjustment package. One is a binary variable that equals one if more than 50 percent of the adjustment is through tax increases; the other is a continuous variable that captures the share of total adjustment that is due to tax increases.

Table 3: Support for Tax-Heavy Profile

	Outcome: D(Choice)		Outcome: Slider (1-5)	
	(1)	(2)	(3)	(4)
D(Tax-heavy profile)	-0.029*** (0.003)		-0.045*** (0.005)	
Percentage of adjustment related to taxes (0-1)		-0.101*** (0.008)		-0.156*** (0.014)
Constant	0.513*** (0.001)	0.543*** (0.003)	2.952*** (0.002)	2.998*** (0.006)
Observations	167,780	167,780	167,780	167,780
Individual fixed effects	Yes	Yes	Yes	Yes
Dep. Var. Mean	.5	.5	2.93	2.93
Dep. Var. S.D	.5	.5	1.06	1.06

Notes: Standard errors clustered at the individual level in parentheses. * is significant at the 10% level, ** is significant at the 5% level, *** is significant at the 1% level.

According to Column 1, political support for an adjustment package is approximately three percentage points lower for tax-based than for spending-based adjustments. Political support drops by up to 10 percentage points if we move from a package that only cuts spending, but does not increase taxes, to one that only increases taxes, but does not cut

spending (see Column 2). These results are consistent with previous cross-country evidence on the political effects of fiscal adjustment, which finds that tax-based adjustments pose the greatest electoral risk for incumbents (Alesina et al., 2021; Ardanaz, Hallerberg and Scartascini, 2020). However, they are an important complement to this earlier work since we use an entirely different and more realistic empirical setup. It builds on respondent reactions to specific types of taxes and expenditures rather than their reactions to adjustments based generally on tax increases or on expenditure cuts.

5.2 Within-Category Policy Preferences

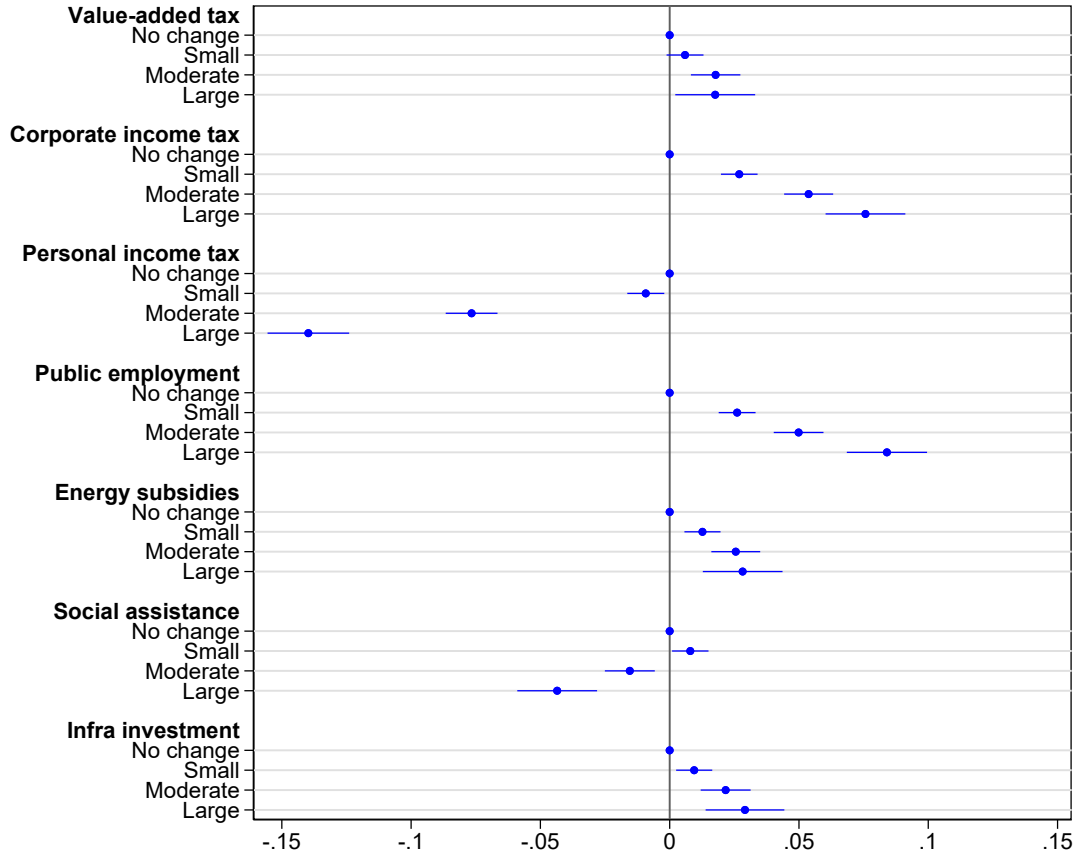
We then unpack these initial results using specification (2) to examine the impact of the specific tax- and spending categories on adjustment preferences. The dependent variable is the forced-choice preference expressed by respondents. This yields a more nuanced picture of how voters react to the concrete policy levers that governments adjust in practice. Figure 2 presents point estimates for each attribute value equivalent to average marginal component effects (AMCE) over baseline values (no adjustment), along with 95% confidence intervals.

Comparing these findings to those in Table 3 indicates that opposition to adjustment packages that raise taxes is primarily driven by resistance to the personal income tax. This tendency is counterbalanced by significant support for corporate income taxation. Similarly, support for spending cuts is primarily due to the unpopularity of public employment. Yet, this support for cuts is counterbalanced by opposition to social assistance cuts.

This analysis offers a clearer picture of the politically optimal composition of fiscal adjustment packages than was possible in earlier studies. According to Bansak, Bechtel and Margalit (2021), respondents react either not much or negatively to adjustments in almost all policy areas that they evaluate.¹⁷ However, when the policy alternatives that respondents

¹⁷Respondents react negatively to increases in the personal income tax, the sales tax (Italy, little reaction in Spain) and the corporate income tax (Italy, little reaction in Spain). They also react negatively to reductions in welfare spending, education spending and pensions and show little or no reactions to reductions in public employment and defense spending (Italy,

Figure 2: Main Results of Conjoint Experiment



Notes: This figure presents the estimated impact of a (small, moderate, large) increase in each tax category and a (small, moderate, large) reduction in each spending category on the probability that respondents select a fiscal adjustment package. Point estimates with 95% confidence intervals. Standard errors clustered at the individual level.

compare are not constrained to lie on the budget line, respondents are not required to make larger adjustments in some areas when they express a preference for low adjustments in other areas. When respondents make choices among adjustment packages that are required to reduce deficits by the same amount, sharper differences emerge in their expressed preferences, including significantly greater support for adjustments in some important fiscal categories than in others.¹⁸

some support in Spain).

¹⁸We find different reactions in three of the five policy dimensions that overlap between Bansak, Bechtel and Margalit (2021)'s and our setup, specifically for reductions in public employment and increases in the VAT and corporate taxation.

5.3 Robustness checks

To check the robustness of these baseline results, we conduct a series of additional analyses that can be found in Appendix A.3. Alternative specifications include: (i) country and individual fixed effects (Figure A1); (ii) as explanatory variables, the original 4-step levels of each policy attribute using both OLS and ridge regression (Figure A2); (iii) an alternative dependent variable, based on respondent ratings from the 5-point scale variable instead of the forced-choice outcome (Figures A3 and A4); (iv) separate specifications by country (Figures A5 and A6); (v) sample weights provided by our survey administrator¹⁹; (vi) only respondents who voted in the latest national election (Figure A7); (vii) only respondents above the 5th percentile and below the 95th percentile in time spent on the entire survey; and (viii) only respondents who answered at least three (out of five) attention check questions correctly (Figure A8). In all these checks, results are consistent with the baseline findings discussed above.

6 Heterogeneous Treatment Effects

Previous research predicts that, based on their pecuniary interests, voters should (a) prefer expenditure-based fiscal adjustments over tax-based adjustments, and among expenditure adjustments, (b) favor those that cut spending items that do not directly benefit them. Consistent with the first prediction, Table 3 indicates significantly greater opposition to fiscal adjustments that rely on tax increases.

With respect to the second prediction, the conjoint analysis yields several anomalies. The results in Figure 2 show that respondents, when given a choice between increasing the VAT and other possible adjustments, do not oppose VAT increases, even though they all pay it. Respondents massively reject reforms that include increases in the personal income

¹⁹Weights are constructed from four variables (gender, education, age, and region of residence), so their (weighted) distribution in the sample matches the distribution in the 2018-19 round of the AmericasBarometer, a nationally representative, face-to-face survey by LAPOP.

tax, though this tax falls more heavily on the rich and salaried individuals and relatively few respondents pay it. In addition, although most respondents do not receive social assistance, they are much more likely to support adjustment packages that do not cut social transfers.

These results raise questions about the roles of pecuniary and non-pecuniary voter interests as determinants of voter preferences for fiscal adjustment policies. This section responds to these questions by summarizing the main results of an analysis of how the preferences of respondents for different reform packages vary with pecuniary interests—respondents income—and the following non-pecuniary concerns: trust in politicians, ideology, and beliefs about the role of luck in personal success. The evidence points to an important role for both pecuniary and non-pecuniary considerations in the preference formation of respondents.

6.1 Tax- versus Expenditure-based Adjustments

Table 4 summarizes the results from specification (3). Each column reports the results for a different moderating variable. The corresponding predicted probability plots are shown in the Appendix (see Figures A9 and A10).

Column 1 focuses on the effects of income on preferences for tax-based adjustments. The regression includes interactions for middle- and lower-income respondents and excludes poorer respondents. The coefficient on *Percentage of adjustment related to taxes* therefore captures the preferences of poorer respondents: they are 4.2 percentage points more likely to reject a proposal that relies entirely on tax increases than one that relies entirely on expenditure reductions. The interaction terms *Middle inc. x Percentage of adjustment* and *High inc. x Percentage of adjustment* indicate how the preferences of these richer respondents diverge from those of the poorer respondents. The negative and significant coefficients on these interactions indicate that they are even more strongly in favor of expenditure-based adjustments. Moreover, the richer are respondents, and the greater is the reliance on tax-based adjustment, the greater is their opposition to adjustment packages relative to the poor: the coefficient on the *High inc* interaction is -.10, nearly twice that of the *Middle*

inc interaction, which in turn is significantly larger than that of the poor. These results are consistent with the predictions of the literature, except for the strong opposition of the poorer respondents to tax-based adjustments. Even in this case, though, opposition by the poor is weaker than that of richer respondents.

Table 4: Effects of Voter Characteristics on Support for Tax-based Adjustment Packages

	(1) Income	(2) Gov. Distrust	(3) Pol. Spectrum	(4) Income determ.	(5) All
Percentage of adjustment related to taxes (0-1)	-0.042*** (0.013)	-0.061*** (0.018)	-0.052*** (0.018)	-0.106*** (0.009)	0.029 (0.028)
Middle inc.	0.024*** (0.008)				0.023*** (0.008)
High inc.	0.045*** (0.008)				0.044*** (0.008)
Middle inc. \times Percentage of adjustment related to taxes (0-1)	-0.057*** (0.018)				-0.054*** (0.018)
High inc. \times Percentage of adjustment related to taxes (0-1)	-0.106*** (0.019)				-0.102*** (0.019)
Distrusts		0.018** (0.008)			0.015* (0.008)
Distrusts \times Percentage of adjustment related to taxes (0-1)		-0.042** (0.019)			-0.036* (0.020)
Center			0.015* (0.009)		0.020** (0.009)
Right			0.039*** (0.010)		0.041*** (0.010)
Center \times Percentage of adjustment related to taxes (0-1)			-0.036* (0.021)		-0.046** (0.021)
Right \times Percentage of adjustment related to taxes (0-1)			-0.092*** (0.023)		-0.097*** (0.023)
Inc. deter. externally				-0.018** (0.007)	-0.015* (0.008)
Inc. deter. externally \times Percentage of adjustment related to taxes (0-1)				0.042** (0.017)	0.035** (0.018)
Constant	0.518*** (0.006)	0.526*** (0.008)	0.522*** (0.008)	0.546*** (0.004)	0.488*** (0.012)
Observations	167,780	167,780	167,780	167,780	167,780
Country F.E	Yes	Yes	Yes	Yes	Yes

Notes: This table reports differences in support for tax-based fiscal adjustments across individuals who vary along four dimensions (following Equation 3): income, trust in government, ideology, and beliefs about income determination. Columns 1 to 4 derive from models where the treatment is interacted with one moderator at a time, and Column 5 presents the estimate of a model where all moderators are interacted with the treatment simultaneously. The dependent variable is a dummy that equals 1 if the respondent preferred a particular package over another in a given round. Standard errors clustered at the individual level in parenthesis. * is significant at the 10%, ** at the 5%, and *** at the 1%.

