online first
DOI: 10.52335/ekon/196212

Jakub Sawulski
SGH Warsaw School of Economics, Poland,
https://orcid.org/0000-0002-8777-2710, email: jsawul@sgh.waw.pl

Aneta Kiełczewska
Polish Economic Institute, Poland,
https://orcid.org/0000-0003-4165-1240, email: akielczewska0@gmail.com

The public (mis)understanding of fiscal trade-offs – evidence from a survey experiment in Poland

(Nie)zrozumienie kompromisów fiskalnych – dowody na podstawie eksperymentu ankietowego w Polsce

Abstract

The literature on fiscal attitudes offers evidence of an interesting pattern: citizens simultaneously want higher government spending and lower taxes. However, recent studies argue that this may be just an artifact arising from misleading survey design. When properly informed about the fiscal trade-offs, citizens express much more coherent views. We contribute to the discussion using a survey of 1,800 adult citizens in Poland. By a split-sample experiment, we show that the answers about the desired role of the state vary greatly depending on whether the question includes a reference to taxes. Using the regression framework, we identify gender, educational level and individual income as significant determinants of the scale of misunderstanding of fiscal trade-offs.

Keywords: public opinion, policy preferences, survey experiments, fiscal attitudes.

JEL: H30, H11, D83, D72

Streszczenie

Literatura na temat preferencji fiskalnych wskazuje, że obywatele często chcą jednocześnie wyższych wydatków państwa i niższych podatków. Najnowsze badania dowodzą jednak, że być może taka obserwacja wynika z błędnie zaprojektowanych ankiet. Obywatele odpowiednio poinformowani o kompromisach fiskalnych wyrażają znacznie bardziej spójne poglądy. W artykule włączamy się do tej dyskusji. Za pomocą eksperymentu ankietowego, w którym wzięło udział 1800 dorosłych obywateli Polski, pokazujemy, że odpowiedzi dotyczące pożądanej roli państwa różnią się znacznie w zależności od tego, czy pytanie zawiera odniesienie do podatków. Wykorzystując analizę regresji identyfikujemy płeć, poziom wykształcenia i indywidualny dochód jako istotne determinanty skali niezrozumienia kompromisów fiskalnych wśród obywateli.

Słowa kluczowe: badania opinii publicznej, eksperymenty ankietowe, preferencje fiskalne.

JEL: H30, H11, D83, D72

1. Introduction

Sears and Citrin (1982), when studying the motivations behind the California Tax Revolt in 1978, came up with the term "something for nothing", which the authors claimed accurately reflected the attitude of most Californians. The authors found that a large proportion of citizens supported increased government spending but, at the same time, wanted taxes to be lower (see also: Citrin, 1979). Welch (1985) named this the "more for less" paradox and agreed that this might be the attitude of some citizens. Recent studies indicate that there is indeed an inconsistency in citizens' views when asked separately about the desired level of taxes and spending; however, that phenomenon largely disappears when the question directly presents the fiscal trade-offs (see the 'literature review' section).

In this paper, we investigate the understanding of fiscal trade-offs using a survey on a sample of 1,800 adult citizens in Poland. The survey included an experiment to identify the impact of incorporating the trade-off between the level of taxes and public expenditure into the question on voters' view on the desired role of the state. For this purpose, we used two subsamples for which we differentiated the respective question. We confirmed that, when asked separately, the view on the level of taxation has little or no impact on the view on the desired role of the state. Most citizens assess the current level of taxation as too big, but would also like to see high state activity in all of the indicated areas. In the split-sample experiment, we show that the presence of the fiscal trade-off in the question asked dramatically changes the structure of the answers obtained – the majority of the respondents says that the state is too small when the question does not include the reference to taxes, but declares that it is too big when the information about taxes is present.

Through our study, we also shed some new light on the potential explanations for the misunderstanding of fiscal trade-offs if they are not provided explicitly. Using the regression framework, we identify gender, educational level and individual income as significant determinants of the misunderstanding. We find that women are much more prone to misunderstanding fiscal trade-offs than men. When there is no mention of taxes in the question, women favour a significantly greater role of the state than men – this is not surprising, as a number of articles have demonstrated that women in advanced economies are more supportive towards social spending and the welfare state. However, we show that, when the mention of taxes is added to the question, women's and men's attitudes are more similar. This may be an important contribution to the literature on the gender differences in attitudes towards the role of the state, though more research is needed to prove this observation.

