Voters' Preferences over the Composition of Fiscal Adjustment: Experimental Evidence from Latin America

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Abstract*

Despite the regularity with which governments confront the need to make fiscal adjustments, voter attitudes towards competing consolidation strategies are still not well understood. For example, an influential literature finds that voters prefer public spending cuts to tax increases, but little is known about how these preferences depend on the particular taxes and spending categories that politicians choose or on voter characteristics such as income, ideology and trust. Our analysis of experimental data from 8,000 survey respondents across Brazil, Colombia, Costa Rica, and Peru confirms that, at the aggregate level, individuals prefer spending-based to tax-based fiscal adjustments. However, these preferences change dramatically depending on which tax and spending adjustments individuals are asked to make. Respondents strongly oppose increases in the personal income tax, but they support or are indifferent towards higher corporate income or value-added taxes. They strongly support public employment cuts, but oppose cuts in social assistance. Responses also indicate that a wide range of voter motivations, beyond their pecuniary interests, shape their preferences over fiscal adjustment strategies. Their support not only varies with income, but significantly depends on such non-pecuniary characteristics as ideology and trust in government.

1 Introduction

With rising public debt levels, governments around the globe face pressures to adjust tax and spending policies to restore fiscal sustainability. From among the different available options to advance fiscal consolidation, politicians prefer those that limit political backlash. However, there is little systematic evidence informing policy makers about how voters will react to different policy choices, whether with respect to large categories of adjustment — taxes versus spending — or more detailed choices regarding which kinds of taxes to raise and which categories of expenditure to cut. Understanding these reactions is important, though, since voter acceptance of adjustment packages is crucial for their long-term success. If politicians design a policy package that finds wide political support, it is more likely that public finances can be stabilized in the long term. But if they misperceive public mood, adjustment can lead to disruptions such as social unrest or the rise of populist alternatives that reduce the chances that the debt problem will be effectively solved.

Despite the regularity with which governments around the world confront the need to correct unsustainable fiscal policies, numerous questions still surround voter attitudes towards competing adjustment strategies. Some evidence indicates that voters prefer spending cuts to tax increases (Alesina et al., 2021). Others have argued that voters prefer progressive tax increases to address fiscal deficits (e.g, Bierbrauer, Boyer and Peichl, 2021; Alpino et al., 2022). However, the literature yields few insights into how these preferences depend on the particular tax and spending adjustments that politicians choose. It is also largely silent on the role played by key voter characteristics that have been found to influence specific policy preferences, such as income, trust in government, and ideology. Moreover, most evidence on voter attitudes towards fiscal policy comes from advanced economies, but fiscal crises are more acute in many middle-income countries.

We begin to fill these gaps with data collected from 8,000 participants in a conjoint experiment in four Latin American countries. The experiment allows us to examine how voters react to changes on multiple policy dimensions (Hainmueller, Hopkins and Yamamoto, 2013)

and hence to model the composition of different adjustment packages. A novel methodological feature of the study increases its realism: respondents must choose among policy options that all yield the desired aggregate result, a reduction of the fiscal deficit by one percent of GDP. As in the real world, consequently, they are obliged to choose the 'lesser of two evils'. Respondents cannot simply avoid a policy change, but need to accept some tax increases or spending cuts in some areas if they want to avoid adjustments in other areas that they might find more important.

Further enhancing real-world relevance, the experiment covers the main policy areas that have been at the center of fiscal adjustment in Latin American countries in recent decades. These consist of three tax dimensions — the value-added tax, personal income tax, corporate income tax — and four spending dimensions — public employment, energy subsidies, social assistance, and infrastructure investment. The design of the experiment allows us to hold constant the degree to which adjustments depend on tax increases or spending reductions and estimate how preferences vary with the composition of adjustments in each of the two broad categories.

The analysis of the conjoint data confirms previous findings that, even in middle income countries characterized by frequent fiscal crises like those in Latin America, individuals seem to prefer spending- to tax-based adjustments. However, these preferences turn out to depend on the precise configuration of tax and spending adjustments and on individual characteristics that go beyond their material self interest. The opposition to tax increases is the result of strong opposition to the personal income tax, which dominates support for other tax increases. Respondents, however, overwhelmingly support adjustments that include higher corporate income taxes and do not oppose adjustment packages that increase the value-added tax. On the spending side, they strongly support public employment cuts and modestly favor adjustments in infrastructure investment and energy subsidies. However, they strongly oppose cuts in social assistance programs.

We also present the first systematic evidence linking voters' preferences for fiscal ad-

justment packages to their individual characteristics. We examine how the preferences of respondents for different reform packages vary with their pecuniary interests – their income – and several non-pecuniary characteristics: trust in politicians, ideology, beliefs about the opportunities of poor relative to rich children and about the role of luck in personal success. Consistent with their pecuniary interests, richer respondents are more opposed to adjustment packages that include higher personal income taxes. However, they oppose packages that cut social assistance. The ideological and behavioral characteristics of respondents help to explain such anomalies. For example, left-wing voters are more opposed to social assistance cuts than centrist and right-wing voters, holding constant their income. Low-trust respondents are significantly more opposed to personal income tax increases than high-trust respondents.

The work makes several contributions. First, the empirical regularity documented in prior work, indicating a preference for tax-based adjustments, turns out to conceal significant and economically important heterogeneity. Respondents do not categorically reject tax increases, nor do they necessarily support policies that shift the burden away from themselves towards others (Alesina et al., 2021; Bierbrauer, Boyer and Peichl, 2021). For instance, support for progressive taxation is limited. Respondents strongly oppose increases in the personal income tax, although most are not liable for them in Latin America. They are mostly indifferent to increases in the regressive value-added tax, although all of them pay it. Similarly, respondents strongly, and across all income categories, oppose cuts to social assistance although most of them do not benefit from them. Voters' non-pecuniary motives help to account for these preferences.

Second, most existing studies on austerity politics focus on advanced economies, such as those affected by the European debt crisis that erupted in late 2009 in the aftermath of the global financial crisis (Barnes and Hicks, 2018; **?**; Bojar et al., 2022; Bansak, Bechtel and Margalit, 2021; Bremer and Bürgisser, 2022). However, middle income countries have been even more vulnerable to debt crises and Latin American countries in particular have

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often resorted to fiscal adjustments to resolve such crises (David and Leigh, 2018b).[1] Survey results from Brazil, Costa Rica, Colombia, and Peru therefore provide a new perspective on the sensitivity of voters to different adjustment policies and a better understanding of the political equilibrium that underpins these policies.

Third, existing literature debates whether voters accept or reject fiscal adjustments altogether (?Barnes and Hicks, 2018; Bremer and Bürgisser, 2022). We study how voters evaluate adjustments in particular policy areas when some adjustment is unavoidable, as has often been the case in Latin America and elsewhere. Our analytical approach also reduces the cognitive burden on respondents, potentially increasing the accuracy of their evaluations of different policies: they are told the exact composition of the different policy adjustments and do not have to infer or guess what they are.

A fourth, methodological contribution is the introduction of a budget constraint that requires respondents to evaluate competing fiscal proposals that are identical in terms of their contribution to the deficit reduction goal, but differ in their composition. This means that respondents who dislike adjustment in one area cannot simply avoid adjustment altogether, but must accept adjustment in one or several other policy categories. As Barnes, Blumenau and Lauderdale (2021) observe, traditional conjoint analysis does not lend itself to budget constraints since in a forced choice setting, the presence of a budget constraint means that choices cannot be independent: individual choices over $k-1$ categories of adjustment exactly determine the choice in the remaining category.[2] We solve this problem by comparing adjustment preferences to an omitted category. The importance of this feature becomes clear when we compare our results to similar studies, like Bansak, Bechtel and Margalit (2021).

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[1] According to the global database of financial crises in Reinhart and Rogoff (2009), the typical Latin American and Caribbean 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).

[2] Barnes, Blumenau and Lauderdale (2021) examine a different question than the one here. Our focus is on the combination of spending cuts and tax increases taht individuals prefer in order to close a fiscal deficit. They ask what spending and taxation policies respondents prefer, holding the deficit constant; respondents could prefer both higher spending and higher taxation.

For instance, we find considerably more variation than past research in the reactions of respondents across policy areas that not only includes stronger or weaker opposition, but also clear support for some types of adjustments.

Finally, our findings relate to the literature on the political effects of fiscal consolidations. According to an influential view, fiscal austerity is not punished by voters at the polls (Alesina, Carloni and Lecce, 2013) and in some contexts, can even be rewarded (Brender and Drazen, 2008) possibly suggesting that voters are fiscal conservatives (Peltzman, 1992). However, more recent research show that fiscal adjustments reduce voter support for the incumbent, are positively correlated with social unrest (Ponticelli and Voth, 2020; Passarelli and Tabellini, 2017) and provide a breeding ground for the emergence of populist electoral shifts (Baccini and Sattler, 2023; Dal Bo' et al., 2023; Fetzer, 2019) and party system polarization (Hübscher, Sattler and Wagner, 2023). In addition, it has been shown that not all fiscal adjustments are equally costly in electoral terms, with tax-heavy consolidations impinging higher electoral costs than expenditure-based adjustments (Alesina et al., 2021; Ardanaz, Hallerberg and Scartascini, 2020). 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 vs. spending based austerity, cannot fully capture the motivations and trade-offs faced by voters when evaluating fiscal consolidation strategies.

The rest of the paper is organized as follows. Section 2 presents the research design and survey data drawn from four Latin American countries in detail. Section 3 describes the empirical strategy and Section 4 reports the baseline results and robustness tests. Section 5 provides an analysis of relevant voter characteristics that can explain variation in support for different adjustment packages. Finally, Section 6 concludes.

2 Conjoint Experiment

2.1 Survey description

Our data come from an online survey that we fielded in May 2022 in four Latin American countries: Brazil, Colombia,Costa Rica, and Peru. In each country, we collected the answers of 2'000 respondents, which yields a total of 8'000 individual respondents. The fielding phase has been administered by the Latin American Public Opinion Project (LAPOP), which, in turn, uses standing online panels from Netquest and Offerwise.[3]

The survey has three parts: in the first part, respondents answer questions about their nationality, gender, age, region, confidence and trust, their views on the tax administration, the attribution of responsibility, political participation and preferences, their time and risk preferences, and income perceptions. The second part includes the conjoint experiment that examines how respondents evaluate different fiscal adjustment packages that all aim at reducing the fiscal deficit by the same amount, but that vary in their composition along several key policy dimensions. In the third and last part of the survey, respondents answer questions about their education, professional occupation, income and their household.

2.2 Experimental design

To examine mass public support for different adjustment strategies, we developed a conjoint experiment, which is useful to examine multi-dimensional choice problems as it is the case for fiscal adjustments (Hainmueller, Hopkins and Yamamoto, 2013).[4] In a typical conjoint experiment, respondents compare and evaluate a series of randomly selected propositions that vary on pre-specified dimensions. Adjustment packages cover very different types of

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[3]The web interface of the survey can be followed interactively at `https://vanderbiltpolisci.co1.qualtrics.com/jfe/form/SV_8llfiZ9xjDyJx2e`.

[4]We pre-registered the survey at `https://osf.io/48v2k`.

taxes and spending categories giving rise to a multi-dimensional policy space that governments and voters have to evaluate. The conjoint analysis, therefore, allows us to assess how public support for fiscal adjustment varies when the composition of the package changes.

While the general setup follows previous studies in this area (Bansak, Bechtel and Margalit, 2021), a key and novel feature of the conjoint experiment is the built-in constraint that ensures that all adjustment options presented to respondents have the same estimated effect on the overall public budget. In the experiment, each proposed adjustment package leads to an estimated reduction in the public deficit by 1% of GDP.[5] For instance, 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 the budgetary categories, then the spending cuts / tax increases in all areas are more modest than if the measures are concentrated on a few categories.