The remaining estimates in Table 4, though, indicate the significant influence of non-pecuniary factors on respondent preferences. Column 2 considers *Distrust of government*. Low-trust individuals should be more skeptical that government transforms tax revenues into welfare-promoting expenditures (Keefer, Scartascini and Vlaicu, 2022). Hence, if given

a choice between adjustment packages that reduce expenditures and those that increase taxation, they should prefer the former. The coefficient on *Distrusts* and its interaction with *Percentage of adjustment* both support this argument. The linear coefficient is 0.018: individuals who distrust government offer significantly more support for expenditure-based adjustments. The negative interaction term is large and significant: as adjustment packages rely more on tax-based measures, opposition to the packages significantly increases among low-trust respondents.

Columns 3 and 4 report estimates of the impact of ideology on support for tax-based reform packages. Those whose ideology and view of the world generally point to a limited role for government are significantly more likely to embrace expenditure-based adjustments. The specification in Column 3 examines ideology and includes independent and interactive variables controlling for center and right-wing respondents. The negative and significant coefficient on *Percentage of adjustment* indicates that respondents who self-identify as left-wing are significantly less likely to support tax-based adjustments. However, the negative and significant coefficients on the interaction terms *Center x Percentage of adjustment* and *Right x Percentage of adjustment* indicate that center- and right-leaning respondents are even more opposed to tax-based adjustments. Right-wing respondents are more opposed than center respondents, who are in turn are significantly more opposed than left-wing respondents.

Respondents who believe that income is a product of personal effort rather than luck (Column 4) are significantly more likely to oppose tax-based adjustments. Those who believe that income is a product of effort are significantly more opposed to tax-based adjustments (the coefficient on *Percentage of adjustment* is -.106). In contrast, those who believe that income is the product of external forces are less opposed (though on net, still opposed) to tax-based adjustments (the coefficient on *Inc. deter. externally x Percentage* is positive, though smaller (.042)).

It is possible that these different results all reflect a single underlying respondent characteristic that is correlated with their income and beliefs. Column 5 investigates this possibility,

combining all pecuniary and non-pecuniary controls and interaction terms. The interaction terms have the same interpretation as their counterparts in the other columns. The estimates indicate that the sensitivity of preferences for tax-based adjustments to various pecuniary and non-pecuniary characteristics of respondents are essentially unchanged, with respect to both magnitude and significance.²⁰

The estimates in Table 4 support hypotheses that link pecuniary motives to voter preferences for expenditure-based reforms. However, in the aggregate, non-pecuniary motives are equally important. From Column 6, higher income respondents are 10.4 percentage points more likely to reject an adjustment package that is entirely tax-based compared to poorer respondents. However, low-trust respondents are 4.1 percentage points more likely to reject it than high-trust respondents, and right-wing respondents 9 percentage points more likely than left-wing respondents. Those who believe that income is determined by factors outside of people’s control are 3.6 percentage points more likely to accept all-tax adjustment packages.

6.2 Within-Category Policy Preferences

The foregoing analysis identifies a significant role for both the pecuniary and non-pecuniary characteristics of voters in the formation of their preferences for tax- or spending-based fiscal adjustments. These characteristics play an equally significant role in explaining why voters prefer some types of tax and spending adjustments over others.

We use the specification given by Equation (4) to estimate how voter support for adjustment packages varies with the degree of adjustment in each of the seven policy dimensions. For ease of presentation, though, the analysis focuses only on the four policy dimensions that most influence voter support for adjustment policy packages. These exhibit the largest average marginal component effects in the Equation (2) estimates: corporate and personal

²⁰The coefficient on *percentage of adjustment* is not easily interpreted (it reflects the preferences of poor, trusting, and left-wing respondents who believe that income is the product of effort).

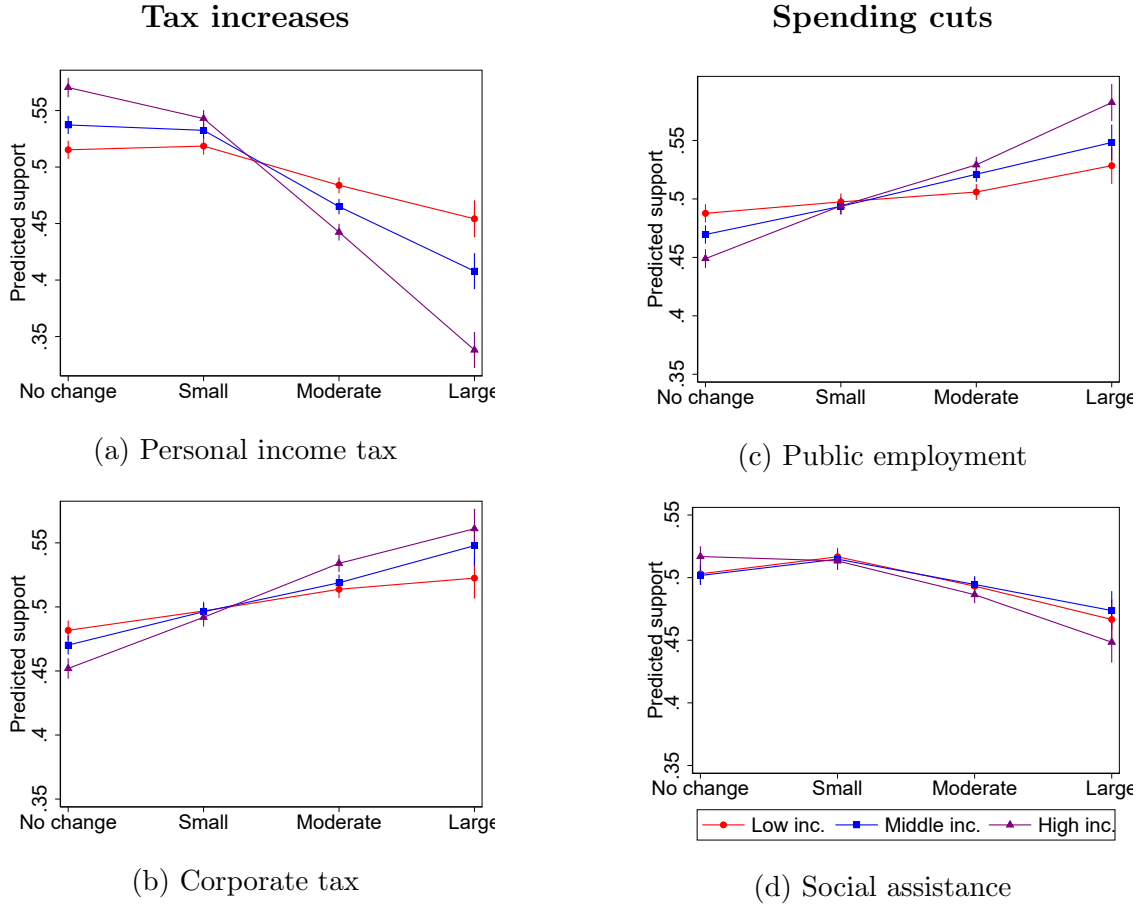
income taxation, on the one hand, and public employment and social assistance expenditures on the other. The specification given by Equation (4) allows for the estimation of the heterogeneity of voter preferences for within-category policy adjustments. These are estimated separately, once for each characteristic: respondent income; trust in government; beliefs about income determination; and ideology.

Figures 3 through 6 summarize the results. The figures show, first, predicted respondent support for an adjustment package depending on whether it makes no, small, moderate or large adjustments in each of the four policy areas. Second, they indicate how support varies depending on whether respondent income is low, middle or high (Figure 3); whether respondents trust or distrust government (Figure 4); whether they believe that income is determined by effort or by external factors (Figure 5); and by whether respondents lean ideologically to the left, center or right (Figure 6).²¹

The top left panel in Figure 3 show that all respondents oppose packages that include moderate or large increases in the personal income tax compared to those that include no or small increases. However, consistent with their greater exposure to these taxes, higher-income voters are much more opposed than lower-income voters. The opposite is true for corporate income taxes: the larger the increase in corporate income taxes in a proposed adjustment package, the greater is the support for the package among middle- and higher-income respondents compared to poor respondents. The universal support for corporate taxation suggests that respondents have little concern with the potential indirect effects of such taxes on household incomes. However, because richer respondents are more exposed to other taxes than the poor, they are less opposed to increases in the corporate income tax. For example, when asked to compare an adjustment package that raises the personal income tax with one that raises the corporate income tax, they are more likely than low-income respondents to support the second option.

²¹The results for the remaining policy dimensions (value-added tax, energy subsidies and infrastructure investment) are shown in the Appendix (see Figures A11 through A14). Regression Tables A4 through A7 present the full set of results.

Figure 3: Effect of *Income* on Adjustment Preferences



Notes: Each graph in the figure describes the predicted probability that low, middle, and high income respondents will support adjustment packages that make smaller or larger changes in the corresponding policy dimension. Point estimates and 95% confidence intervals.

With respect to preferences over different expenditure adjustments, the right panel of Figure 3 shows that respondents at all income levels are more supportive of adjustment packages that make large cuts to public employment and less supportive of packages that reduce social assistance. The similar opposition expressed by respondents in different income classes to cuts in social assistance suggest that non-pecuniary motivations may play a large role in the formation of those preferences, at least among higher income respondents who derive no pecuniary benefits from them.

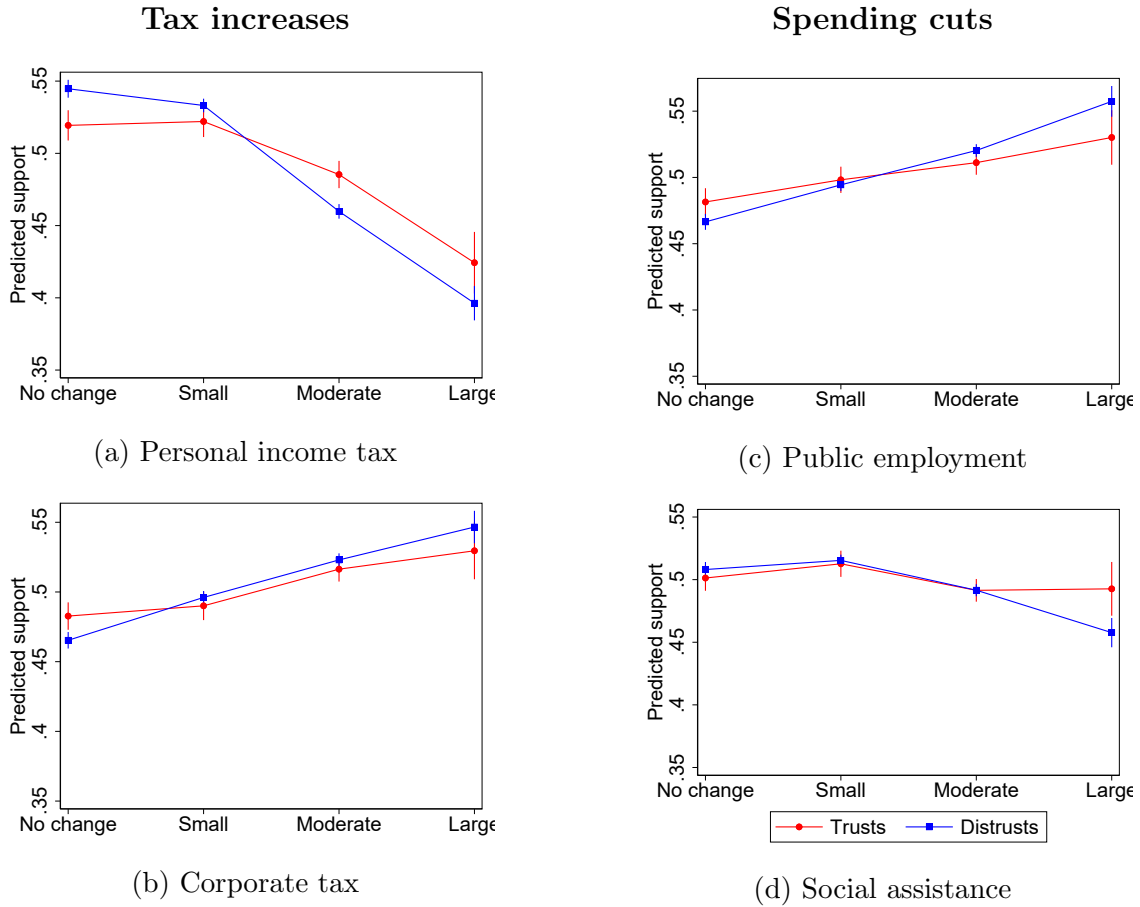
All respondents are more supportive of cuts to public employment, regardless of income. However, in this case, middle- and higher-income respondents, who depend less on pub-

lic services, are significantly more likely than poorer respondents to oppose packages that include no cuts to public employment and to support those that make large cuts. For completeness, Appendix Figure A11 reports how support for adjustment packages varies across income groups when the packages make higher or lower changes in the remaining policy dimensions. The earlier findings indicate that these are not the policy dimensions that most affect individual support for fiscal adjustment. Heterogeneous effects are correspondingly also modest.