The article is organised as follows. In the second section, we make a review of the previous research into the public understanding of fiscal trade-offs. In the third section, we outline our theoretical expectations. Next, in the fourth section, we describe the methodological aspects of the survey. In the fifth section, we present the main results. Finally, in the sixth section, we conclude by placing our article in the literature, as well as indicating its potential implications and limitations.

2. Literature review

The essence of the terms "more for less" or "something for nothing", as initiated in the literature by Citrin (1979), Sears and Citrin (1982) and Welch (1985), is that, when asked separately about the preferences to taxes and public spending, citizens tend to treat them as unrelated categories and fail to notice the relationship between the two. As a result, citizens express contradictory expectations – wanting both higher spending and lower taxes at the same time. However, such simple surveys have gained criticism from some authors, who indicate that the respondents are usually faced with unrealistic choices among incomplete sets of options (Hansen, 1998). With this in mind, researchers started to incorporate various fiscal trade-offs in the surveys' design, including the trade-off between taxes and spending, and, in a more advanced option, also deficit and debt[1]. The results of such studies are mixed, but rather point to the conclusion that, when offered more nuanced questions, respondents tend to express much more coherent views (in the sense that the demand for low or high taxes is more frequently expressed along with a demand for a narrow or wide range of benefits and services from the state, respectively). Below, we present the main articles within this area, starting from those that notice the "more for less" phenomenon, even when respondents are presented with trade-offs, and covering those that emphasise the coherence of citizens' views.

Gemmel et al., (2003) use responses from the 1995 British Social Attitudes Survey and find that citizens tend to overestimate the tax burden, though this tendency has almost no influence on demands for public spending. Hayo and Neumeier (2017) introduce the tax/budget constraint when measuring public preferences for public spending using a representative survey of the German population. They show that the impact of public budget constraints on public spending priorities is small – the voters' view remains almost unaffected when the public expenditure cost is indicated. Naumann (2018) suggests that the impact of providing respondents with the tax constraints is more nuanced – it depends on the policy area. By exploiting the survey experiments on the welfare state in the German Internet Panel, the author shows that tax constraints do not affect support for more spending on pensions, healthcare and long-term care. However, they do lead to lower support for unemployment benefits and redistribution.

Some authors connect the "more for less" paradox with a broader concept of fiscal illusion (Baekgaard et al., 2016; Davidson, 2018). According to the fiscal illusion theory, citizens misperceive fiscal parameters because of incomplete information. As a result, the costs of public services are underestimated leading to voters demanding more public spending than if they had been fully informed. Winter and Mouritzen (2003), using an experimental analysis of survey data from Odense, Denmark, show that providing information about the unit costs of public services

[1] There are also numerous articles studying the most simple trade-offs between various spending categories or various types of taxes, for example recent studies by Bremer and Busemeyer (2022), Bremer and Bürgisser (2023) and Barnes et al., (2024). However, in this article we concentrate on the trade-offs covering at least taxes and spending at the same time.

can weaken the mechanism of fiscal illusion. The reasons behind the "more for less" paradox may also be related to cultural and state efficiency issues. This is what Edlund's and Sevä's (2012) research suggests. The authors show that, contrary to evidence from other countries, the "more for less" attitude is not dominant among Swedish citizens. The authors also indicate that Swedish citizens classified into the "more for less" segment should be considered free riders rather than ignorant citizens with limited knowledge.

Some problems with understanding fiscal trade-offs have also been found in the literature, which tries to connect public preferences over the level of taxation and preferences over progressivity/redistribution. Barnes (2015) identifies a disconnection of preferences between the two – voters prefer higher progressivity (more redistribution) but lower tax levels (less redistribution). As an explanation, the author suggests that different factors may influence both – income and risk attitudes affect progressivity preferences, while trust affects redistribution preferences. Berens and Gelepithis (2019) show that public preferences over progressive taxation are shaped by the structure of the welfare state – support for progressive taxation among both average and high-income households is undermined by 'pro-poor' welfare spending. On the other hand, Beramendi and Rehm (2015) demonstrate that the progressiveness of the welfare state is a major determinant of the predictive power of income on preferences for redistribution[2].