The built-in budget constraint has several advantages. Our setup does not mingle considerations about the size and the composition of the adjustment package. Without the budget constraint, respondents could avoid the adjustment of one policy area without implications for the other policy areas by reducing the overall size of the adjustment package. In the extreme, respondents could simply avoid any adjustment undermining the intention of the experiment to explore the politically optimal composition of an adjustment package. In contrast, our setup presents respondents with a real trade-off because smaller adjustments in one area require larger adjustments in other areas, and vice versa. This setup better reflects the choice problem of many governments. The governments, in Latin American and elsewhere, often do not have the liberty to reduce the size of the adjustment package in order to avoid unpopular measures. The question for them is not how much they want to adjust, but how they optimally distribute the measures across policy categories in order to reach a

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[5]This number is close to the average size of a fiscal consolidation episode in a typical year in Latin America and the Caribbean, as reported in David and Leigh (2018a).

specific adjustment goal, e.g. of 1% of GDP like in our setup.

This approach means that the size of a budgetary category relative to the overall budget has to be taken into account. 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 to reduce the deficit by the same 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. For instance, within the four countries that are part of our survey, median public employment expenditures amount to 6.4% and median social assistance expenditures amount to 1.8% of the GDP. This means that public employment expenditures have to be reduced by 3 percent, but social assistance has to be reduced by 11 percent points to achieve a reduction of total expenditures by 0.2% of GDP.

Table 1: Total revenues (taxes) / expenditures (spending) as % of GDP in the selected countries

Tax categories		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
Spending categories						
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

To make the conjoint experiment as realistic as possible, we use real-world data on the distribution of public expenditures and revenues across spending categories and taxes in the four countries that we examine.[6] Since the contribution of a specific budgetary category to

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[6]The data comes 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).

the public budget differs across the four countries that we examine, the size of adjustment (in % terms) to achieve the pre-specified amount of deficit reduction also differs across these countries. However, in practice, these cross-country differences are not major. We therefore use the medians across our four LAC countries as the baseline for the computation of the adjustment sizes. This allows us to run the conjoint experiments with identical setups in all countries, yielding comparable responses from the different countries. Table 1 shows the average contributions of each budgetary category to the total budget.

To simplify the setup, we use discrete steps for the spending cuts / tax increases. Specifically, a budgetary category can contribute 0, 1/10, 2/10, 3/10 or 4/10 to the total fiscal consolidation effort of 1% of GDP. With this design, we exclude the possibility that all the adjustment falls on one budgetary category because this almost never happens in practice when the government implements a consolidation package of the size of 1% of GDP. This means that a consolidation package affects at least three budgetary categories (e.g. a 0.4/0.4/0.2/0/0/0/0 distribution) and possibly all budgetary categories (e.g. a 0.2/0.2/0.2/0.1/0.1/0.1/0.1 distribution) for a particular package presented to respondents in our conjoint analysis.

In the conjoint experiment, respondents see the adjustments in terms of percentage change of a particular budgetary category. For instance, a respondent saw a package which proposed a cut to public employment expenditures by 3%, which corresponds to 0.2% of GDP. Table 2 shows how an adjustment that corresponds to 0.1%, 0.2%, 0.3% and 0.4% of GDP translates into a percentage change of each budgetary category based on the relative sizes of each budgetary category shown in Table 1. The values included in this table serve as the basis for our conjoint experiment.

In the conjoint task, respondents always compare two possible adjustment packages. They do 10 rounds of comparisons, which results in 20 packages that every respondent eval-

Table 2: Percentage change of a budgetary category, given the adjustment size as % of GDP; note: the increases in %-changes are not exactly linear due to rounding errors.

	0	0.1	0.2	0.3	0.4
Tax categories					
Value-added tax	0%	2%	3%	5%	7%
Personal income tax	0%	6%	12%	18%	24%
Corporate income tax	0%	3%	6%	9%	12%
Spending categories					
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%

uates. This yields a total of (2'000 respondents × 4 countries × 20 packages =) 160'000 rated adjustment packages. The adjustment packages that respondents asses are drawn randomly from the universe of possible adjustment packages that sum up to 1% of GDP. We randomize whether spending cuts or tax increases are presented first, but the order remains fixed throughout the 10 consecutive rounds of comparison a respondent goes through to avoid confusion. At the level of individual respondents, we also fix the order of budgetary categories within the spending block and the order among different types of taxes within the tax block.

Figure 1 provides an example of a possible comparison that a respondent might evaluate. As outlined above, the two packages are equal in their overall impact on the fiscal deficit and only vary in their composition. In Option 1, public employment is reduced by 6% of spending on public employment (which is equivalent to 0.4% of GDP, cf. Table 2 above); energy subsidies by 4% of spending on energy (0.1% of GDP); and social assistance by 11% of spending on social assistance (0.2% of GDP). Spending on public infrastructure remains unchanged. On the tax side, the adjustment increases total revenues from the value-added tax by 5% of total VAT revenues (0.3% of GDP). The other two tax categories do not change. Option 2 proposes six adjustments. It includes cuts in all four spending categories and in-

creases for the VAT and personal income taxation, but leaving corporate taxes unchanged. The total adjustments of both packages sum up to 1% of GDP. A key difference between the two packages is the smaller cut / increase in public employment / VAT. Since both are large budgetary categories (cf. Table 2), the other categories need to be adjusted considerably more. In our example, this manifests itself in fairly large, additional adjustments in public infrastructure expenditures and personal income taxation for Option 2 compared to Option 1. As shown by the bottom section of Figure 1, respondents are then asked to choose which of the two packages they prefer (forced choice). Finally, we ask respondents to evaluate each package on a 1-5 scale. To increase the salience of the assessment, we introduce the following statement: *"Suppose the government had to implement these options and then there were elections. Please indicate how implementing each option would affect your vote on a scale from (1) "vote definitely against" to (5) "vote definitely in favor".*

Before respondents start working on the the actual conjoint tasks, they complete a series of introductory screens that explain the setup of the exercise. Respondents 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 how the three types of taxes contribute to total public revenues and how much of total expenditures fall on the four types of spending categories. The shares that respondents see correspond to those in figure 1. Based on this information, respondents are informed how much a pre-specified %-change in a particular category reduces the fiscal deficit. In particular, they then learn that, due to the different contributions of a fiscal category to the overall budget, a 10% increase in a smaller tax (spending) category (e.g. corporate income tax) has a smaller impact on the fiscal deficit than a 10% increase (decrease) in a larger tax (spending) category (e.g. VAT).

After these educational screens, we run a series of comprehension checks. In particular, we present a series of examples and ask respondents to compare how much the different

Figure 1: Example of a conjoint screen as displayed to respondents

	Opción 1	Opción 2
RECORTES DE GASTO		
Empleo Público	-6%	-3%
Subsidios a la energía	-4%	-4%
Asistencia Social	-11%	-11%
Inversión en infraestructura	No cambia	-8%
AUMENTOS DE RECAUDACIÓN		
Impuesto al Valor Agregado (IVA)	+5%	+2%
Impuesto a la renta personas	No cambia	+6%
Impuesto a la renta empresas	No cambia	No cambia
SU ELECCIÓN	O	O

Suponga que un gobierno tuviese que implementar de estas opciones y que luego hubiera elecciones. Señale como la implementación de cada opción afectaría su voto en una escala de 1 a 5, donde 1 significa que le haría muy dispuesto a votaren contra del gobierno y 5 que le haría muy dispuesto a votar <u>a favor</u> del gobierno.

	Muy dispuesto a votar en contra (1)	(2)	No afectaría su voto (3)	(4)	Muy dispuesto a votar a favor (5)
Opción 1					
Opción 2					

proposed adjustments reduce the fiscal deficit. This allows us to test if the respondent understood how much a particular change in a particular budgetary category impacts the fiscal deficit. Finally, respondents do a couple of sample comparisons of fiscal adjustment packages, to illustrate how the tasks work. Respondents then do the actual 10 rounds of pairwise comparisons.

The design of our experiment addresses a number of issues critically discussed in recent contributions to the conjoint literature. As mentioned above, we constrain the overall size of each randomly created austerity package to add up to 1% of the GDP.[7] This implies

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[7]See also Bremer and Bürgisser (2022) and Barnes, Blumenau and Lauderdale (2021). Barnes, Blumenau and Lauderdale (2021) propose an alternative way of estimating preferences for fiscal adjustment with a

that bigger increments (e.g. with the size of 0.4%) of each attribute are less likely to be selected into an austerity package than smaller increments (e.g. with the size of 0.1%). This is the case because the adjustment target of 1% of GDP is met with fewer large than small increments.[8] This results in a more realistic distribution of the attribute levels across the randomly designed packages that our respondents compare. In reality, adjustment packages usually entail smaller adjustment across a range of fiscal categories rather than large adjustments of only one or two categories. The realistic distribution of attribute levels in our setup corresponds to recent recommendations in the conjoint literature (de la Cuesta, Egami and Imai, 2022).[9]

2.3 Key Variables

The two outcomes variables that we use for our analysis directly follow from our setup 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. Our explanatory variables correspond to varying values of our seven (tax and spending) policy dimensions included in each adjustment package. In particular, we code the adjustments proposed in each package in different ways. First, we create a set of dummy variables – one dummy variable for each value per policy dimension. In total, there are 35 dummy variables because each of the 7 policy dimensions has 5 possible values. Since 'no adjustment' is the reference category for each dimension, 28 dummy variables enter our analysis.

Our analysis is affected by the budget constraint that requires all adjustments to sum up

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budget constraint. Bansak, Bechtel and Margalit (2021) use a conjoint setup similar to ours, but the size of the adjustment packages varies in their analysis. The size of adjustment also varies across packages in **?**.

[8]Table A1 shows the distribution of increments in the universe of adjustment packages that sum to 1% of GDP.

[9]Given that we address the critical issue of how the attributes are distributed in reality in the way we set up our conjoint packages, weighting of the attributes at the analysis stage is less pressing.

to 1% of GDP, which has been deliberately implemented to make our conjoint more realistic. This constraint, however, leads to collinearity among our options *by design* because the respective values on 6 policy dimensions in any given policy package perfectly predict the value of the 7th dimension. To circumvent this, we also create a set of variables that group the two middle adjustment magnitudes (which are equivalent to 0.2% and 0.3% of GDP) into a single category and estimate preferences over "low", "medium", and "high" adjustments where the "medium" adjustment includes the two middle adjustment increments. By grouping, we avoid collinearity and the estimated preferences are estimated with respect to "no adjustment" for each respective policy dimension.

As alternatives, we also create single, continuous variables for each policy dimension that vary between 0 and 4 with 0 (4) indicating no (maximum) adjustment on this policy dimension. These variables simplify the analysis because the impact of one policy dimension is captured by one rather than 4 different variables. At the same time, a single variable per policy dimension means that the impact of a pre-specified increase in adjustment for a particular policy is assumed to be linear, e.g. an change in the reduction of social expenditures from 0% of GDP to 0.1% of GDP is assumed to have the same impact as a change from 0.1% to 0.2% GDP.

Finally, we define sets of policy profiles that are similar on relevant dimensions discussed in previous research. For example, a typical distinction is often made between tax and spending based fiscal adjustments. Thus, we define packages that are tax- or spending-heavy (e.g. by setting a cutoff that more than 50% of the adjustment is on the tax dimensions).

In order to explore heterogeneous treatment effects, we measure relevant respondent characteristics capturing both material interests and non-pecuniary concerns. We use the questions on (actual) "income", "ideology", "trust", and "beliefs about the sources of per-

sonal success". For objective income, respondents could choose from 10 income brackets. For trust, we use the answers to questions about trust in politicians and other individuals to construct a 4-point variable where higher values indicate greater trust in politicians and in other individuals. For ideology, we will use the responses to the question about self-placement that takes a value of 0 for citizens who place themselves at the extreme left of the political spectrum and 10 for individuals who identify themselves with the extreme right. Beliefs about the sources of personal success are measured based on the 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 "

3 Empirical Strategy

To estimate the effect of different types of fiscal adjustment packages on public support, we proceed in three steps. To tie our analysis to previous empirical analyses (Alesina et al., 2021), we aggregate the seven-dimensional fiscal packages into a single tax-vs-spending dimension. This yields the following specification that only distinguishes between tax- and spending-heavy adjustments:

$$y_{ij} = \alpha_0 + \alpha_1 T_{ij} + \varepsilon_{1,ij} \tag{1}$$

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 incre-

ment separately:

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

where k refers to the 3-step increment of adjustment ('low', 'medium', '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.