Figure 4 describes the heterogeneity of policy preferences among voters with varying levels of trust in government, the first non-pecuniary determinant we consider. The left panel of the figure show that low-trust voters are significantly less likely than high-trust respondents to prefer adjustment packages that increase the personal income tax. Since the corporate income tax does not expose households to greater risks of opportunistic behavior, low-trust respondents are significantly more likely than high-trust respondents to prefer packages that increase corporate than personal income taxes. Hence, we observe in the lower graph that low-trust respondents are somewhat more likely than high-trust respondents to support packages that increase the corporate income tax. Finally, Appendix Figure A12 shows that low- and high-trust respondents do not differ in their support for fiscal packages that raise the VAT. This is consistent with the fact that the VAT does not exhibit the three trust-sensitive attributes of the personal income tax.

The results on the right panel of Figure 4 show that low-trust individuals are more supportive of adjustment packages that make large cuts in public employment spending. They are correspondingly less supportive of adjustment packages that make large cuts to social assistance: when given a choice between adjustment packages that reduce social assistance and public employment, they are more likely than high-trust individuals to prefer the package that reduces public employment than the one that reduces more easily monitored social transfers. Appendix Figure A12 shows that there are weak or no differences across high- and low-trust individuals for cuts in energy subsidies and infrastructure spending.

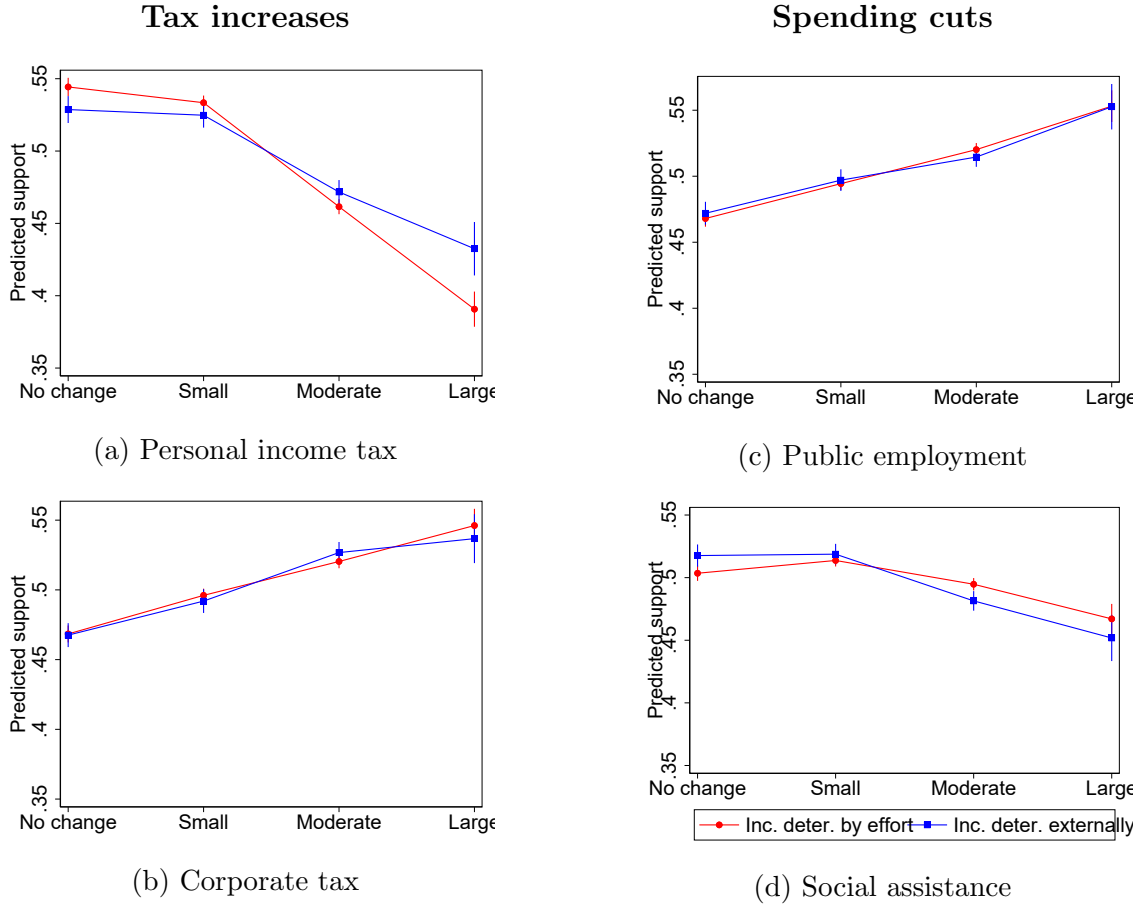
Figure 4: Effect of *Trust* on Adjustment Preferences



Notes: Each graph in the figure describes the predicted probability that high- and low-trust respondents will support adjustment packages that make smaller or larger changes in the corresponding policy dimension. Point estimates with 95% confidence intervals.

Beliefs about income determination also exert a significant effect on preferences for the composition of tax and spending adjustments. Figure 5 compares the adjustment preferences of those who believe that effort plays a large role in an individual's income compared to those who believe that external forces matter most. The top left panel shows that those who believe income is the product of effort are more likely to oppose large personal income tax increases. However, even respondents who believe income is externally determined are also opposed to these increases. The corporate income tax graph indicates, however, that the *effort* respondents are slightly more likely to support the corporate income tax compared

Figure 5: Effect of *Beliefs about Income Determination* on Adjustment Preferences



Notes: Each graph in the figure describes the predicted probability of support for adjustment packages that make smaller or larger changes in the corresponding policy dimension. It compares changes in support by those who believe income is determined by effort and those who believe it is determined by external factors. Point estimates with 95% confidence intervals.

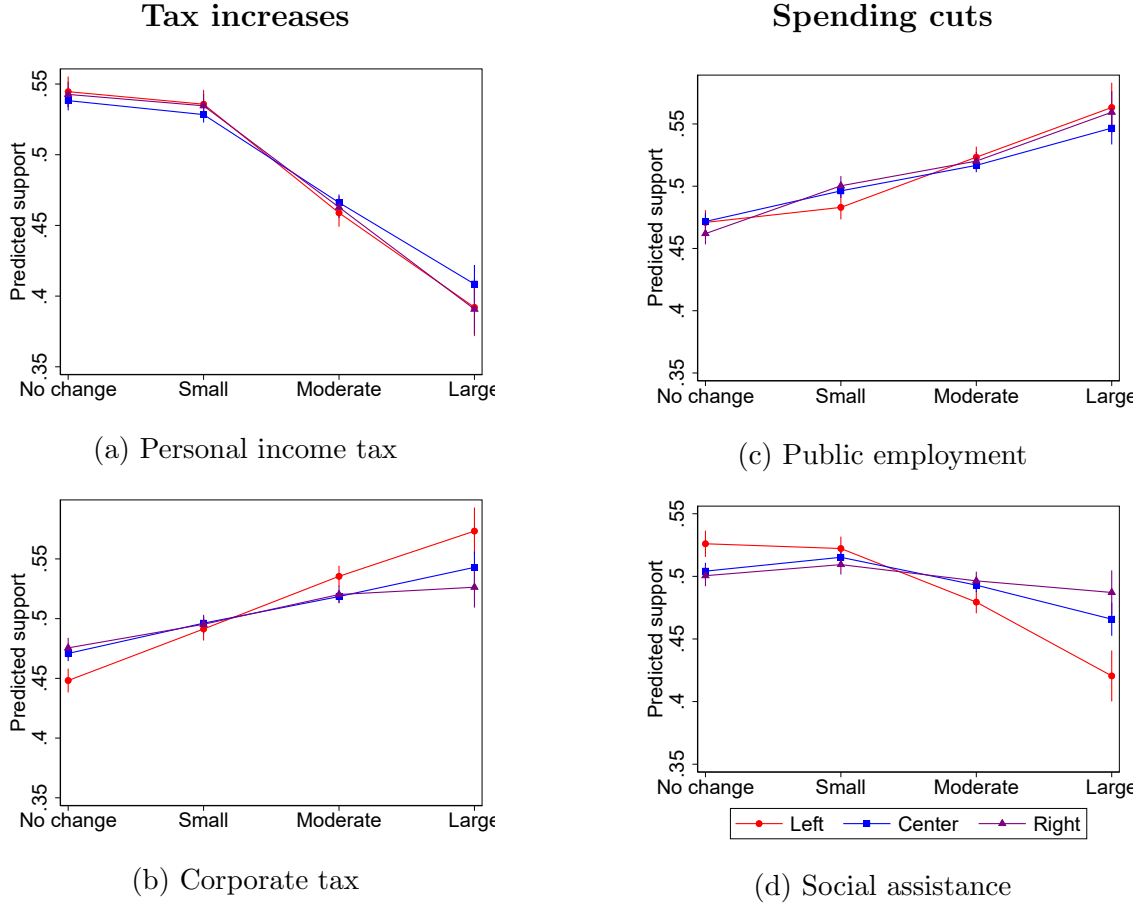
to the *external* respondents, perhaps because of ambiguity among the former group about whether corporate income is as much a product of individual effort as personal income.

The *effort* group might also be expected to be more supportive of cuts to social assistance. In fact, the lower right panel indicates that individuals who believe that income is the result of effort are more in favor of adjustment packages that make large cuts to social assistance and less in favor of packages that contain no assistance cuts. The public employment graph indicates little difference between both groups of respondents. This might be the consequence of ambiguity among respondents about whether public employees exert effort on behalf of

citizens or not.

Finally, Figure 6 traces the interaction of ideology with policy preferences. Evidence of polarized preferences for adjustment packages emerges most strongly with corporate income taxes and social assistance. Left-leaning respondents are significantly more supportive of adjustment packages that raise corporate taxes and less supportive of packages that reduce social assistance. Center- and right-leaning respondents are significantly more likely to support reform packages that include no change in the corporate income tax compared to left-leaning respondents. The deep ideological polarization over the corporate income tax gave respondents less opportunity to express disagreement over the personal income and value-added taxes, given that they had to choose some adjustment package every time they rejected a package that raised (or failed to raise) the corporate income tax. We also do not find major differences between left, center and right respondents for the other expenditure cuts (see Appendix Figure A13).

Figure 6: Effect of *Ideology* on Adjustment Preferences



Notes: Each graph in the figure describes the predicted probability that left, center, and right-leaning respondents will support adjustment packages that make smaller or larger changes in the corresponding policy dimension. Point estimates and 95% confidence intervals.

7 Conclusions

When governments adjust fiscal policies to reduce the public deficit, they confront the challenge of designing adjustment packages that minimize voter opposition and political backlash. Our analysis shows that the design of adjustment packages is consequential. Our experiment holds constant the deficit reduction target across policy alternatives and, in contrast to earlier research, shows that the composition of adjustment packages has sharp effects on voter support. Some policy dimensions play a notably robust and significant role in voters'

calculations about whether to be supportive of government plans or not.