There are a number of studies suggesting that the "more for less" paradox disappears when respondents receive full information about fiscal trade-offs. Hansen (1998) used the Pilot Study for the American National Election Study, within which the questions offered choices among a complete set of budget trade-offs. The results show that the citizens' views are surprisingly coherent. As the author indicates "the portion of the electorate that seeks something for nothing is decisively in the minority". Tuxhorn et al., (2021) used an online budget simulator to inform respondents about the United States' federal budget structure. The findings suggest that fiscal preferences appear to be much more coherent when the respondents obtain comprehensive information on the state activity.

Other studies show that the disclosure of fiscal trade-offs significantly reduces support for activities that are commonly considered very popular. Using survey data on individual-level preferences in eight European countries, Busemeyer and Garritzmann (2017) show that support for social investments drops considerably once budget constraints are added. Interestingly, the decrease in support for social investment is larger when the source of financing would be cuts in social transfers rather than higher taxes or higher public debt. Bremer and Bürgisser (2022, 2024) use split-sample and conjoint experiments in Germany, Italy, Spain and the United Kingdom to show that public support for lower taxes declines substantially when it comes into conflict with other fiscal policy objectives, such

[2] It is important to note that the bulk of the literature shows that preferences over redistribution are distorted by a misperception about the level of inequality and/or the person's own position in the income distribution among individuals (Fernández-Albertos and Kuo, 2015; Kuziemko et al., 2015; Boudreau and MacKenzie, 2018; Cansunar, 2021).

as government spending, public debt or other taxes. The authors also indicate that citizens are less fiscally conservative than commonly assumed. Revenue--based consolidation is widely unpopular, but expenditure-based consolidation is also contested. That places pressure on fiscal sustainability, as the experiments show that the average citizen cares little about government debt (compared to taxation and spending).

These conclusions led to researchers paying greater attention to the design of questionnaires and the inclusion of fiscal trade-offs to learn about citizens' real policy preferences. Such an approach was used, for example, by Barnes et al., (2022), who performed a multivariate choice experiment on a sample of UK citizens, in which respondents were offered a set of deficit-neutral changes in spending and taxation. Interestingly, they find that UK citizens favour paying more in tax to finance large spending increases across major budget categories.

Finally, fiscal trade-offs have been used by some authors to study the support for austerity policies. Using survey data from five European countries, Bansak et al., (2021) show that, surprisingly, austerity is the preferred policy among most citizens. However, the preference is highly sensitive to the precise composition of spending cuts and tax hikes. Hübscher et al., (2023), using survey data from Germany, Spain and the United Kingdom, show that there is a high variation in voters' attitudes towards fiscal adjustments between the countries studied.

3. Theoretical expectations

Following the literature review, in our study we focus on two main issues.

First, we want to verify how the inclusion of fiscal trade-offs impacts preferences regarding the role of the state in Poland. In line with most previous studies, we hypothesise that, when asking about fiscal preferences, the composition of the question is fundamental for the answers obtained – if the question openly presents trade-offs, the answers are significantly different than when no trade-offs are presented. Importantly, we test this phenomenon in one of the countries of Central and Eastern Europe (CEE), so far omitted in this part of the literature. The case of CEE countries may be specific, as the views of citizens towards the state were shaped by the period of communism and later by the tough period of transformation to a market economy.

Second, we attempt to contribute to the literature, which tries to explain the reasons behind the misunderstanding of fiscal trade-offs if they are not provided explicitly. As shown in the previous section, the literature on this matter remains scarce and inconclusive, pointing to reasons ranging from low levels of citizen knowledge to intentionally expressed free-riding. We hypothesise that a high level of education and good economic knowledge reduce the scale of misunderstanding about fiscal trade-offs among citizens. This hypothesis is also related to the broader literature indicating the positive impact of the level of education and economic knowledge for understanding economic phenomena and making financial decisions (Mitchell and Lusardi, 2015; Baihaqqy and Sari, 2020; Hwang and Park, 2023).