To estimate how respondents vary in their reactions to different types of adjustments, we interact the treatments with moderator variables representing different respondent characteristics. We start again with the simple distinction between tax-vs-spending heavy adjustments captured by 1, which yields the following specification:

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

where M_i is an indicator variable that takes the value 1 if respondent i is, for instance, a high-income respondents and 0 if she is not. The same logic applies to other moderator variables, such as trust or political ideology. In the case of income, the coefficient $\alpha_2 T_{ij}$ indicates how support for low-income respondents changes when the package becomes more tax-heavy. The coefficient α_3 indicates how support for high-income respondents diverges from low-income respondents as the package becomes more tax-heavy.

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

$$y_{ij} = \beta_0 + \beta_1 M_i + \sum_{k=1}^{3}(\beta_{11}^k VAT_{ij}^k + \beta_{12}^k VAT_{ij}^k * M_i)$$
$$+ \sum_{k=1}^{3} \beta_2^k PIT_{ij}^k$$
$$+ ...$$
$$+ \sum_{k=1}^{3} \beta_7^k INV_{ij}^k + \varepsilon_{4,ij} \tag{4}$$

where M_i is again an indicator variable that takes the value 1 if respondent i is, for instance, a high-income respondents and 0 if she is not. Coefficients, thus, are estimated with respect to two excluded variables: whether respondents are poor and whether the reform package included zero adjustment of a policy dimension. This means that the coefficient β_{11}^1 indicates how support for low-income respondents changes as VAT increases from zero to 'low'. The coefficient β_{12}^1 whether high-income individuals have a stronger preference than low-income individuals for packages with a 'low' adjustment in VAT compared to no adjustment in VAT.

We also estimate a series of extensions to these basic specifications to probe the robustness of our results. First, we present models with the original 4-step increment. To address the collinearity problem in these estimation, we use ridge regression (Hoerl and Kennard, 1970; Horiuchi, Smith and Yamamoto, 2018, and Bremer and Bürgisser, 2022, use the same estimation strategy for conjoint data from a constrained setup). Second, we estimate specifications that explicitly model the interdependence among policy dimensions. We do this by interacting the treatment variables of one dimension with the treatments of all other dimensions, following Hainmueller, Hopkins and Yamamoto (2013, section 4.1).

4   Results

4.1   Average Effects

The results are presented in the order of the discussion above. In this section, we first examine public support for tax- vs spending-heavy adjustments using specification (1) and then look at 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.

Tax- versus Expenditure-based Adjustments

The results from specification (1) are in Table 3. As dependent variables, we use both 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. As independent variables, we use a binary variable that reflects if more than 50% of the adjustment is through tax increases and 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***		-0.045***	
	(0.003)		(0.005)	
Percentage of adjustment related to taxes (0-1)		-0.101***		-0.156***
		(0.008)		(0.014)
Constant	0.513***	0.543***	2.952***	2.998***
	(0.001)	(0.003)	(0.002)	(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 ca. 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) . Despite our different empirical setup, we are able to replicate these findings.

Within-Category Policy Preferences

In a second step, we unpack these initial results using specification (2) that examines the impact of the specific tax- and spending categories on the evaluations of our respondents. The dependent variable is the same as above. This yields a more nuanced picture 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.

Results from Figure 2 do not support the view that tax increases are universally unpopular among voters. On the one hand, increases in the personal income tax are very unpopular and massively reduce the support for an adjustment package. A moderate change in the personal income tax decreases support by ca. eight and a high increase by more than 10 percentage points. On the other hand, the results for the other two spending items, however, contradict previous claims. Respondents quite strongly support increases in the corporate income tax. In fact, it is one of the two most popular of the seven adjustment dimensions with increases in support by up to seven percentage points. Respondents do not object against increases in the VAT. If anything, an increase in the VAT is supported by respondents, but this positive effect is small and depends on the empirical specification.

Similarly, the remaining results in Figure 2 do not confirm that voters unequivocally support spending cuts. We find the greatest support for cuts in public employment with an increase in support up to eight percentage points for large cuts in public employment. Respondents also support cuts in energy subsidies and public infrastructure investment, although to a smaller degree, with a maximum increase in support by ca. three percentage points. Contrary to the previous claims, however, respondents, on average, oppose cuts in social assistance. There is some, albeit very low support for small cuts in social assistance. But support falls by up to five percentage points when the proposal includes large reductions in social assistance.[10]. Finally, we estimate the specification for each country separately (see Figures A5 and A6).

When we compare these findings to those in Table 3, we conclude that the opposition against tax increases is primarily driven by the strong resistance against the personal income tax. Yet, this tendency is counterbalanced by significant support for the corporate income taxation. Similarly, support for spending cuts is primarily due to primarily due to the unpopularity of public employment. Yet, this support for cuts in counterbalanced by opposition against social assistance cuts.[11]

Our analysis shows a clearer picture of the politically optimal composition of fiscal adjustment packages than earlier studies. According to Bansak, Bechtel and Margalit (2021, figure 4, p. 14), respondents react either not much or negatively to adjustments in almost all policy

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[10]To check the robustness of these results, we conduct a series of additional analyses which can be found in appendix A.2. We use specifications with country and individual fixed effects (figure A1); with the original 4-step treatment variables that we estimated using OLS and ridge regression (figure A2); with the 5-point outcome variable instead of the binary choice variable (figures A3 and A4); and with interactions that account for the interdependence of policy dimensions

[11]here maybe some information on the importance of social assistance, and who's benefiting from social assistance, overall, public spending allocated to this category is quite small... what is the proportion of people benefiting from social assistance etc?

Figure 2: Main results of conjoint experiment

Notes: This figure presents the estimated impact of an (low, moderate, high) increase in taxation / (low, moderate, high) reduction in spending on the probability that respondents select a fiscal adjustment package. Point estimates with 95% confidence intervals. Standard errors clustered at the individual level. Results with country and individual fixed effects are in the Appendix.

areas that they evaluate.[12] In comparison, we find more variation in the reactions across policy areas, including significant support for adjustments in important fiscal categories.[13] The differences between Bansak, Bechtel and Margalit (2021)'s and our results can be explained by differences in our conjoint design. The budget constraint in our experiment requires that a respondent who strongly dislikes an adjustment in one policy area, e.g. personal income taxation, has to accept greater adjustments in other areas, e.g. corporate income taxation or the VAT. This allows us to tease out which dimensions are politically more contentious and where respondents are willing to accept adjustments even if they preferred not to do any adjustment in the first place.

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These results only partially support the view that voters primarily choose adjustment policies, which shift the burden away from themselves towards others. Previous research predicts that based on their pecuniary interests, voters should (a) prefer expenditure-based fiscal adjustments over tax-based adjustments and (b), among expenditure adjustments, favor those that cut spending that does not directly benefit them. Consistent with the first prediction, table 3 indicates significantly greater opposition to fiscal adjustments that rely on tax increases. Yet, the conjoint analysis in figure 2 show that respondents hold very diverse views about specific taxes.

With respect to the second prediction, the conjoint analysis described above yields several anomalies. Respondents express modest support for reform packages that include increases in the value-added tax although they are directly and strongly affected by the VAT. Respondents massively reject reforms that include increases in the personal income tax, though this tax falls more heavily on the rich and salaried individuals and relatively few respondents pay it. In addition, though 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 role of pecuniary interests as the key driver of public evaluations of fiscal adjustment policies.

4.2 Robustness checks

To check the robustness of these results, we conduct a series of additional analyses which can be found in Appendix A.2. In particular, we present alternative specifications that include:

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[12]In their experiment, respondents 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, some support in Spain).

[13]We 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.

(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 respondents ratings from the 5-point scale variable instead of the forced choice outcome (Figures A3 and A4); iv) interaction terms across the attributes that account for the interdependence of policy dimensions; and (v) estimating separate specifications by country (see Figures A5 and A6). In all these checks, results are consistent with baseline findings discussed above.

5 Heterogeneous Treatment Effects

This section collects the main results of an exhaustive analysis of how the preferences of respondents for different reform packages vary with pecuniary interests – respondent income – and the following non-pecuniary concerns: trust in politicians, ideology, and beliefs about the role of luck in personal success.[14] We demonstrate that support for a package is not only driven by pecuniary considerations, but also by non-pecuniary characteristics of respondents.

Tax- versus Expenditure-based Adjustments

We start by discussing results from specification (3), as shown in Table 4. Each column reports the results for a different moderating variable. The corresponding predicted probability plots are shown in the Appendix (see Figures A7 and A8.

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

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[14]We do not explore the possible impact of incomplete respondent information about fiscal adjustment and its policy components, though this likely also plays a role. In companion projects to this one, for example, Ardanaz et al. (2022) use an experimental design to conclude that incomplete respondent information on the incidence of the value-added tax significantly affects preferences for a personalized (more progressive) value-added tax. In another experiment, Ardanaz et al. (2023) find that information about how government spending changes over the business cycle significantly affects preferences for pro-cyclical fiscal policy.

Table 4: The effect of voter characteristics on support for tax- versus spending-heavy 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***	-0.061***	-0.052***	-0.106***	0.029
	(0.013)	(0.018)	(0.018)	(0.009)	(0.028)
Middle inc.	0.024***				0.023***
	(0.008)				(0.008)
High inc.	0.045***				0.044***
	(0.008)				(0.008)
Middle inc. × Percentage of adjustment related to taxes (0-1)	-0.057***				-0.054***
	(0.018)				(0.018)
High inc. × Percentage of adjustment related to taxes (0-1)	-0.106***				-0.102***
	(0.019)				(0.019)
Distrusts		0.018**			0.015*
		(0.008)			(0.008)
Distrusts × Percentage of adjustment related to taxes (0-1)		-0.042**			-0.036*
		(0.019)			(0.020)
Center			0.015*		0.020**
			(0.009)		(0.009)
Right			0.039***		0.041***
			(0.010)		(0.010)
Center × Percentage of adjustment related to taxes (0-1)			-0.036*		-0.046**
			(0.021)		(0.021)
Right × Percentage of adjustment related to taxes (0-1)			-0.092***		-0.097***
			(0.023)		(0.023)
Inc. deter. externally				-0.018**	-0.015*
				(0.007)	(0.008)
Inc. deter. externally × Percentage of adjustment related to taxes (0-1)				0.042**	0.035**
				(0.017)	(0.018)
Constant	0.518***	0.526***	0.522***	0.546***	0.488***
	(0.006)	(0.008)	(0.008)	(0.004)	(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 the estimates of the heterogeneous treatment effects of the share of total adjustment due to tax increases by individual characteristics (following Equation 3). 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 treatment. The dependent variable is a dummy that equals 1 if the respondent preferred a particular package over another in a given round. 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, "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. Standard errors clustered at the individual level in parenthesis. * is significant at the 10%, ** at the 5%, and *** at the 1%.

poorer respondents. The results show that poor voters 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. Middle and high income respondents are, like the poor, significantly more 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. These results are consistent with the predictions of the lit-

erature, except for the strong opposition of the poorer respondents to tax-based adjustments.

The remaining estimates in table 4, though, indicate that pecuniary factors are only part of the explanation. Column 2 considers **distrust of government**. Low-trust individuals should be more skeptical that government transforms tax revenues into welfare-promoting expenditures.[15] Hence, if given a choice between adjustment packages that reduce expenditure and those that increase taxation, they should prefer the former. The coefficient Distrusts and its interaction both support this argument. The linear coefficient is 0.018, indicating greater support for expenditure-based adjustments; the negative interaction term is large and significant: as adjustment packages rely more on tax-based measures, opposition among low-trust respondents increases.