The results also point to significant caveats regarding the typical advice that governments receive when facing the task to balance budgets. For instance, it is often argued that governments should cut spending rather than raise taxes because “the median voter is ... the taxpayer” (Alesina et al., 2021, p. 8). If they do raise taxes, governments should increase the progressivity of adjustment to impose most of the burden on the rich rather than the (larger) middle and lower income groups (Bierbrauer, Boyer and Peichl, 2021).

These results from Latin America indicate, however, that respondents are strongly opposed to the most progressive adjustment, increases in the personal income tax. Their opposition to increases in the personal income tax, and their strong support for adjustment packages that raise the corporate income tax, leave them indifferent to or even moderately supportive of adjustment packages that raise the regressive value-added tax. They support cuts to public employment expenditures, but strongly oppose packages that cut social assistance expenditures, even though relatively few voters benefit from the latter.

These findings have particular policy relevance. First, fiscal adjustments often include tax increases. Previous research is ambiguous about whether this reflects voter preferences. Our results indicate that the significant heterogeneity of voter preferences across types of tax increases and spending reductions can account for this ambiguity. On average, across all possible fiscal adjustment packages, respondents prefer spending-based adjustments. However, these preferences turn out to depend on the precise configuration of adjustments. For example, opposition to tax increases is driven specifically by strongly negative reactions to the personal income tax. Respondents overwhelmingly support adjustments that include higher corporate income taxes and do not oppose those that increase the value-added tax. Consistent with these preferences, personal incomes taxes are low in Latin America, corporate income taxes are high and governments frequently resort to increases in the value-added tax when confronted with fiscal crises.

Second, fiscal adjustments in Latin America rarely target public employment expendi-

tures. This turns out to be entirely inconsistent with the preferences of the participants in the conjoint experiment. On the spending side, respondents' average support for spending cuts is driven by strong support for public employment cuts. They modestly favor adjustment packages that include reductions in infrastructure investment and energy subsidies. They are significantly more likely to oppose a reform package that includes cuts in social assistance programs. Fiscal adjustments frequently include reductions in public investment, but rarely do they target spending on public employees. When they conflict with well-organized special interests, voter preferences regarding fiscal adjustment appear not to prevail.

Pecuniary interests, as represented by respondent income, do matter for shaping adjustment preferences, especially when it comes to increases in the personal income tax. Non-pecuniary motives, though, matter at least as much. Beliefs about income determination, ideology and trust in government strongly influences a respondent's support for different combinations of tax increases and spending cuts. Overall, it is evidently more complex to build an encompassing political coalition for fiscal adjustment based on simple materialistic calculations.

The results point to several key questions for future work. The experimental design included a set of educational screens oriented at familiarizing respondents with the different tax and spending policy categories. However, the conjoint did not provide respondents with specific information about their effects on the economy or their actual incidence. Does informing voters that increasing corporate tax rates may harm economic growth, that personal income taxes are concentrated at the very top of the income distribution, that the lion's share of energy subsidies leak out to non-poor households, or that public investment is usually associated with a large fiscal multiplier, affect policy preferences?

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A Online Appendix

Table A1: Summary Statistics of Moderator Variables

	Mean	S.D	Min	Max
Low income	0.32	0.47	0	1
Middle income	0.36	0.48	0	1
High income	0.32	0.46	0	1
Government distrust	0.84	0.37	0	1
Income determined externally	0.24	0.43	0	1
Left	0.18	0.38	0	1
Center	0.56	0.50	0	1
Right	0.27	0.44	0	1
Observations	8389			

Notes: This table reports descriptive statistics of moderator variables used to identify the heterogeneous treatment effect of the conjoint experiment. Low-income individuals are those in deciles 1 to 3 of their country income distribution, while those in deciles 4 to 7 are classified as middle-income, and those in deciles 8 to 10 are defined as high-income. On the other hand, respondents trust in government if they believe that it is very common or somewhat common that politicians fulfill their promises. Respondent distrust the government if they think it is not very common or not at all common that politicians fulfill their promises. For ideology, we use a 0 to 10 discrete scale where 0 indicates identification with left-wing politics, and 10 with right-wing. An answer ranging from 0 to 3 defines leftists participants, whereas 4 to 6 identifies centrists and 7 to 10 rightists. Finally, income determined externally indicates that the respondent agrees more with the sentence that “People’s income is an outcome of aspects that are out of their control” compared to the sentence “People’s income is an outcome of their individual effort”. If the individual agrees more with the former or agrees equally with both, she belongs to the income determined externally category.

A.1 Distribution of Attribute Levels

Table A2 shows how the different adjustment increments are distributed in the universe of possible adjustment packages. With seven policy dimensions and five possible increments per dimension, we get a total of 4,795 packages that sum up to 1 percent of GDP.²² The frequency of each attribute level is identical for each policy dimension. The distribution of increments is the same for each of the seven policy dimensions. As the table shows, smaller increments occur more often than larger increments.

Table A2: Distribution of Increments in the Universe of Possible Adjustment Packages

Increment	Frequency	Percent
0	1506	31.41
0.1	1246	25.99
0.2	951	19.83
0.3	666	13.89
0.4	426	8.88
Total	4795	100

Table A3 shows how the increments are distributed in our sample. This actual distribution is very similar to the theoretical distribution in Table A2, as one would expect from more than 160,000 randomly drawn policy packages.

²²In an unconstrained setting, the total number of possible combinations is ($5^7 = 78,125$). Of those, 4,795 fulfill our adjustment constraint.

Table A3: Distribution of Increments in our Conjoint Experiment

Increment	VAT	PIT	CIT	EMP	SUB	ASS	INV
0	52,589 (31.34)	52,669 (31.39)	52,929 (31.55)	52,604 (31.35)	52,543 (31.32)	52,634 (31.37)	52,543 (31.32)
0.1	43,618 (26.00)	43,775 (26.09)	43,417 (25.88)	43,680 (26.03)	43,812 (26.11)	43,679 (26.03)	43,756 (26.08)
0.2	33,278 (19.83)	33,027 (19.68)	33,226 (19.80)	33,440 (19.93)	33,259 (19.82)	33,465 (19.95)	33,279 (19.83)
0.3	23,308 (13.89)	23,449 (13.98)	23,163 (13.81)	23,225 (13.84)	23,266 (13.87)	23,273 (13.87)	23,153 (13.80)
0.4	14,987 (8.93)	14,860 (8.86)	15,045 (8.97)	14,831 (8.84)	14,900 (8.88)	14,729 (8.78)	15,049 (8.97)
Total	167,780 (100.00)	167,780 (100.00)	167,780 (100.00)	167,780 (100.00)	167,780 (100.00)	167,780 (100.00)	167,780 (100.00)

Notes: Frequencies with percent of total in parentheses.

A.2 Budget Constraint and Independence of Dimensions

The independence assumption in the first case implies that we consider only policy profiles $\{M - 1\}$. Choose any policy m in $\{M - 1\}$, and two different levels for that policy, m_i and m_j . Choose some policy profile $\{M'\}$ from $\{\{M - 1\}_{-m}\}$. Observe that respondents prefer $\{\{M'\}, m_i\}$ to $\{\{\{M'\}\}, m_j\}$. The policy profiles $\{M - 1\}$ are independent if for all policy profiles $\{M - 1\}$, respondents always prefer $\{\{\{M - 1\}_{-m}\}, m_i\}$ to $\{\{\{M - 1\}_{-m}\}, m_j\}$.

In the second case, omitting one policy level, we consider only policy levels $\{L - 1\}$. This is equivalent to combining any two policy levels $\{a, b\}$ from $\{L\}$ into one, $\{a'\}$, giving $\{L - 1\}$. Choose any policy m in $\{M\}$ and, from the set of policy levels $\{L - 1\}$, choose two policy levels for m , yielding m_i and m_j . Finally, choose any policy profile from $\{\{M\}\}$, $\{M''\}$. Observe, as before, that respondents prefer $\{\{\{M''_{-m}\}, m_i\}$ to $\{\{\{M''_{-m}\}\}, m_j\}$. The policy profiles $\{M\}$ are independent if for all profiles $\{M\}$, respondents prefer $\{\{\{M\}, m_i\}$ to $\{\{\{M\}\}, m_j\}$.

The key intuition in each case is that one can always construct two alternatives that meet the budget constraint. This is essential because independence requires comparing two policy profiles that differ in only one element. Hence, by construction, it is not possible for both to meet the budget constraint. For example, $\{\{M_{-m}\}, m_i\} \neq \{\{M_{-m}\}, m_j\}$ implies that if one meets the budget constraint, the other cannot.²³

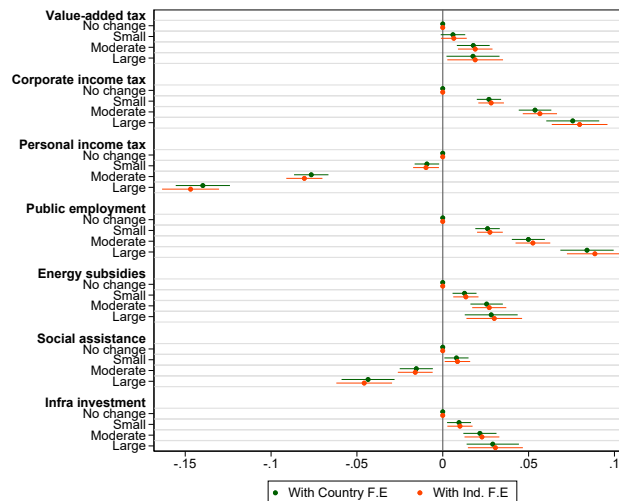
If, however, we exclude one policy level m , then even if $\{\{\{M - 1\}_{-m}\}, m_i\} \neq \{\{\{M - 1\}_{-m}\}, m_j\}$, the omitted policy can adjust to ensure that for the full set of policies $\{\{\{M_{-m}\}, m_i\} = \{\{\{M_{-m}\}, m_j\}$. Similarly, if we combine two policy levels into one, it is then possible

²³An example illustrates the independence assumption in the absence of a budget constraint. A policy profile consists of a set of different policies m_l , where $m \in \{M\}$ denotes the policy area (e.g., taxes or spending) and $l \in \{L\}$ denotes the level of that policy (e.g., how much taxes are increased or spending is reduced). These profiles are independent if, for two different levels of some policy m , m_i and m_j , respondents prefer $\{\{M_{-m}\}, m_i\}$ to $\{\{M_{-m}\}, m_j\}$ regardless of the levels of the content of the remaining policies, $\{M_{-m}\}$. Note that $\{\{M_{-m}\}, m_i\} \neq \{\{M_{-m}\}, m_j\}$, implying that if one of the policy profiles meets some budget constraint, the other one necessarily cannot. Hence, independence in the presence of a budget constraint must be defined in terms of a subset of policy profiles.

for $\{\{\{M_{-m}\}, m_i\} = \{\{\{M_{-m}\}, m_j\}$ because the two policy levels can adjust to ensure equality. For example, for $m_i > m_j$ and $a > b$, some policies with level a' in the policy profile $\{\{\{M_{-m}\}, m_i\}$ can take on lower values b and some of those in the policy profile $\{\{\{M_{-m}\}, m_j\}$ can take on higher values a . Hence, although, when $m_i > m_j$, it must be the case that $\{\{\{M_{-m}\}, m_i\} > \{\{\{M_{-m}\}, m_j\}$ for all policies and policy levels, after combining policy levels it can be the case that $\{\{\{M_{-m}\}, m_i\} = \{\{\{M_{-m}\}, m_j\}$.