Columns 3 – 4 report estimates of the impact of more **ideological characteristics** 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. This is clear in columns 3 and 4: respondents who believe that income is a product of personal effort rather than luck are significantly more likely to oppose tax-based adjustments. The interaction terms reflect this tendency: the larger is the reliance on tax increases, the greater is the support for reform among those who believe that income is a product of luck compared to those who think that it is the result of effort. The effects of ideology are similar. While those who identify as left-wing are generally opposed to tax-based adjustments, center- and right-leaning respondents are even more opposed.

It is possible that these different results all reflect a single underlying respondent characteristic that is correlated with their income and beliefs. Column 6 investigates this possibility,

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[15]See Anderson (2017), who uses survey data from transition countries in Europe to show a significant correlation between respondents' trust in government institutions and their willingness to pay for public goods and services.

combining all pecuniary and non-pecuniary controls and interaction terms. The focus in this column is on the robustness of the interaction terms to the inclusion of all other interaction terms.[16] 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.

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 equally or even more important role. 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.

Within-Category Policy Preferences

We now turn to the pecuniary and non-pecuniary explanations for voter preferences for specific tax and expenditures adjustments. We focus on the four policy dimensions where the AMCEs are more pronounced: corporate and personal income taxation, public employment and social assistance expenditures. Figures 3 through 5 report results from specification (4) that include interaction terms between adjustment attribute levels and relevant respondent characteristics. The figures show the predicted support for a package with no, low, medium

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[16]The linear variables in the specification do not have a straightforward interpretation since the baseline comparisons are no longer defined by one omitted variable, as in columns 1-4 (e.g., in column 2, high-trust respondents), but by all of the omitted characteristics in the previous columns (low-income, high-trust respondents who are left-wing, believe poor and rich children have equal opportunities, that income is determined by effort and for whom poverty is their main concern).
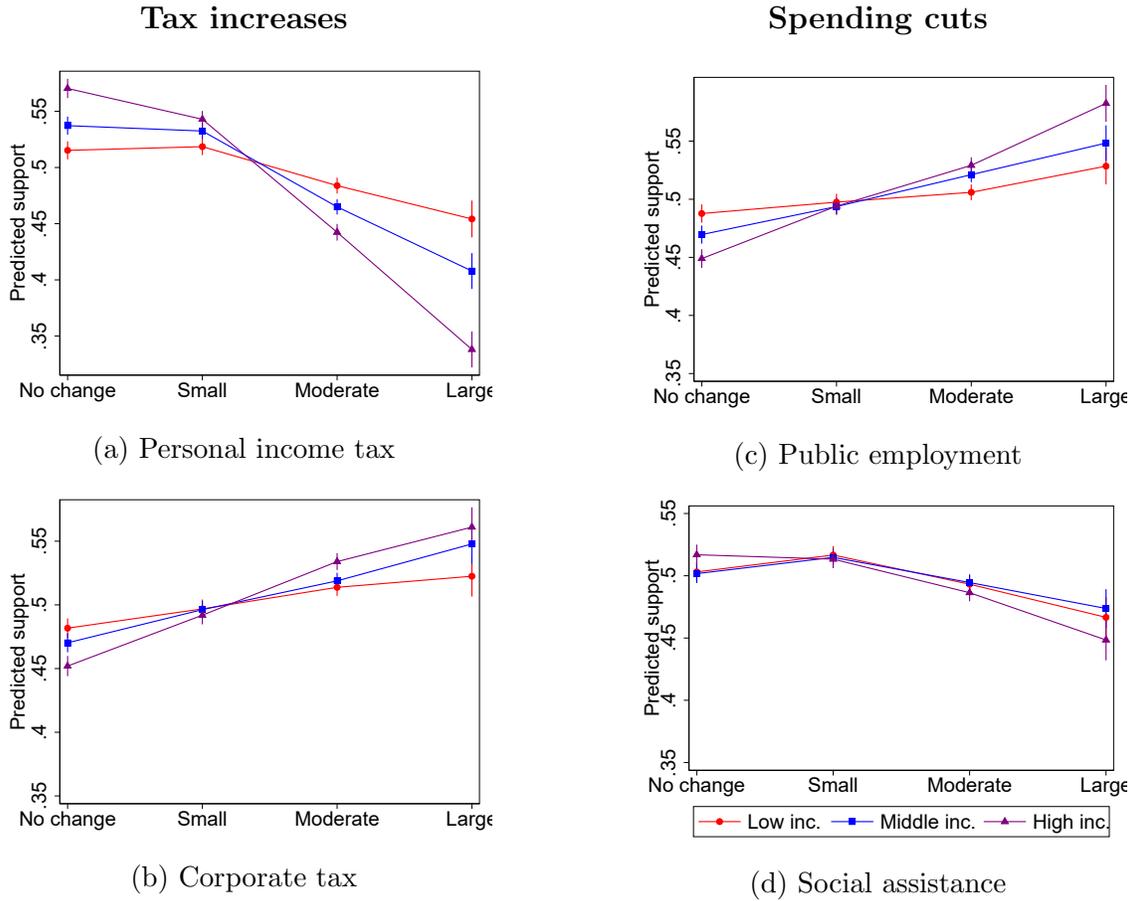
or large adjustment in each of the four policy areas and how support varies by income, trust, beliefs about the sources of personal success, and ideology. The results for the remaining policy dimensions (value-added tax, energy subsidies and infrastructure investment) are shown in the Appendix (see Figures A9 through A12. Regression Tables A3 through A6 present the full set of results .

Regarding **income**, standard models predict that, if richer voters must choose among different types of tax increases, they should be most opposed to increases in personal income taxes, which taxes both consumption and savings and which are often progressive. In comparison, the relationship between income and support for the corporate income tax are more ambiguous.[17] Based on this logic, among all reform packages that include tax increases, respondents of all income levels should prefer higher corporate income taxes to higher personal income taxes. Respondents with higher incomes should express stronger opposition to personal income taxes and stronger support for corporate income tax increases. The former taxes only consumption, the latter both consumption and savings. Since the value-added tax taxes only consumption, the effect of income on support for the VAT should lie between its effects on the other two taxes.

The four panels in Figure 3 demonstrate exactly these relationships. All respondents oppose packages that include moderate or large increases compared to those that include no or small increases in the personal income tax. Instead, if taxes must rise, they prefer to increase corporate income taxes. Yet, there are significant differences among voters. Middle- and higher income respondents are much more likely than poorer respondents to oppose packages that increase personal income taxes. The opposite is true for corporate income

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[17]In countries with deep capital markets, higher-income individuals are more likely to be shareholders and therefore oppose corporate income taxes. Capital markets are shallow in the countries in our sample, so we do not expect this effect to reduce support for corporate income tax increases in the sample. Instead, respondents at all income levels bear no direct cost from the corporate income tax, all respondents, regardless of income, should prefer corporate income tax increases to all other taxes.

Figure 3: Effect of *income* on adjustment preferences

Tax increases

(a) Personal income tax

(b) Corporate tax

Spending cuts

(c) Public employment

(d) Social assistance

Notes: This figure presents the predicted package support probability by policy dimension adjustment 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 adjustments in the rest of dimensions (for instance, the model for the personal income tax controls for all the adjustment levels in value-added tax, corporate tax, public employment, 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". We present point estimates and 95% confidence intervals.

Figure 4: Effect of *trust* on adjustment preferences

Tax increases

(a) Personal income tax

(b) Corporate tax

Spending cuts

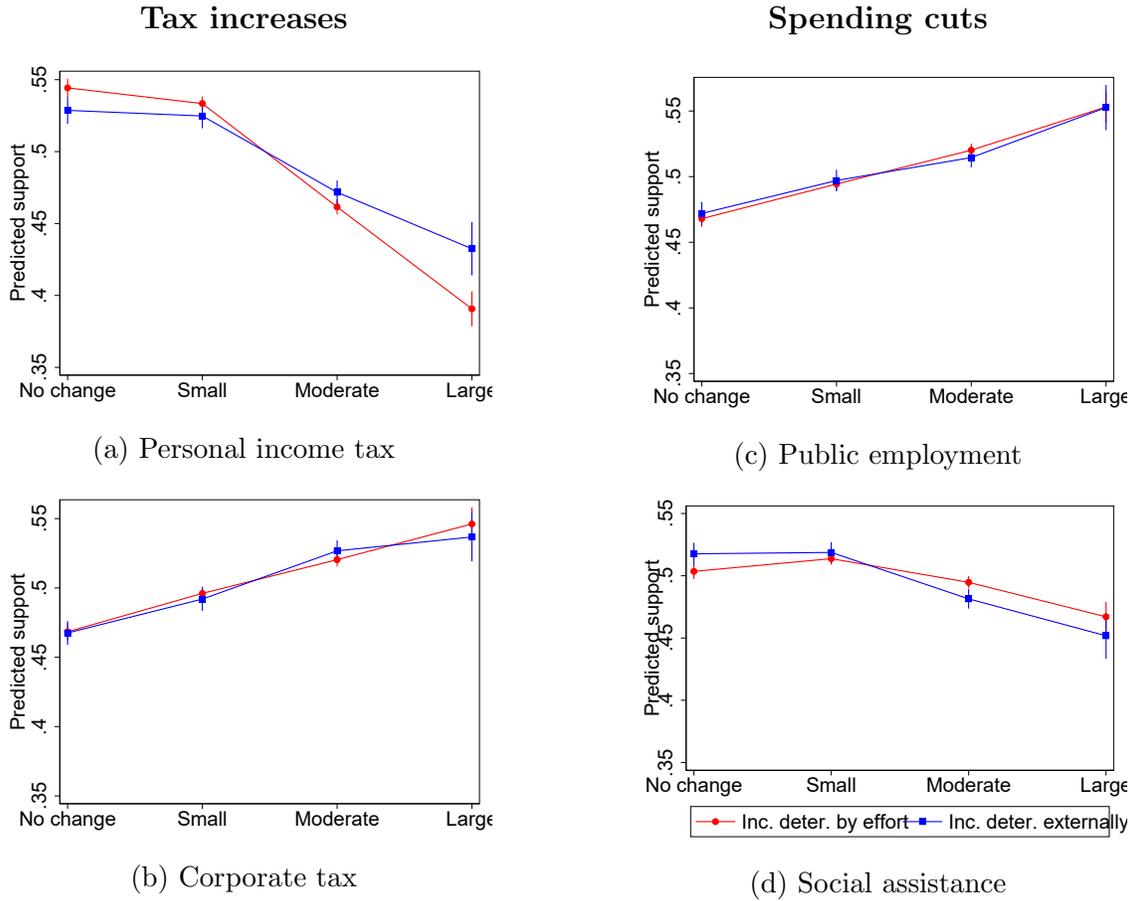

(c) Public employment

(d) Social assistance

Notes: This figure presents the predicted package support probability by policy dimension adjustment and government trust. 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 adjustments in the rest of dimensions (for instance, the model for the personal income tax controls for all the adjustment levels in value-added tax, corporate 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 5: Effect of *beliefs about income determination* on adjustment preferences

Tax increases

(a) Personal income tax

Spending cuts

(c) Public employment

(b) Corporate tax

(d) Social assistance

Notes: This figure presents the predicted package support by dimension adjustment and beliefs on income determination. 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 adjustments in the rest of dimensions (for instance, the model for the personal income tax controls for all the adjustment levels in VAT, CIT, public employment, 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. We present point estimates and 95% confidence intervals.