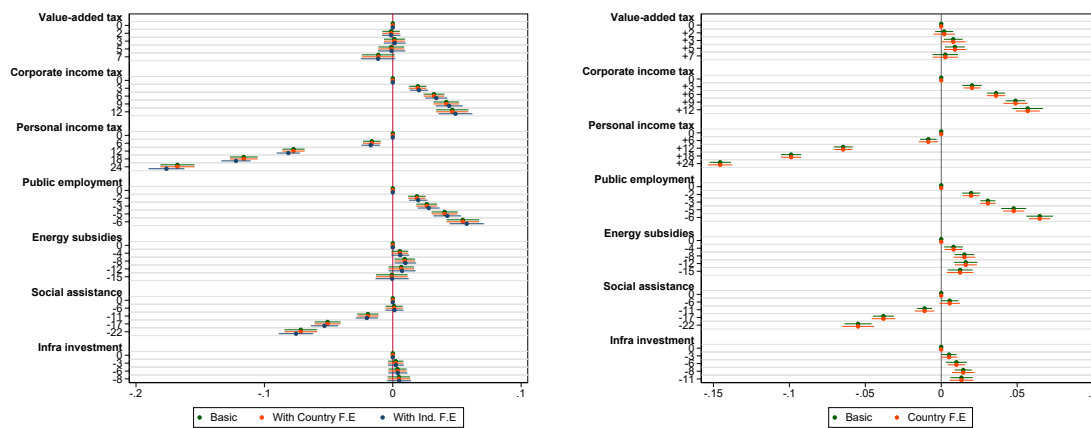
A.3 Main Results: Robustness Checks

Figure A1: Main Results Including Country or Individual Fixed Effects



Notes: This figure presents the main results of the conjoint experiment (i.e., the estimation of the coefficients in Figure 2) in two specifications, one that includes country fixed effects (in green) and other that includes individual fixed effects (in orange). Standard errors are clustered at the individual level. We report point estimates with 95% confidence intervals.

Figure A2: Main Results with OLS and Ridge Estimation

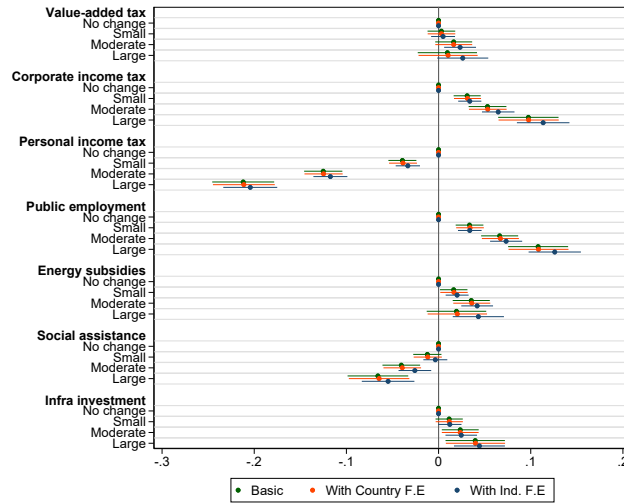


(a) OLS

(b) Ridge

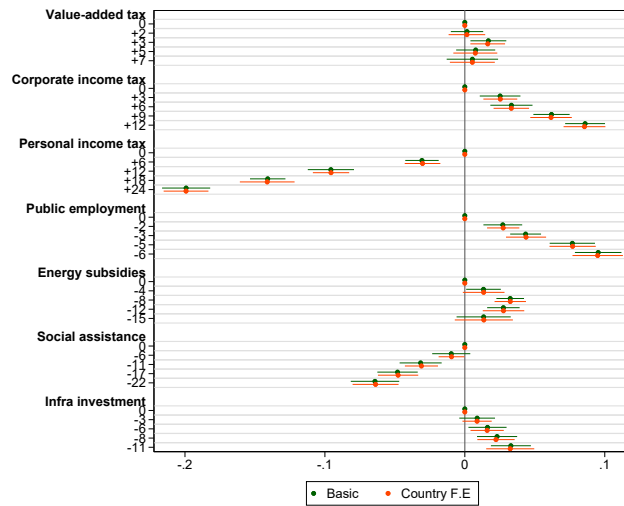
Notes: This figure reports the estimation of the Conjoint Treatment Effects using the original adjustments of the experiment. Panel a presents the estimates following OLS, whereas Panel b presents the estimated coefficients using Ridge. Three specifications are shown for the OLS estimation and two for the Ridge: without fixed effects or individual controls in green, with country fixed effects in orange, and with individual fixed effects in blue. The dependent variable is the forced choice outcome. Standard errors are clustered at the individual level, and computed via Bootstrap for the Ridge estimation. We report point estimates with 95% confidence intervals.

Figure A3: Main Results Using 5-point Rating Outcome as Dependent Variable



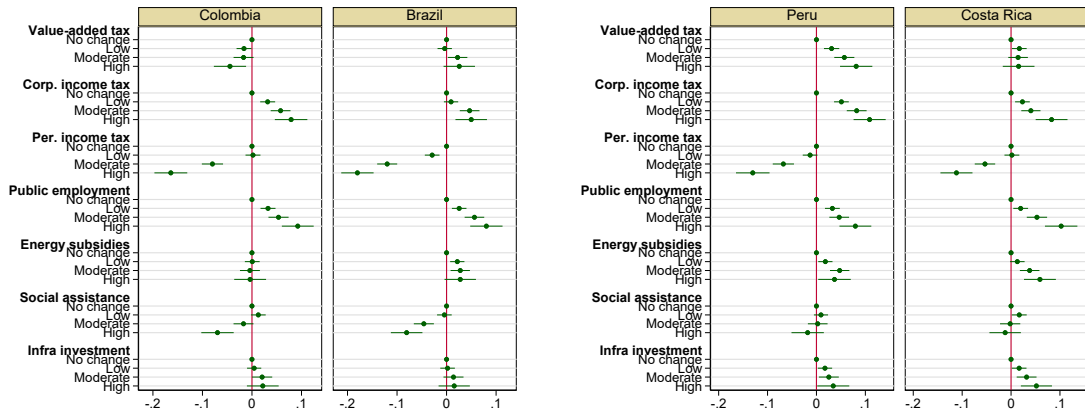
Notes: This figure reports the OLS estimation of the Conjoint Treatment Effects when using the 3-category version of the adjustments and the slider variable as outcome, where individuals had to rate each package in a scale from 1 to 5. 1 meant that the individual would strongly vote against the government if the package were implemented, and 5 meant that the individual would strongly support the government if the package were implemented. We report three specifications: one without additional controls in green, other with country fixed effects in orange, and the last one with individual fixed effects in blue. Standard errors are clustered at the individual level. We report point estimates with 95% confidence intervals.

Figure A4: Main Results with Ridge Estimation using 5-point Rating Outcome as Dependent Variable



Notes: This figure reports the Ridge estimation of the Conjoint Treatment Effects when using the 4-category original version of the adjustments and the slider variable as outcome, where individuals had to rate each package in a scale from 1 to 5. 1 meant that the individual would strongly vote against the government if the package were implemented, and 5 meant that the individual would strongly support the government if the package were implemented. We report two specifications: one without additional controls in green, and the other with country fixed effects in orange. Standard errors are clustered at the individual level and were computed via Bootstrap. We report point estimates with 95% confidence intervals.

Figure A5: Main Results by Country, Forced Choice Outcome as Dependent Variable

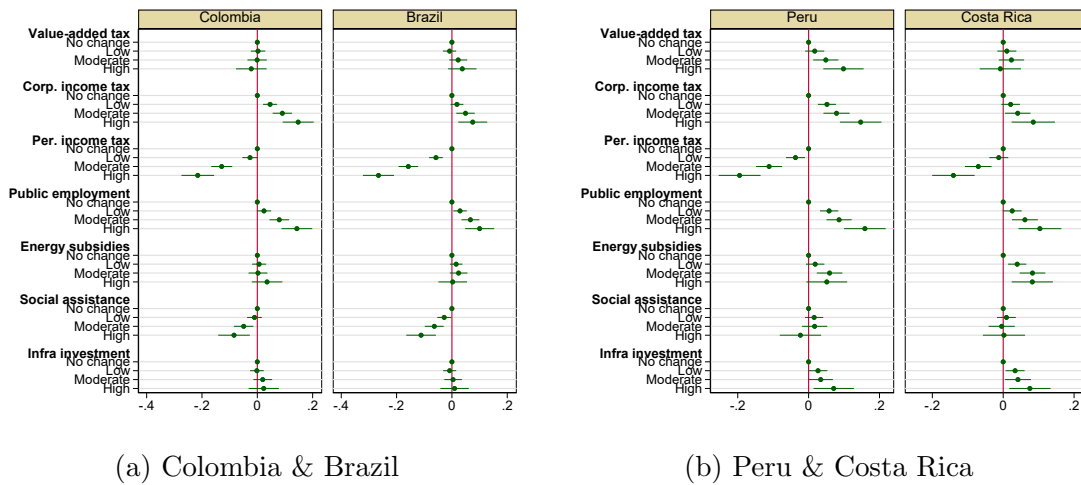


(a) Colombia & Brazil

(b) Peru & Costa Rica

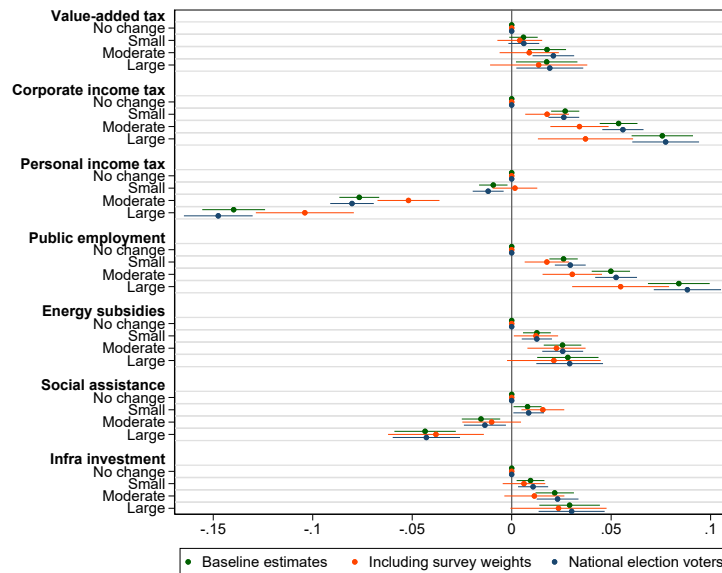
Notes: This figure reports the estimates of the Conjoint Treatment Effects by country, using the 3-category adjustments and the forced choice outcome. All the specifications control for individual fixed effects. Standard errors are clustered at the individual level. We report point estimates with 95% confidence intervals.

Figure A6: Main Results by Country, using 5-point Rating Outcome (slider) as Dependent Variable



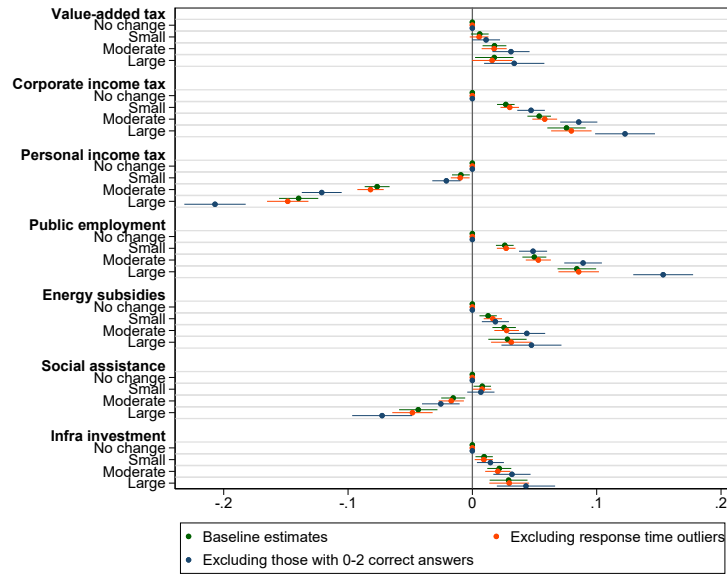
Notes: This figure reports the estimates of the Conjoint Treatment Effects by country, using the 3-category adjustments and the 5-point-scale rating (slider) outcome. All the specifications control for individual fixed effects. Standard errors are clustered at the individual level. We report point estimates with 95% confidence intervals.