Figure 6: Effect of *ideology* on adjustment preferences

Tax increases

(a) Personal income tax

(b) Corporate tax

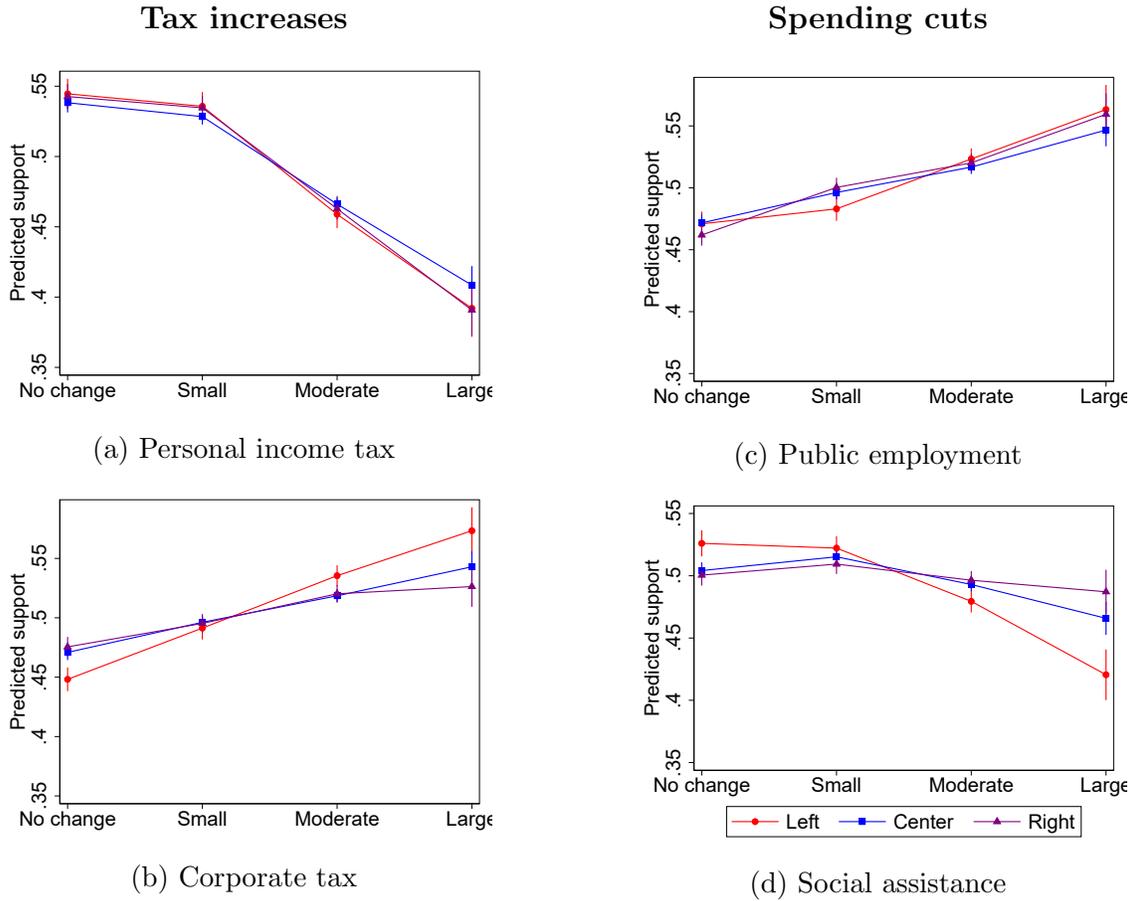**Spending cuts**

(c) Public employment

(d) Social assistance

Notes: This figure presents the predicted package support probability by policy dimension adjustment 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 adjustments in the rest of dimensions (for instance, the model for the personal income tax controls for all the adjustment levels in value-added tax, corporate tax, public employment, 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. We present point estimates and 95% confidence intervals.

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, growing in income, for corporate taxation to bear the brunt of tax-based adjustments suggests that respondents have little concern with the potential indirect effects of such taxes on household incomes. As shown in Figure A9, respondents of all income categories express moderate support for an increase in the VAT. This is remarkable because the incidence of the VAT on poorer respondents is significantly greater than that of personal income taxes.

Theoretically, income is more clearly related to preferences for some expenditure cuts than others. Higher income individuals obviously benefit less from social assistance expenditures. In contrast, richer households have at least two reasons to be significantly less sympathetic to public sector employment than poorer households. First, they are less likely to be recipients of the government services that public employees deliver (health, education, even policing). Second, they are less likely to be direct beneficiaries of government employment.[18] The incidence of energy subsidies and public investment is unclear. Energy subsidies in Latin America (and generally) are known to be regressive, so support for these subsidies should not necessarily vary with income. Similarly, the incidence of public investment benefits is ambiguous: richer households benefit more from airports and poorer from rapid bus lanes. The infrastructure adjustment that is presented to respondents does not differentiate types of infrastructure.

The graphs on the right of Figure 3 show substantial support among the poor for adjustment packages that reduce public employment and strong opposition to large cuts, but support for small cuts, to social assistance spending. The preferences of poorer respon-

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[18]Prior research has found that public sector employment 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.

dents are consistent with their pecuniary interests in the one case where those interests are unambiguous, social spending. In comparison, middle- and higher-income respondents are significantly more likely than poorer respondents to oppose packages that include no cuts to public employment. Higher-income respondents are more likely to support programs that include no reductions in social assistance, but this difference is rather weak. As shown in Figure A9, respondents across income categories are fairly similar in their responses to cuts in energy subsidies and reductions in infrastructure spending.

In sum, the significant negative reaction to increases in the personal income taxes are consistent with the pecuniary interests of respondents. However, the intensity of opposition, particularly among poorer and middle-income respondents, seems disproportionate to the net pecuniary losses respondents would bear from shifting the burden of fiscal adjustment from personal income tax increases to other tax increases or to expenditure cuts. Similarly, the reaction of higher-income respondents to social assistance cuts reveals motivations that are entirely non-pecuniary. We therefore turn to non-pecuniary determinants of adjustment preferences.

Preferences regarding fiscal adjustment packages provide a novel opportunity to investigate other manifestations of the impact of **government trust** on policy preferences. Specifically, prior research has not been able to examine the effects of trust on preferences for different types of taxes, nor for preferences regarding expenditures on a key input into the provision of government services (public employees) relative to expenditures on government transfers and public investment.

Trust in government matters for taxation because some types of taxes expose citizens to greater risk of opportunistic behavior by government than others. Low-trust individuals will be inclined to oppose reform packages that pose a greater risk of opportunistic behavior.

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Among the characteristics that increase this risk are the discretion they entail in establishing tax liabilities; the degree of interaction with taxpayers; and the amount of personal information about taxpayers that administration of the tax entails. Among the three types of taxes in the conjoint experiment, personal income taxes expose households to opportunistic behavior by government more than corporate income taxes and the value-added tax. The first does not directly affect households. The second is designed precisely to be discretion-free and demands no interaction with or information about the household.[19]

The graphs on the left of Figure 4 show that respondents are significantly more likely to prefer packages that increase the corporate income tax and significantly less likely to prefer packages that increase the personal income tax. We find significant differences between high- and low-trust voters. Low-trust voters are significantly less (more) likely than high-trust respondents to prefer packages that (do not) increase the personal income tax. We find the reverse for corporate income taxation: low-trust respondents are more (less) likely than high-trust respondents to support packages that (do not) increase the corporate income tax, but this difference is smaller than for personal income taxation. As figure A10 shows, low- and high-trust respondents do not differ in their support for fiscal packages that raise the VAT.

Trust also matters for expenditure preferences through citizens' expectation that governments may not fulfill its promises (Keefer, Scartascini and Vlaicu, 2022). Some expenditures are more vulnerable to reneging than others: those that are more difficult for voters to monitor; and those that are more vulnerable to shocks that make it more difficult to convert the expenditures into greater welfare. Government transfers should therefore be less subject to reneging, while public consumption (e.g., salaries for teachers) is more vulnerable. In comparison, the losses to voters of government reneging on public investment promises are

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[19]These advantages are less applicable to the administration of personalized VATs. These use, for example, debit cards issued by the government that permit poor households to pay less than rich households.

lower than from reneging on public consumption promises because the benefits of public investment lie in the future.[20] This means that low-trust individuals will favor cuts to public employment (consumption) more than cuts to energy subsidies and social transfers and than cuts to public infrastructure spending.

The results on the right of Figure 4 are largely consistent with these predictions. High-trust individuals are more likely than low-trust individuals to support adjustment packages that do not cut public employment spending; and they are less likely than low-trust individuals to support packages that cut public employment. There is no difference between high- and low trust individuals with respect to social assistance, except for large cuts, which are more supported by trusting individuals. As Figure A10 shows, there are only very weak or no differences for cuts in energy subsidies and infrastructure spending.

The next results indicate that respondent preferences for different policy packages are as strongly affected by **beliefs** about income determination. We first examine respondent attitudes about the role that effort plays in an individual's income, comparing the adjustment preferences of those who believe that effort plays a large role compared to those who believe that external forces matter most.

Figure 5 indicates that those who believe that income is the result of personal effort are significantly more likely to oppose adjustment packages that raise the personal income tax compared to those who believe that income is externally determined. In contrast, the former are more likely to support reforms that do not raise personal income tax compared to the latter. Individuals with diverging beliefs also have different preferences over spending

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[20]Using 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.

adjustments, although the differences are less strong than for personal income taxation. The main difference concerns social spending. Individuals who believe that income is the result of effort are more in favor of social assistance cuts and less in favor of no assistance cuts than those who believe that income is externally determined.

Finally, Figure 6 traces the interaction of **ideology** with policy preferences. Ideological preferences invoke not only general views of the fairness of economic and social outcomes, as reflected by views on effort, but also views about the private sector. Consequently, the strongest results on the taxation side concern the corporate income tax. Left-leaning respondents are far more supportive of adjustment packages that raise the corporate income tax compared to those that do not, relative to center- and right-leaning respondents. 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.

With respect to spending adjustments, left-leaning respondents are more supportive of packages that do not cut social assistance than center- and right-leaning respondents. Support is the reverse for large social assistance cuts, which are more supported by center and right-wing than by left-wing respondents. We do not find major differences between different left, center and right respondents for the other expenditure cuts (see Figure A11).

6 Conclusions

When governments adjust fiscal policy to reduce the public deficit, a key question is to design adjustment packages that minimize voter opposition or political backlash. A common recommendation is to choose an adjustment strategy that spares important segments of the electorate. For instance, governments should cut spending rather than raise taxes because "the median voter is ... the taxpaper" (Alesina et al., 2021, p. 8). If they do raise taxes, governments should increase the progressivity of adjustment to impose mostof the burden on the rich rather than the (larger) middle and lower income groups (Bierbrauer, Boyer and Peichl, 2021).

Our results from Latin America only partially support these claims. In our experimental analysis of seven adjustment categories, respondents express strong support for an increase in the corporate income tax. In contrast to the personal income tax, which is the most progressive tax in our analysis, they also do not object against increases in the regressive value-added tax. Finally, they support cuts in public employment expenditures, but not in social assistance expenditures, although only few voters benefit from the latter.

These findings suggest that it is more complex to build an encompassing political coalition for fiscal adjustment than the simple materialistic argument suggests. We find that pecuniary interests, as represented by respondent income, do matter, especially when it comes to increases in the personal income tax. Respondents, however, based their decision to support or oppose fiscal adjustment also on a series of other, non-pecuniary motives. In particular, beliefs about income determination, ideology and trust in government strongly influences a respondent's support for different combinations of tax increases and spending cuts.

Fiscal responses during the COVID crisis to support households and firms have resulted in large deficit and debt increases. As the pandemic abates, many countries will have to design fiscal strategies to address concerns about debt vulnerabilities. While fiscal adjustments may be inevitable, the results in this paper show there is ample heterogeneity in voter reactions to different types of adjustments.

The results also point to several key questions for future work. While our experimental approach included a set of educational screens oriented at familiarizing respondents with the different tax and spending policy categories, we 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 Appendix

A.1 Distribution of Attribute Levels

Table A1 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 4795 packages that sum up to 1% of GDP.[21] The frequency of each attribute level is identical for each policy dimension. The distribution of increments in the same for each of the seven policy dimensions. As the table shows, smaller increments occur more often than larger increments.

Table A1: 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 A2 shows how the increments are distributed in our sample. This actual distribution is very similar to the theoretical one in table A1 as one would expect for more than 160'000 randomly drawn policy packages.

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[21]In an unconstrained setting, the total number of possible combinations is ($5^7 =$) 78125. Of those, 4795 fulfill our adjustment constraint.

Table A2: Distribution of increments in our conjoint experiment

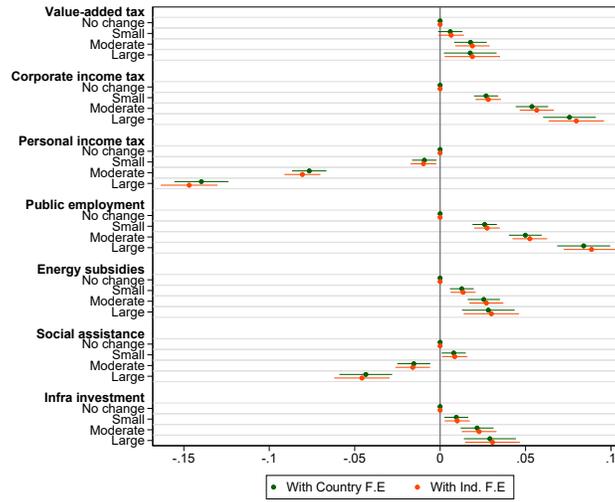| Increment	VAT	PIT	CIT	EMP	SUB	ASS	INV
0	52,589	52,669	52,929	52,604	52,543	52,634	52,543
	(31.34)	(31.39)	(31.55)	(31.35)	(31.32)	(31.37)	(31.32)
0.1	43,618	43,775	43,417	43,680	43,812	43,679	43,756
	(26.00)	(26.09)	(25.88)	(26.03)	(26.11)	(26.03)	(26.08)
0.2	33,278	33,027	33,226	33,440	33,259	33,465	33,279
	(19.83)	(19.68)	(19.80)	(19.93)	(19.82)	(19.95)	(19.83)
0.3	23,308	23.449	23,163	23,225	23,266	23,273	23,153
	(13.89)	(13.98)	(13.81)	(13.84)	(13.87)	(13.87)	(13.80)
0.4	14,987	14,860	15,045	14,831	14,900	14,729	(15,049)
	(8.93)	(8.86)	(8.97)	(8.84)	(8.88)	(8.78)	(8.97)
Total	167,780	167,780	167,780	167,780	167,780	167,780	167,780
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Notes: Frequencies with percent of total in parentheses.

A.2 Average Effects: Additional Analyses

In this section, we examine a series of additional results to test the robustness of our results in section 4.1. Figure A1 presents the results from specifications with country and individual fixed effects. Figure A2 uses the original 4-step attributes for the treatment variables from the conjoint experiment. The left panel shows the results from an OLS regression. As we discuss in the main text, the 4-step increments across the seven policy dimension are perfectly colinear due to our conjoint design. As a result, the last attribute of the last policy dimension (10% cut of infrastructure investment) is excluded from the regression. The left panel estimates the same specification with ridge regression that allows for perfect colinearity at the expense of stronger modeling assumptions.

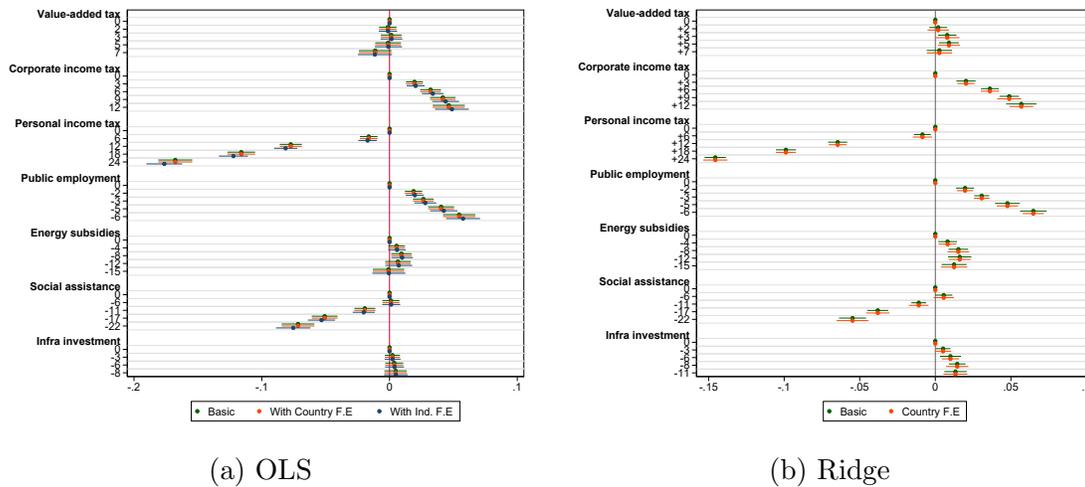All the results above use the binary, forced-choice outcome variable. Figures A3 and A4 compare these results to those alternative specifications, which use the 5-point rating scale as dependent variable. The first figure shows the basic results and those with country and individual fixed effects. The second figure shows the results for the 4-step treatment variable estimated using ridge regression.

Figure A1: Main results of conjoint experiment when including country or individual fixed effects
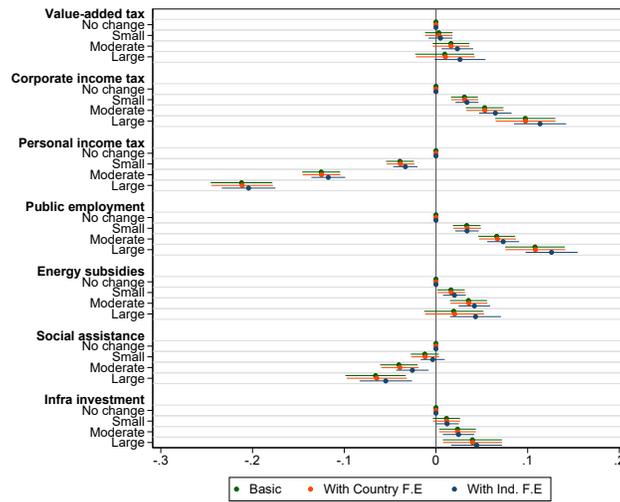

Notes: This figure presents the main results of the conjoint experiment (i.e., the estimation of the coefficients in Figure 2) in two specifications, one that includes country fixed effects (in green) and other that includes individual fixed effects (in orange). Standard errors are clustered at the individual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

Figure A2: OLS and Rigde estimation of the Conjoint Treatment Effects for the original scales of the policy adjustments

(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: OLS estimation of the Conjoint Treatment Effects using as outcome the 5-point rating (the slider 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.

Results from interaction models

Figure A4: Ridge estimation of the Conjoint Treatment Effects, 4-category adjustments, 5-point rating (slider) outcome

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.

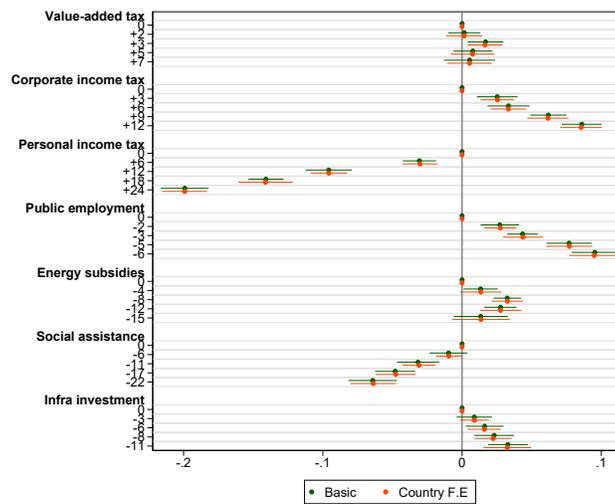For the main analysis, the data from the four countries are pooled in one dataset. Figure A5 and A6 present the results from the same models (binary outcome variable for the first figure and 5-point outcome variable for the second figure) separately for each country. Although the results are mostly similar across individual countries, there are some variations. Respondents in all countries oppose higher income taxation, and support higher corporate taxation and greater cuts in public employment. As in the overall findings, the reaction is comparatively less pronounced to increases in VAT (although there is a difference in the direction of the response between Colombia and Peru), to cuts in energy subsidies and cuts in infrastructure investment. A notable difference is the response to cuts in social assistance, which is stronger in Colombia and Brazil than in Peru and Costa Rica.

Figure A5: OLS estimation of conjoint treatment effects by country, 3-category adjustments with individual fixed effects, forced choice outcome

(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.
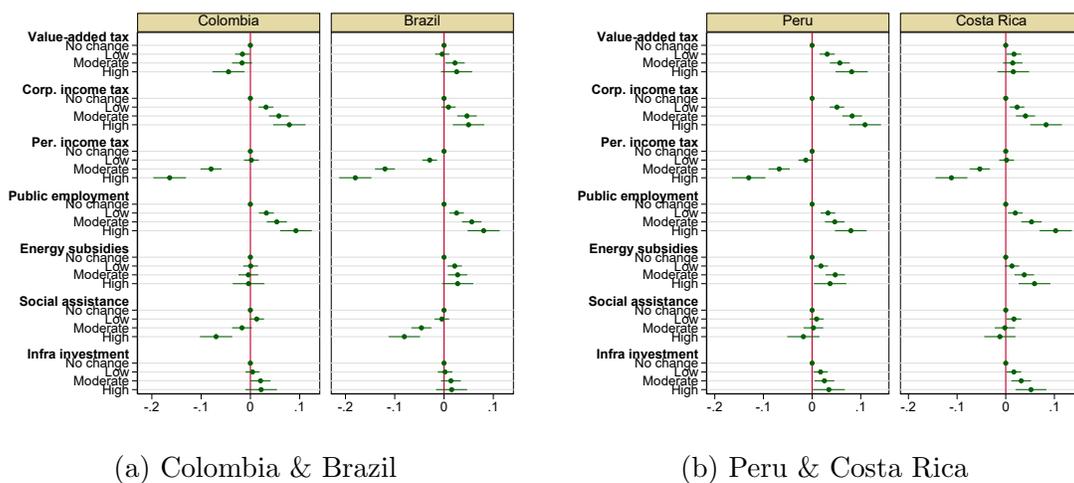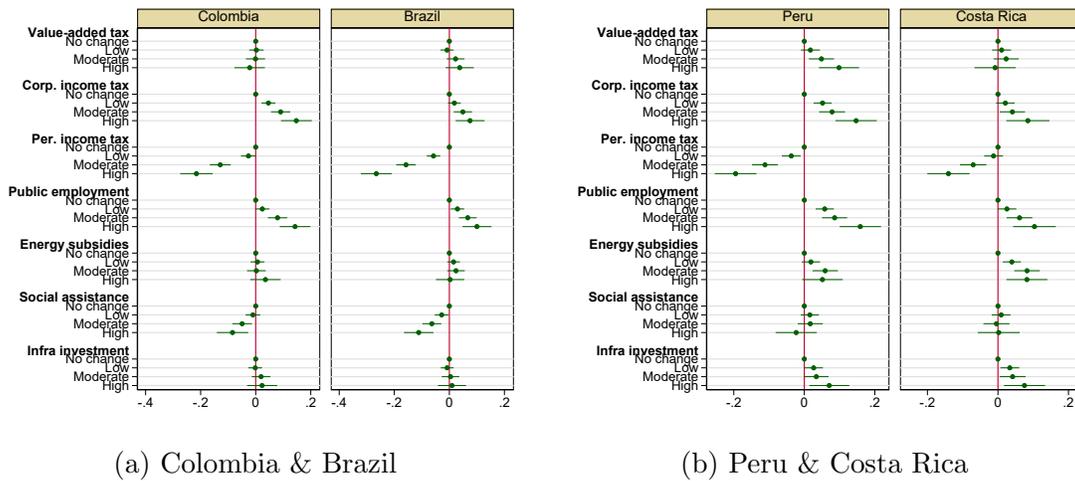
Figure A6: OLS estimation of conjoint treatment effects by country, 3-category adjustments with individual fixed effects, 5-point rating (slider) outcome