Figure A7: Main Results using Survey Weights and Subsample of Voters



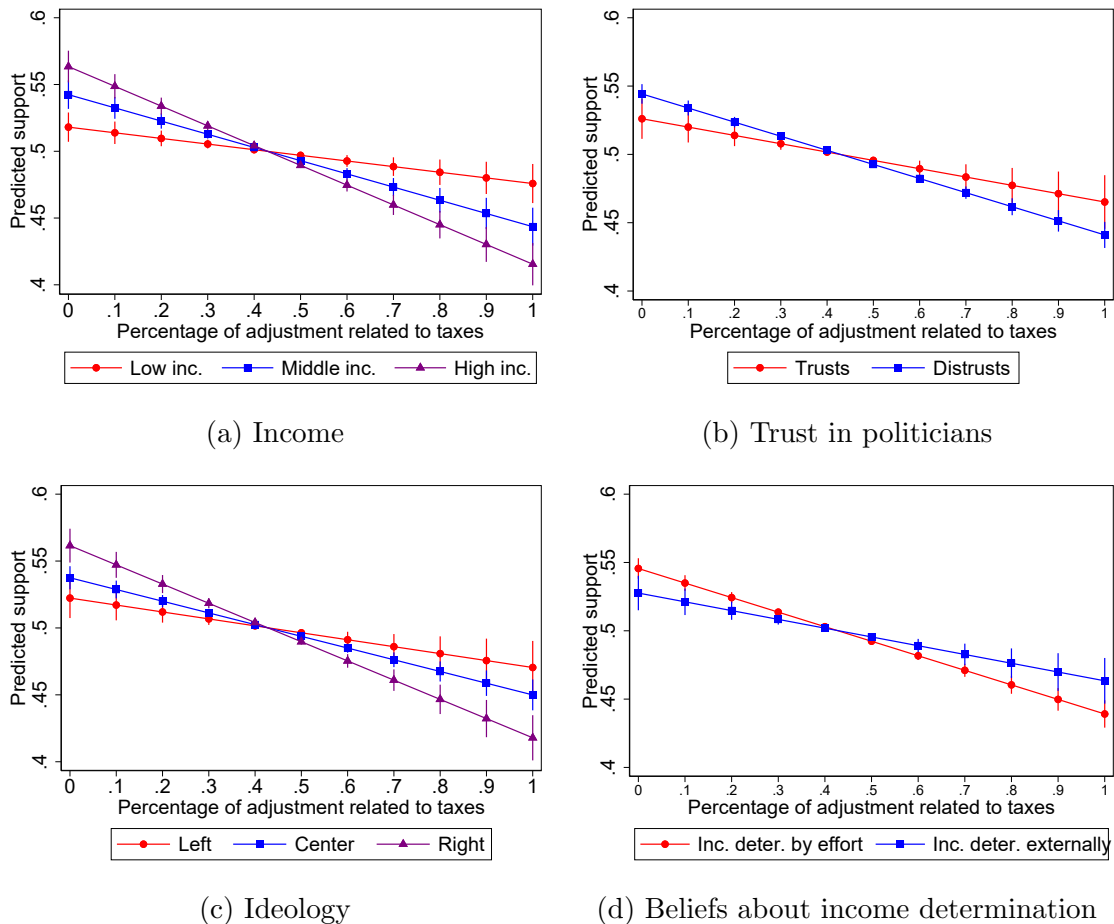
Notes: This figure reports robustness of the results in Figure 2 (in green) to the use of survey weights in the estimation (in orange) and when excluding those that reported not voting in the last national election (in blue). These estimates do not contain country or individual fixed effects. The plot presents point estimates with 95% confidence intervals. Standard errors clustered at the individual level.

Figure A8: Main Results with Comprehension Checks and excluding Time Outliers



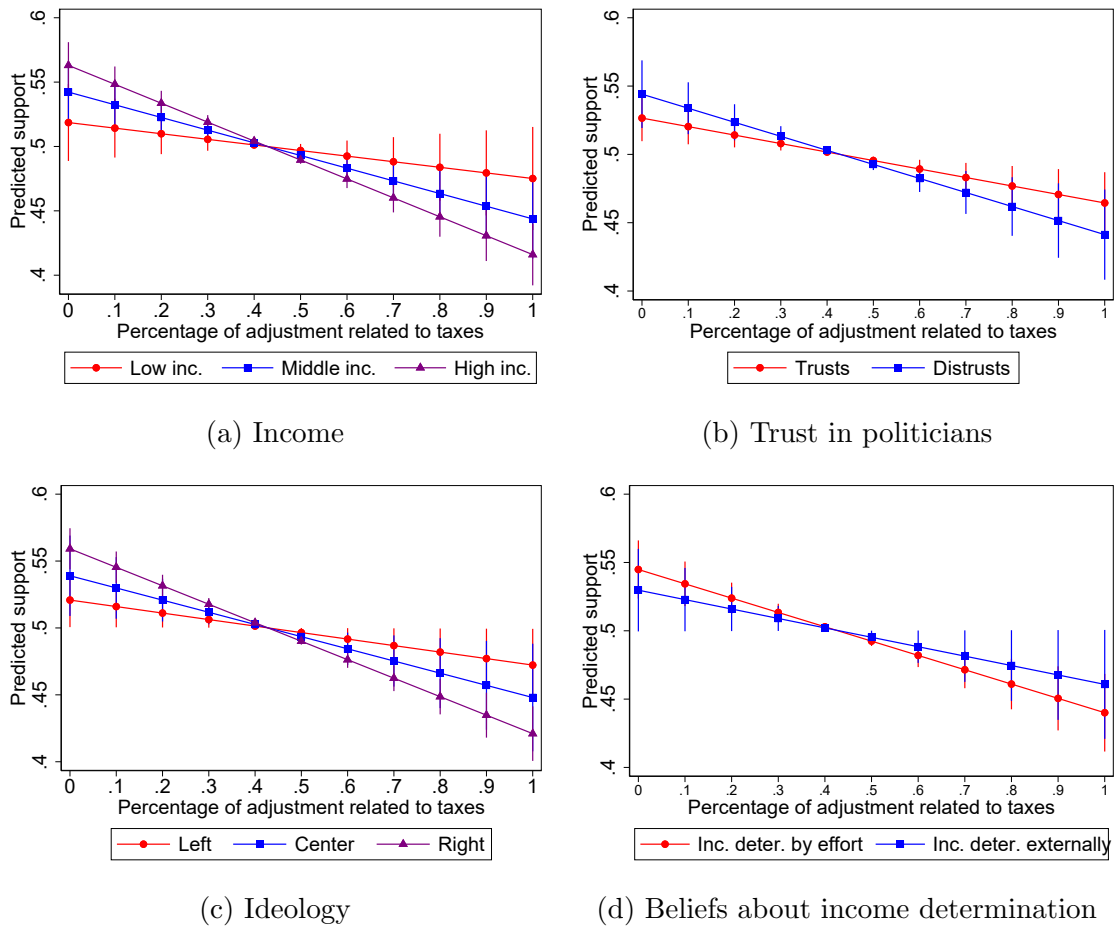
Notes: This figure reports robustness of the results in Figure 2 (in green) to the exclusion of time outliers in orange, categorized as whose time completing the survey was below the 5th and above the 95th percentile. Meanwhile, blue estimates exclude those with less than three correct answers in the experiment's comprehension questions. These estimates do not contain country or individual fixed effects. The plot presents point estimates with 95% confidence intervals. Standard errors clustered at the individual level.

Figure A9: Package Support Probability by Level of Reliance on Taxes and Individual Characteristics - Without Additional Interactions



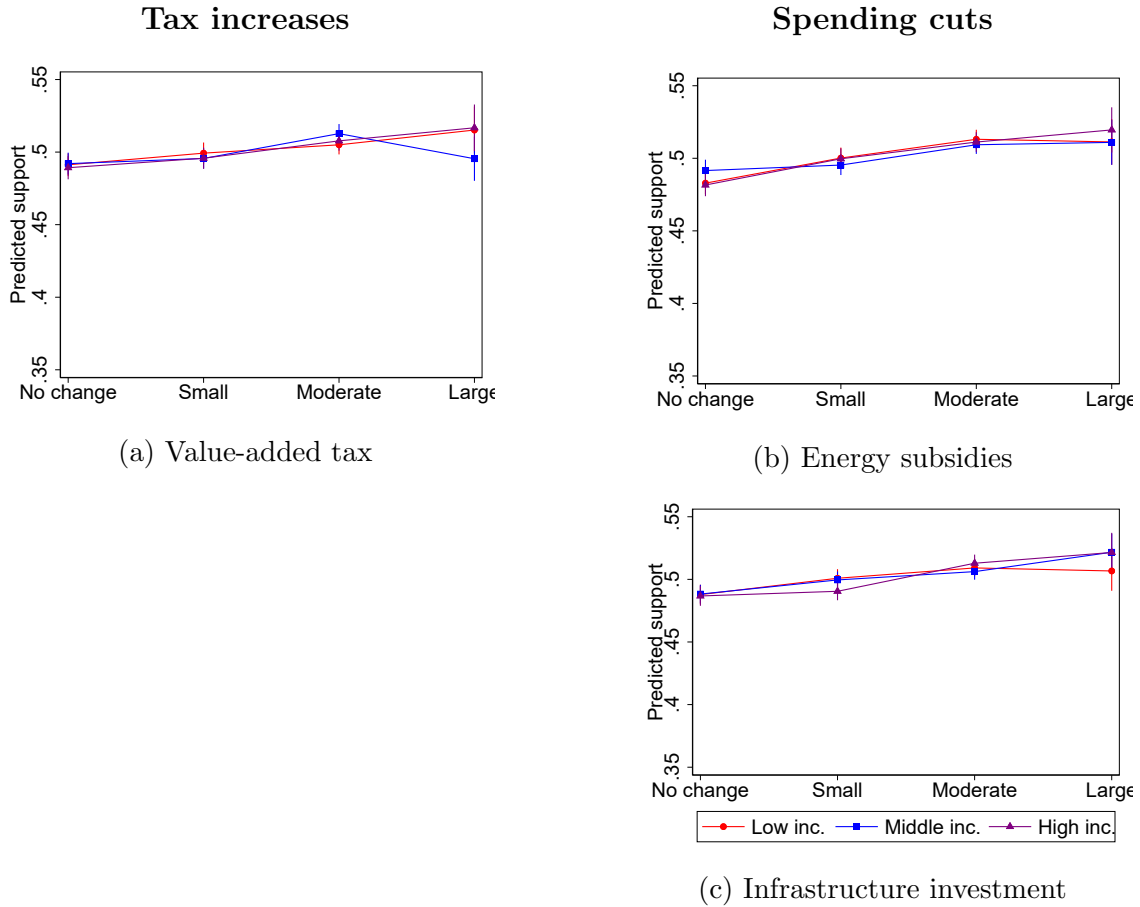
Notes: This figure presents the predicted probability of package support by individual characteristics and share of total adjustment due to tax increases. It derives from a heterogeneous treatment effect design such as the presented in Equation 3. We estimate one model per moderator variable. Low income individuals are those in deciles 1 to 3 of their country income distribution, while those in deciles 4 to 7 are classified as “Middle income”, and those in deciles 8 to 10 are defined as “High income”. On the other hand, respondents trust in government if they believe that it is very common or somewhat common that politicians fulfill their promises. Respondent distrust the government if they think it is not very common or not at all common that politicians fulfill their promises. For ideology classifications, we use a 0 to 10 discrete scale where 0 indicates identification with left-wing politics, and 10 with right-wing. An answer ranging from 0 to 3 defines leftists participants, whereas 4 to 6 identifies centrists and 7 to 10 rightists. Finally, “Inc. deter. by effort” indicates that the respondent agrees more with the sentence that “People’s income is an outcome of their individual effort”, compared to the sentence “People’s income is an outcome of aspects that are out of control”. If the individual agrees more with the latter or agrees equally with both, she belongs to the “Inc. deter. externally” category. We present point estimates and 95% confidence intervals.

Figure A10: Package Support Probability by Level of Reliance on Taxes and Individual characteristics - All Interactions



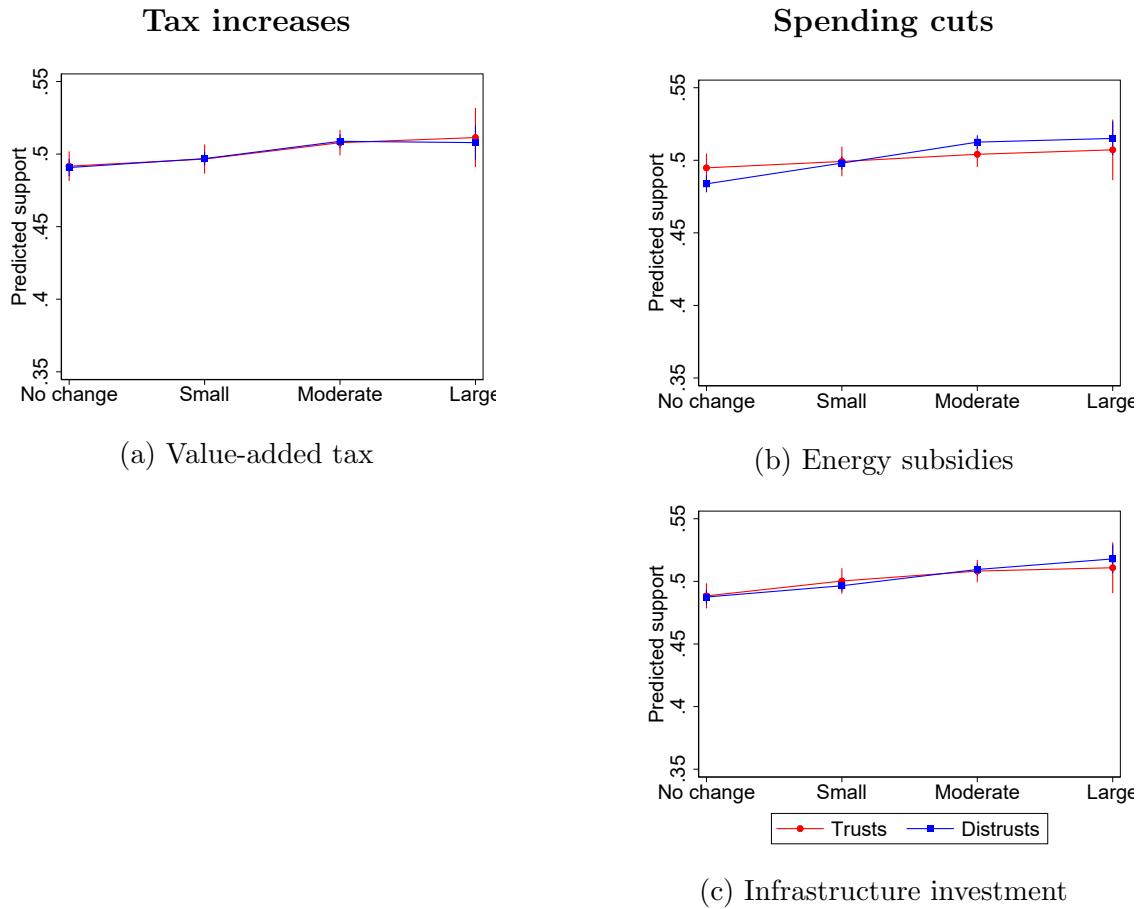
Notes: This figure presents the predicted probability of package support by individual characteristics and share of total adjustment due to tax increases. It derives from a heterogeneous treatment effect design such as the presented in Equation 3. We estimate one model with all moderator variables interacted with the treatment intensity variable (i.e., the percentage). Low income individuals are those in deciles 1 to 3 of their country income distribution, while those in deciles 4 to 7 are classified as “Middle income”, and those in deciles 8 to 10 are defined as “High income”. On the other hand, respondents trust in government if they believe that it is very common or somewhat common that politicians fulfill their promises. Respondent distrust the government if they think it is not very common or not at all common that politicians fulfill their promises. For ideology classifications, we use a 0 to 10 discrete scale where 0 indicates identification with left-wing politics, and 10 with right-wing. An answer ranging from 0 to 3 defines leftists participants, whereas 4 to 6 identifies centrists and 7 to 10 rightists. Finally, “Inc. deter. by effort” indicates that the respondent agrees more with the sentence that “People’s income is an outcome of their individual effort”, compared to the sentence “People’s income is an outcome of aspects that are out of control”. If the individual agrees more with the latter or agrees equally with both, she belongs to the “Inc. deter. externally” category. We present point estimates and 95% confidence intervals.

Figure A11: Effect of *Income* on Adjustment Preferences - Rest of Policy Dimensions



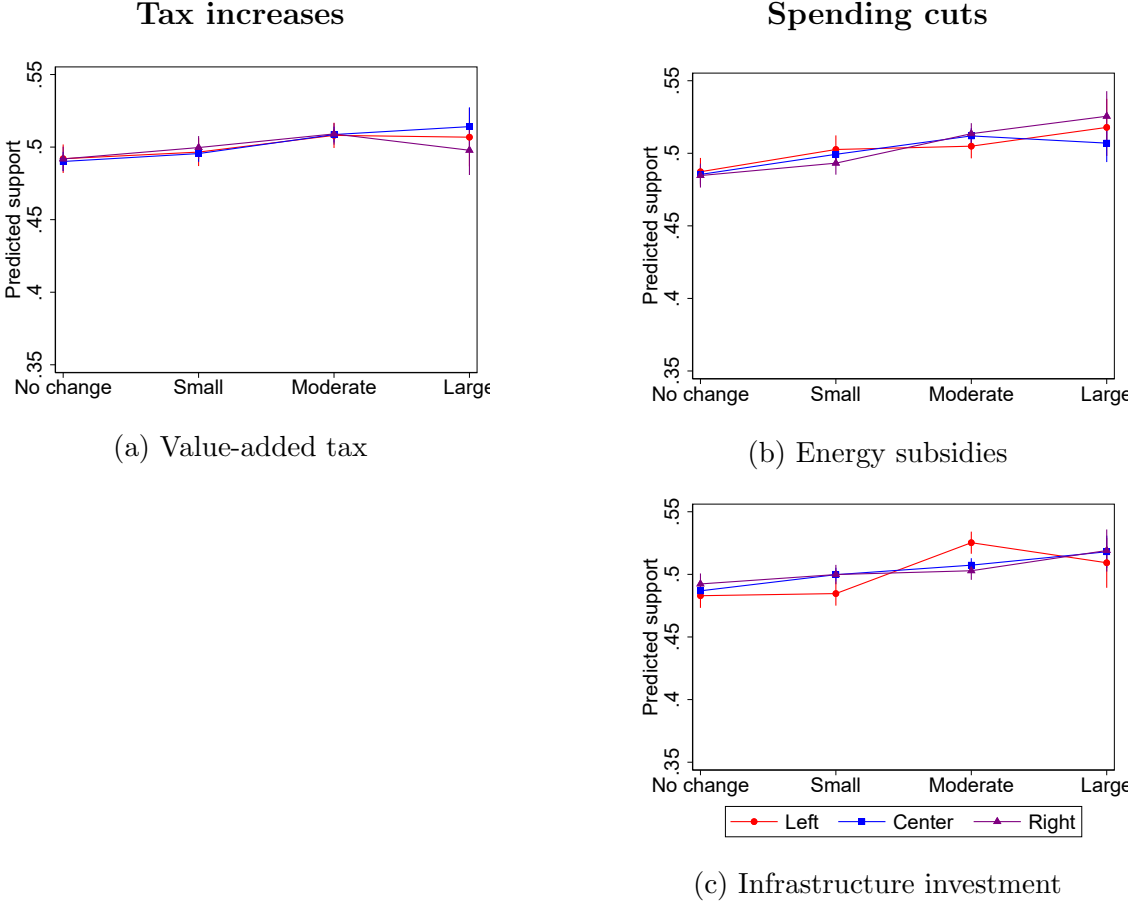
Notes: This figure presents the predicted package support probability by the size of adjustment in each policy dimension and income level. It derives from a heterogeneous treatment effect design such as the presented in Equation 4. We estimate one model per policy adjustment, and control for country fixed effects and the level of adjustment in the rest of the policy dimensions. Low income individuals are those in deciles 1 to 3 of their country income distribution, while those in deciles 4 to 7 are classified as “Middle income”, and those in deciles 8 to 10 are defined as “High income”. We present point estimates and 95% confidence intervals.

Figure A12: Effect of *Trust* on Adjustment Preferences - Rest of Policy Dimensions



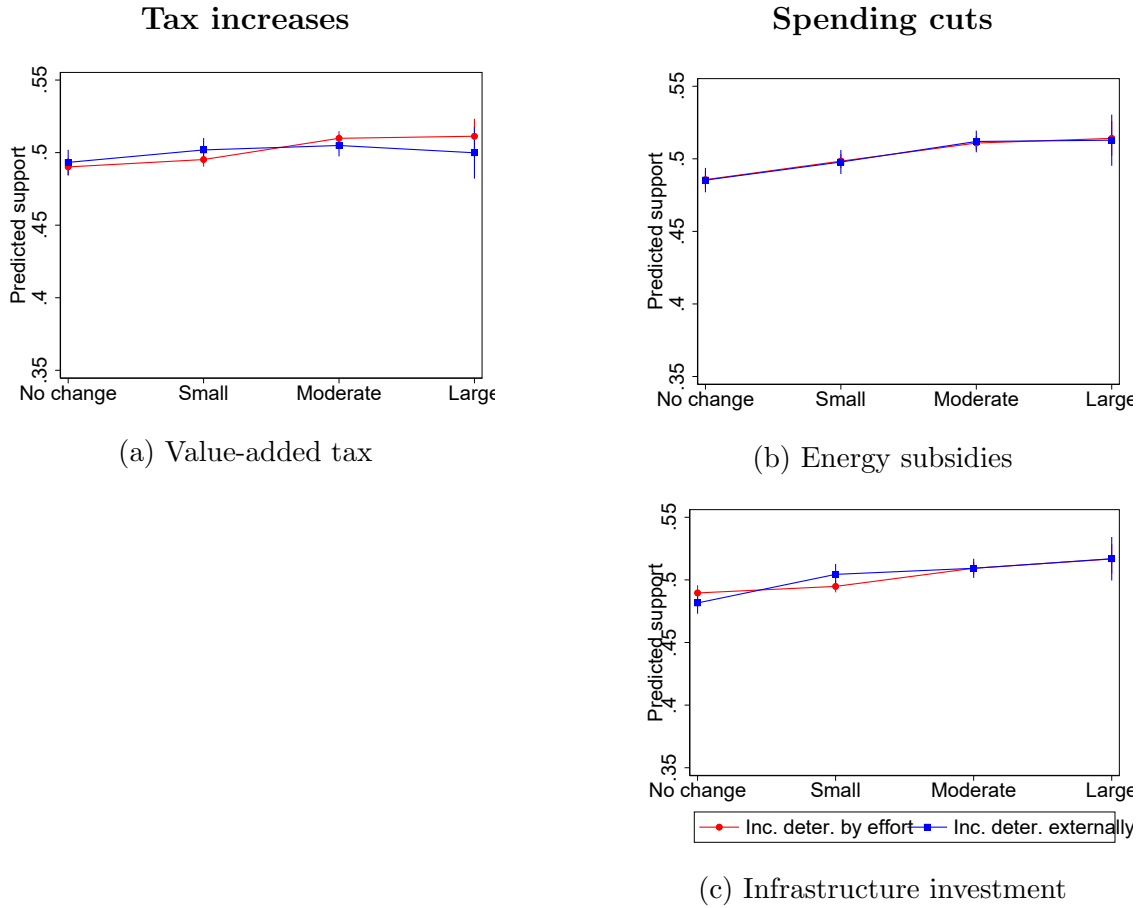
Notes: This figure presents the predicted package support probability by the size of adjustment in each policy dimension and government trust. It derives from a heterogeneous treatment effect design such as the presented in Equation 4. We estimate one model per policy dimension, and control for country fixed effects and the level of adjustment in the rest of policy dimensions (for instance, the model for Value-added tax controls for all the adjustments levels in personal income tax, corporate income tax, public employment, etc.). Respondents trust in government if they believe that it is very common or somewhat common that politicians fulfill their promises. Respondent distrust the government if they think it is not very common or not at all common that politicians fulfill their promises. We present point estimates and 95% confidence intervals.

Figure A13: Effect of *Ideology* on Adjustment Preferences - Rest of Policy Dimensions



Notes: This figure presents the predicted package support probability by the size of adjustment in each policy dimension and ideology. It derives from a heterogeneous treatment effect design such as the presented in Equation 4. We estimate one model per policy adjustment, and control for country fixed effects and the level of adjustment in the rest of policy dimensions. Ideology classification is obtained from a question where respondents place themselves on a 0 to 10 scale, where 0 indicates identification with left-wing politics and 10 with right-wing politics. Leftist participants are those whose answer is between 0 and 3, whereas rightists' answers range from 7 to 10. Centrists respondents are those with answers from 4 to 6. We present point estimates and 95% confidence intervals.