(a) Colombia & Brazil

(b) Peru & Costa Rica

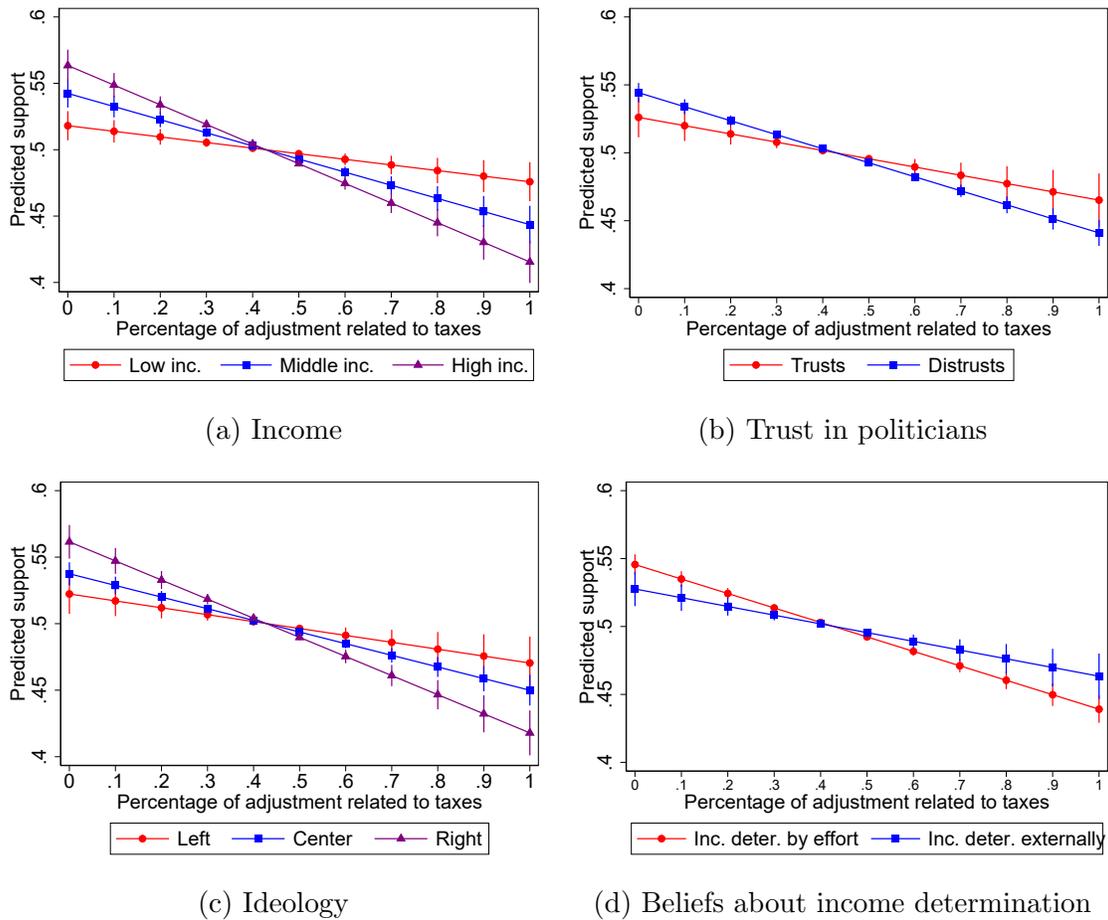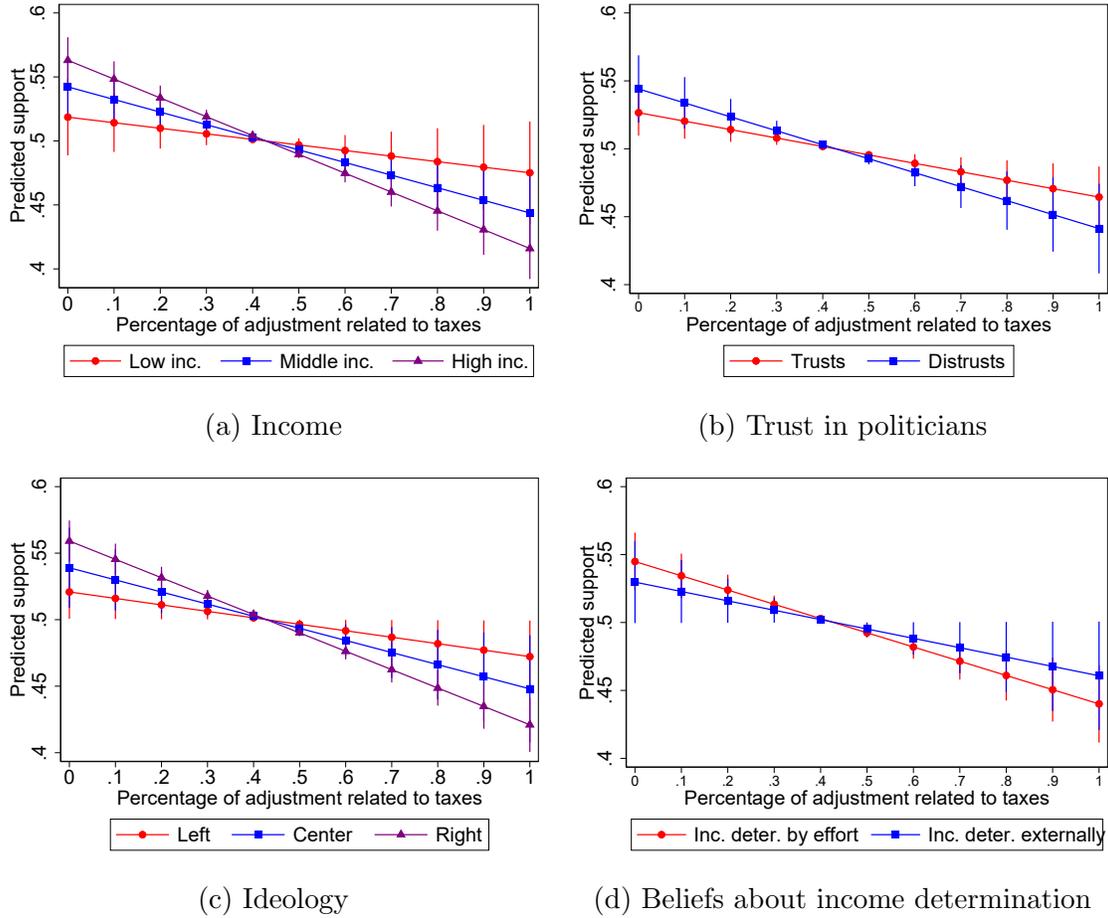**Notes**: This figure reports the estimates of the Conjoint Treatment Effects by country, using the 3-category adjustments and the 5-point-scale rating (slider) outcome. All the specifications control for individual fixed effects. Standard errors are clustered at the individual level. We report point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

Figure A7: Package support by level of reliance on taxes and individual characteristics - without additional interactions

(a) Income

(b) Trust in politicians

(c) Ideology

(d) Beliefs about income determination

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.

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Figure A8: Package support by level of reliance on taxes and individual characteristics - all interactions

(a) Income

(b) Trust in politicians

(c) Ideology

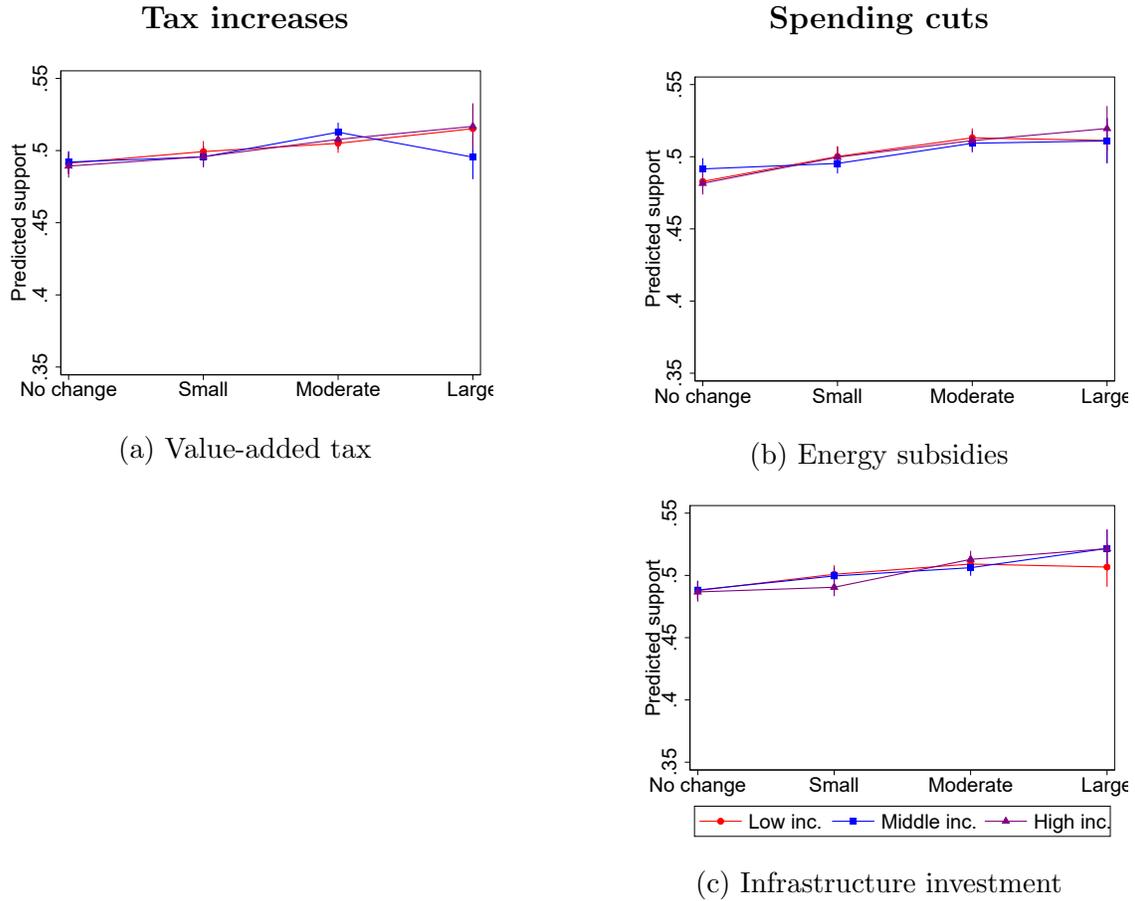(d) Beliefs about income determination

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 A9: Effect of *income* on adjustment preferences - rest of the dimensions

Tax increases

(a) Value-added tax

Spending cuts

(b) Energy subsidies

(c) Infrastructure investment

Notes: This figure presents the predicted package support probability by policy dimension adjustment 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 adjustments in the rest of 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.). 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 A10: Effect of *trust* on adjustment preferences - rest of the dimensions

Tax increases

(a) Value-added tax

Spending cuts

(b) Energy subsidies

(c) Infrastructure investment

Notes: This figure presents the predicted package support probability by policy dimension adjustment and government trust. 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 adjustments in the rest of 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 A11: Effect of *ideology* on adjustment preferences - rest of the dimensions