Figure A14: Effect of *Beliefs about Income Determination* on Adjustment Preferences - Rest of Dimensions



Notes: This figure presents the predicted package support probability by the size of adjustment in each policy dimension and beliefs about income determination. It derives from a heterogeneous treatment effect design such as the presented in Equation 4. We estimate one model per policy dimension, and control for country fixed effects and the level of adjustment in the rest of policy dimensions. The moderator variable is defined from a question where the individuals evaluate the following two sentences: “People’s income is an outcome of their individual effort”, and “People’s income is an outcome of aspects that are out of control”. Respondents that belong to the “Inc. deter. by effort” category are those that agree more to the first sentence than to the second, whereas those classified under the “Inc. deter. externally” category agree more to the second sentence than to the first, or agree with both sentences equally. We present point estimates and 95% confidence intervals.

A.4 Heterogeneous Effects: Regression Results

Table A4: Heterogeneous Treatment Effects by Income Level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	VAT	CIT	PIT	EMP	SUB	SAS	INV
Small	0.008 (0.006)	0.015** (0.006)	0.003 (0.006)	0.010 (0.006)	0.017*** (0.006)	0.014** (0.006)	0.013** (0.006)
Moderate	0.014** (0.007)	0.032*** (0.007)	-0.031*** (0.007)	0.018*** (0.007)	0.030*** (0.006)	-0.010 (0.007)	0.021*** (0.007)
Large	0.024** (0.011)	0.041*** (0.010)	-0.061*** (0.011)	0.041*** (0.011)	0.028*** (0.010)	-0.036*** (0.011)	0.019* (0.010)
Middle inc.	0.001 (0.005)	-0.012*** (0.004)	0.022*** (0.005)	-0.018*** (0.005)	0.009** (0.004)	-0.001 (0.005)	0.000 (0.005)
High inc.	-0.002 (0.005)	-0.030*** (0.005)	0.055*** (0.005)	-0.039*** (0.005)	-0.001 (0.005)	0.014*** (0.005)	-0.001 (0.005)
Small × Middle inc.	-0.004 (0.008)	0.011 (0.008)	-0.008 (0.008)	0.014* (0.008)	-0.014* (0.008)	-0.001 (0.008)	-0.002 (0.008)
Small × High inc.	-0.001 (0.008)	0.025*** (0.008)	-0.031*** (0.008)	0.035*** (0.008)	0.001 (0.008)	-0.017** (0.008)	-0.009 (0.008)
Moderate × Middle inc.	0.007 (0.008)	0.017** (0.007)	-0.041*** (0.008)	0.033*** (0.008)	-0.012* (0.007)	0.003 (0.008)	-0.003 (0.007)
Moderate × High inc.	0.005 (0.008)	0.050*** (0.008)	-0.097*** (0.009)	0.062*** (0.008)	-0.001 (0.008)	-0.021** (0.008)	0.005 (0.008)
Large × Middle inc.	-0.021* (0.012)	0.037*** (0.012)	-0.068*** (0.013)	0.038*** (0.012)	-0.009 (0.011)	0.008 (0.012)	0.015 (0.011)
Large × High inc.	0.004 (0.012)	0.068*** (0.012)	-0.171*** (0.013)	0.093*** (0.012)	0.010 (0.012)	-0.032** (0.013)	0.016 (0.012)
Observations	167,780	167,780	167,780	167,780	167,780	167,780	167,780
Country F.E	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Pol. Dim. Adj	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports the estimates of the heterogeneous treatment effects of policy dimension adjustments by income level (following Equation 4). We estimate one model per policy dimension adjustment, and control for country fixed effects and the adjustments in the rest of dimensions (for instance, the estimates for Value-added tax (VAT) control for all the adjustment levels in personal income tax (PIT), corporate income tax (CIT), etc.). Low income individuals are those in deciles 1 to 3 of their country income distribution, while those in deciles 4 to 7 are classified as “Middle income”, and those in deciles 8 to 10 are defined as “High income”. Standard errors clustered at the individual level are in parenthesis. * is significant at the 10% level, ** at the 5% level, and * at the 1% level.

Table A5: Heterogeneous Treatment Effects by Trust in Politicians

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	VAT	CIT	PIT	EMP	SUB	SAS	INV
Small	0.005 (0.008)	0.007 (0.008)	0.003 (0.009)	0.017** (0.008)	0.004 (0.008)	0.011 (0.008)	0.012 (0.008)
Moderate	0.016* (0.009)	0.034*** (0.008)	-0.034*** (0.009)	0.030*** (0.009)	0.009 (0.008)	-0.010 (0.009)	0.020** (0.009)
Large	0.020 (0.013)	0.047*** (0.013)	-0.095*** (0.014)	0.049*** (0.013)	0.012 (0.013)	-0.009 (0.014)	0.022* (0.013)
Distrusts	-0.001 (0.005)	-0.017*** (0.005)	0.025*** (0.005)	-0.015*** (0.005)	-0.011** (0.005)	0.007 (0.005)	-0.001 (0.005)
Small × Distrusts	0.001 (0.009)	0.023*** (0.009)	-0.014 (0.009)	0.011 (0.009)	0.010 (0.009)	-0.004 (0.009)	-0.003 (0.009)
Moderate × Distrusts	0.002 (0.008)	0.024*** (0.008)	-0.051*** (0.009)	0.024*** (0.009)	0.019** (0.008)	-0.007 (0.009)	0.002 (0.008)
Large × Distrusts	-0.003 (0.013)	0.034*** (0.013)	-0.053*** (0.014)	0.042*** (0.013)	0.019 (0.013)	-0.042*** (0.013)	0.008 (0.012)
Observations	167,780	167,780	167,780	167,780	167,780	167,780	167,780
Country F.E	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Pol. Dim. Adj	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports the estimates of the heterogeneous treatment effects of policy dimension adjustments by income level (following Equation 4). We estimate one model per policy dimension adjustment, and control for country fixed effects and the adjustments in the rest of dimensions (for instance, the estimates for Value-added tax (VAT) control for all the adjustment levels in personal income tax (PIT), corporate income tax (CIT), etc.). Respondents trust in government if they believe that it is very common or somewhat common that politicians fulfill their promises. Respondent distrust the government if they think it is not very common or not at all common that politicians fulfill their promises. Standard errors clustered at the individual level are in parenthesis. * is significant at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A6: Heterogeneous Treatment Effects by Political Alignment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	VAT	CIT	PIT	EMP	SUB	SAS	INV
Small	0.005 (0.008)	0.043*** (0.008)	-0.009 (0.008)	0.012 (0.008)	0.015* (0.008)	-0.004 (0.008)	0.002 (0.008)
Moderate	0.016* (0.008)	0.087*** (0.009)	-0.086*** (0.009)	0.052*** (0.008)	0.018** (0.008)	-0.047*** (0.009)	0.042*** (0.008)
Large	0.015 (0.013)	0.125*** (0.013)	-0.153*** (0.014)	0.092*** (0.013)	0.031** (0.013)	-0.106*** (0.013)	0.026** (0.013)
Center	-0.002 (0.005)	0.023*** (0.005)	-0.006 (0.006)	0.001 (0.005)	-0.002 (0.005)	-0.022*** (0.006)	0.004 (0.005)
Right	-0.000 (0.006)	0.027*** (0.006)	-0.002 (0.006)	-0.009 (0.006)	-0.003 (0.006)	-0.025*** (0.006)	0.009 (0.006)
Small × Center	0.001 (0.009)	-0.018** (0.009)	-0.001 (0.009)	0.013 (0.009)	-0.001 (0.009)	0.015 (0.009)	0.011 (0.009)
Small × Right	0.003 (0.010)	-0.023** (0.010)	0.001 (0.010)	0.026*** (0.010)	-0.007 (0.010)	0.013 (0.010)	0.006 (0.010)
Moderate × Center	0.002 (0.009)	-0.040*** (0.009)	0.014 (0.010)	-0.007 (0.009)	0.009 (0.008)	0.035*** (0.009)	-0.022** (0.009)
Moderate × Right	0.001 (0.010)	-0.043*** (0.010)	0.006 (0.011)	0.006 (0.010)	0.011 (0.009)	0.042*** (0.010)	-0.032*** (0.010)
Large × Center	0.009 (0.013)	-0.053*** (0.013)	0.023 (0.014)	-0.017 (0.013)	-0.009 (0.013)	0.067*** (0.014)	0.005 (0.013)
Large × Right	-0.009 (0.015)	-0.074*** (0.015)	0.001 (0.016)	0.005 (0.015)	0.010 (0.014)	0.092*** (0.015)	0.000 (0.015)
Observations	167,780	167,780	167,780	167,780	167,780	167,780	167,780
Country F.E	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Pol. Dim. Adj	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports the estimates of the heterogeneous treatment effects of policy dimension adjustments by income level (following Equation 4). We estimate one model per policy dimension adjustment, and control for country fixed effects and the adjustments in the rest of dimensions (for instance, the estimates for Value-added tax (VAT) control for all the adjustment levels in personal income tax (PIT), corporate income tax (CIT), etc.). Ideology classification is obtained from a question where respondents place themselves on a 0 to 10 scale, where 0 indicates identification with left-wing politics and 10 with right-wing politics. Leftist participants are those whose answer is between 0 and 3, whereas rightists' answers range from 7 to 10. Centrists respondents are those with answers from 4 to 6. Standard errors clustered at the individual level are in parenthesis. * is significant at the 10% level, ** at the 5% level, and * at the 1% level.

Table A7: Heterogeneous Treatment Effects by Beliefs on Income Determination

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	VAT	CIT	PIT	EMP	SUB	SAS	INV
Small	0.005 (0.004)	0.028*** (0.004)	-0.011*** (0.004)	0.026*** (0.004)	0.013*** (0.004)	0.010** (0.004)	0.005 (0.004)
Moderate	0.020*** (0.005)	0.052*** (0.005)	-0.083*** (0.005)	0.052*** (0.005)	0.025*** (0.005)	-0.009* (0.005)	0.020*** (0.005)
Large	0.021** (0.008)	0.078*** (0.008)	-0.154*** (0.009)	0.085*** (0.008)	0.028*** (0.008)	-0.036*** (0.008)	0.027*** (0.008)
Inc. deter. externally	0.003 (0.004)	-0.001 (0.004)	-0.016*** (0.005)	0.004 (0.004)	-0.000 (0.004)	0.014*** (0.005)	-0.008* (0.004)
Small × Inc. deter. externally	0.004 (0.008)	-0.003 (0.008)	0.007 (0.008)	-0.001 (0.008)	-0.000 (0.007)	-0.009 (0.008)	0.018** (0.008)
Moderate × Inc. deter. externally	-0.008 (0.007)	0.007 (0.007)	0.026*** (0.008)	-0.010 (0.007)	0.001 (0.007)	-0.027*** (0.008)	0.008 (0.007)
Large × Inc. deter. externally	-0.015 (0.011)	-0.009 (0.011)	0.057*** (0.012)	-0.004 (0.011)	-0.001 (0.011)	-0.029** (0.012)	0.008 (0.011)
Observations	167,780	167,780	167,780	167,780	167,780	167,780	167,780
Country F.E	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Pol. Dim. Adj	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports the estimates of the heterogeneous treatment effects of policy dimension adjustments by income level (following Equation 4). We estimate one model per policy dimension adjustment, and control for country fixed effects and the adjustments in the rest of dimensions (for instance, the estimates for Value-added tax (VAT) control for all the adjustment levels in personal income tax (PIT), corporate income tax (CIT), etc.). The moderator variable is defined from a question where the individuals evaluate the following two sentences: “People’s income is an outcome of their individual effort”, and “People’s income is an outcome of aspects that are out of control”. Respondents that belong to the “Inc. deter. by effort” category are those that agree more to the first sentence than to the second, whereas those classified under the “Inc. deter. externally” category agree more to the second sentence than to the first, or agree with both sentences equally. Standard errors clustered at the individual level are in parenthesis. * is significant at the 10% level, ** at the 5% level, and *** at the 1% level.