Tax increases

Spending cuts

(a) Value-added tax

(b) Energy subsidies

(c) Infrastructure investment

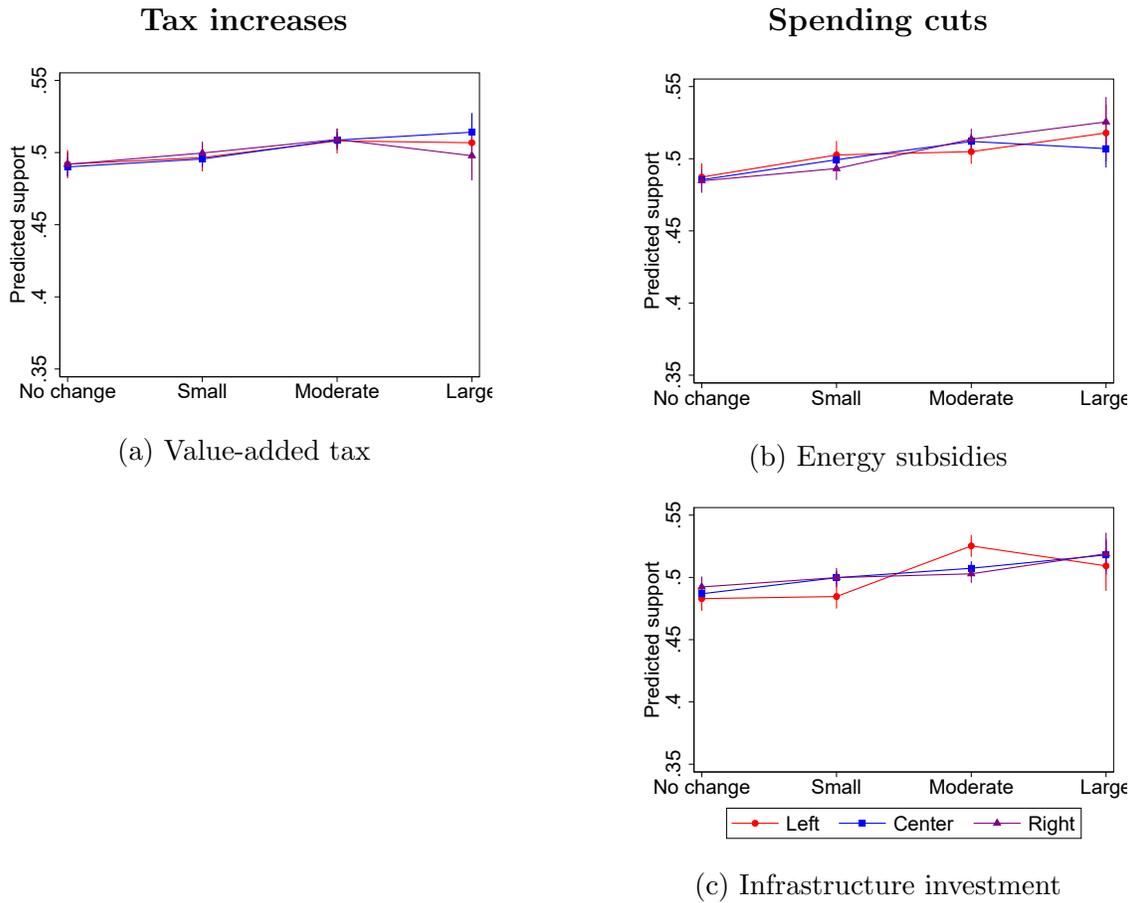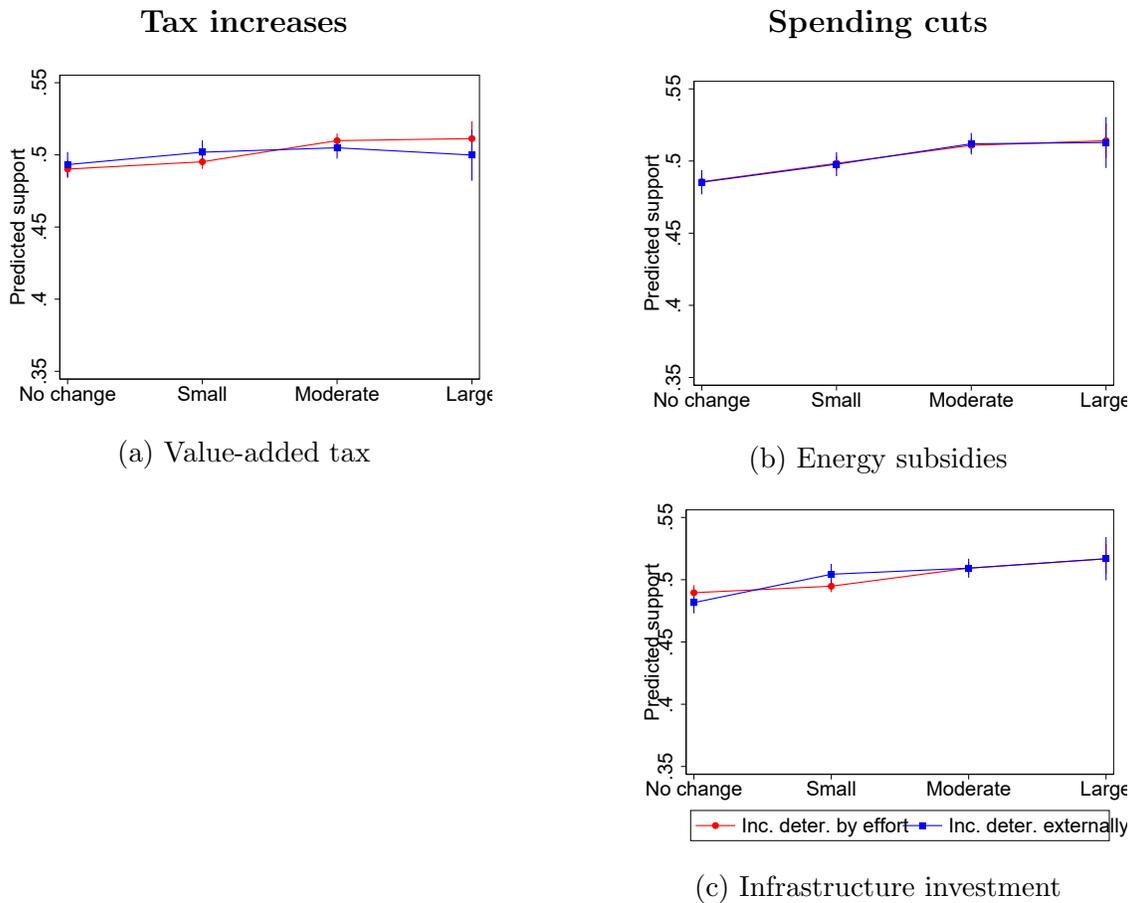**Notes:** This figure presents the predicted package support probability by policy dimension adjustment and ideology. It derives from a heterogeneous treatment effect design such as the presented in Equation 4. We estimate one model per policy adjustment, and control for country fixed effects and the adjustments in the rest of 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.). 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 A12: Effect of *beliefs about income determination* on adjustment preferences - rest of dimensions

Tax increases

(a) Value-added tax

Spending cuts

(b) Energy subsidies

(c) Infrastructure investment

Notes: This figure presents the predicted package support by dimension adjustment and beliefs on income determination. 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 adjustments in the rest of 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.). 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.3   Heterogeneous Effects: Regression Results

Table A3: Heterogeneous treatment effects of policy adjustments by income level

	(1) VAT	(2) CIT	(3) PIT	(4) EMP	(5) SUB	(6) SAS	(7) INV
Small	0.008	0.015**	0.003	0.010	0.017***	0.014**	0.013**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Moderate	0.014**	0.032***	-0.031***	0.018***	0.030***	-0.010	0.021***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.007)	(0.007)
Large	0.024**	0.041***	-0.061***	0.041***	0.028***	-0.036***	0.019*
	(0.011)	(0.010)	(0.011)	(0.011)	(0.010)	(0.011)	(0.010)
Middle inc.	0.001	-0.012***	0.022***	-0.018***	0.009**	-0.001	0.000
	(0.005)	(0.004)	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)
High inc.	-0.002	-0.030***	0.055***	-0.039***	-0.001	0.014***	-0.001
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Small × Middle inc.	-0.004	0.011	-0.008	0.014*	-0.014*	-0.001	-0.002
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Small × High inc.	-0.001	0.025***	-0.031***	0.035***	0.001	-0.017**	-0.009
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Moderate × Middle inc.	0.007	0.017**	-0.041***	0.033***	-0.012*	0.003	-0.003
	(0.008)	(0.007)	(0.008)	(0.008)	(0.007)	(0.008)	(0.007)
Moderate × High inc.	0.005	0.050***	-0.097***	0.062***	-0.001	-0.021**	0.005
	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)
Large × Middle inc.	-0.021*	0.037***	-0.068***	0.038***	-0.009	0.008	0.015
	(0.012)	(0.012)	(0.013)	(0.012)	(0.011)	(0.012)	(0.011)
Large × High inc.	0.004	0.068***	-0.171***	0.093***	0.010	-0.032**	0.016
	(0.012)	(0.012)	(0.013)	(0.012)	(0.012)	(0.013)	(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 A4: Heterogeneous treatment effects of policy adjustments by trust in politicians

	(1) VAT	(2) CIT	(3) PIT	(4) EMP	(5) SUB	(6) SAS	(7) INV
Small	0.005	0.007	0.003	0.017**	0.004	0.011	0.012
	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)
Moderate	0.016*	0.034***	-0.034***	0.030***	0.009	-0.010	0.020**
	(0.009)	(0.008)	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)
Large	0.020	0.047***	-0.095***	0.049***	0.012	-0.009	0.022*
	(0.013)	(0.013)	(0.014)	(0.013)	(0.013)	(0.014)	(0.013)
Distrusts	-0.001	-0.017***	0.025***	-0.015***	-0.011**	0.007	-0.001
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Small × Distrusts	0.001	0.023***	-0.014	0.011	0.010	-0.004	-0.003
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Moderate × Distrusts	0.002	0.024***	-0.051***	0.024***	0.019**	-0.007	0.002
	(0.008)	(0.008)	(0.009)	(0.009)	(0.008)	(0.009)	(0.008)
Large × Distrusts	-0.003	0.034***	-0.053***	0.042***	0.019	-0.042***	0.008
	(0.013)	(0.013)	(0.014)	(0.013)	(0.013)	(0.013)	(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 A5: Heterogeneous treatment effects of policy adjustments by political alignment

	(1) VAT	(2) CIT	(3) PIT	(4) EMP	(5) SUB	(6) SAS	(7) INV
Small	0.005	0.043***	-0.009	0.012	0.015*	-0.004	0.002
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Moderate	0.016*	0.087***	-0.086***	0.052***	0.018**	-0.047***	0.042***
	(0.008)	(0.009)	(0.009)	(0.008)	(0.008)	(0.009)	(0.008)
Large	0.015	0.125***	-0.153***	0.092***	0.031**	-0.106***	0.026**
	(0.013)	(0.013)	(0.014)	(0.013)	(0.013)	(0.013)	(0.013)
Center	-0.002	0.023***	-0.006	0.001	-0.002	-0.022***	0.004
	(0.005)	(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.005)
Right	-0.000	0.027***	-0.002	-0.009	-0.003	-0.025***	0.009
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Small × Center	0.001	-0.018**	-0.001	0.013	-0.001	0.015	0.011
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Small × Right	0.003	-0.023**	0.001	0.026***	-0.007	0.013	0.006
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Moderate × Center	0.002	-0.040***	0.014	-0.007	0.009	0.035***	-0.022**
	(0.009)	(0.009)	(0.010)	(0.009)	(0.008)	(0.009)	(0.009)
Moderate × Right	0.001	-0.043***	0.006	0.006	0.011	0.042***	-0.032***
	(0.010)	(0.010)	(0.011)	(0.010)	(0.009)	(0.010)	(0.010)
Large × Center	0.009	-0.053***	0.023	-0.017	-0.009	0.067***	0.005
	(0.013)	(0.013)	(0.014)	(0.013)	(0.013)	(0.014)	(0.013)
Large × Right	-0.009	-0.074***	0.001	0.005	0.010	0.092***	0.000
	(0.015)	(0.015)	(0.016)	(0.015)	(0.014)	(0.015)	(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 A6: Heterogeneous treatment effects of policy adjustments by beliefs on income determination

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