4. Data and method

Our study is based on a survey conducted on a representative sample of adult Poles. The survey commissioned by the Polish Economic Institute was performed using the CAWI (computer-assisted web interview) in September 2021. It covered 1,800 respondents aged 18 and over, divided into two equal samples of 900 respondents each. Both samples were selected using quotas based on gender, age, size of the place of residence, voivodeship (the highest-level administrative division of Poland, corresponding to a province in many other countries) and level of education. Before the actual study, 50 pilot interviews were conducted to assess the respondents' understanding of the survey. We present the essential socio-economic characteristics of the respondents in table A1 in the statistical appendix.

Most of the questions were the same for both subsamples. We used them to explore attitudes towards paying taxes and the role of the state. One question was an experiment and was worded differently for each subsample. Only half of the respondents have the question mentioning the trade-off between taxes and public spending. Thanks to that, we could examine whether people are aware of it. The exact wording of individual questions is presented in table 1.

Table 1.
The way of formulating the questions in the survey

Subsample	Question
1 and 2	Do you agree with the statement? Taxes are too high. a) I strongly agree b) I rather agree c) I rather disagree d) I strongly disagree e) No opinion
1 and 2	Consider the different functions that the state can perform. Indicate how much you think the state should be responsible for specific issues. A. Providing full healthcare to all citizens B. Reducing the income gap between rich and poor C. Providing a minimum standard of living for the poorest D. Supporting citizens in access to housing E. Financial assistance for students from low-income families F. Taking care of economic growth a) The government should be largely responsible b) The government should be responsible to a limited extent, if any
1	Which of the following views do you agree with the most? a) The state is too big – it finances too many services and benefits b) The state is too small – it should involve resources to a greater extent in solving the problems of the country and its citizens c) The state is the right size d) No opinion

Subsample	Question
2	Which of the following views do you agree with the most? a) The state is too big – it finances too many services and benefits **and collects too high taxes** b) The state is too small – it should involve resources to a greater extent in solving the problems of the country and its citizens, **even if it means raising taxes** c) The state is the right size d) No opinion

Source: the authors' work.

All the presented results were calculated using post-stratification weights. To calculate the weights, we used the same variables as in the quota selection: gender, age, size of the place of residence, voivodeship and level of education. For selected estimates, we present confidence intervals calculated at a 95% confidence level for a normal distribution. In addition, we used the logit transform method to estimate confidence intervals for binary variables.

The research sample is diverse in terms of the various characteristics of the respondents, including those not taken into account in the selection and overweighting. Therefore, in table A2 in the appendix, we present descriptive statistics for the characteristics not taken into account in the selection and weighting of the sample, which we also asked about in the survey – these are professional and educational status, number of household members, individual income and household income.

The quota sampling and the use of post-stratification weights ensure representativeness, bearing in mind the bias of the method used. Random sampling – the only way that fully authorises statistical error estimation – could not be used due to its high complexity and cost. However, as Gschwend (2005) shows, the results from quota samples remain a good approximation for entire populations if they meet two conditions: (1) the sample approximates the structure of the population in many aspects, including those not considered in sampling and overweighting; (2) the distributions of the analysed variables are similar to the results of independent trials carried out at a similar time. As we present in table A2, our study meets these two conditions.

We tested the treatment effect in the logistic regression with dependent variable taking value 1 when respondent claimed that state is too big, and 0 otherwise. We treat the "state is too big" answer as the key in the context of intervention – it is important whether respondents were choosing it more often when it included a mention of taxes, with lesser importance of whether they choose that state is the right size, is too small or no opinion (we also tested the regression framework with the answer "the state is too small" as 1 and 0 otherwise). As independent variables, we used a dummy for the version of the questionnaire as well as various socio-economic characteristics of respondents. To test for the heterogeneity of the treatment effect, we estimated the set of regressions with interactions of the questionnaire version and the socioeconomic variables.

We share the raw data from the survey for the purpose of replicating the results of our study, or for further use (*author identifying information – the reference will be added after revisions*).

5. Results

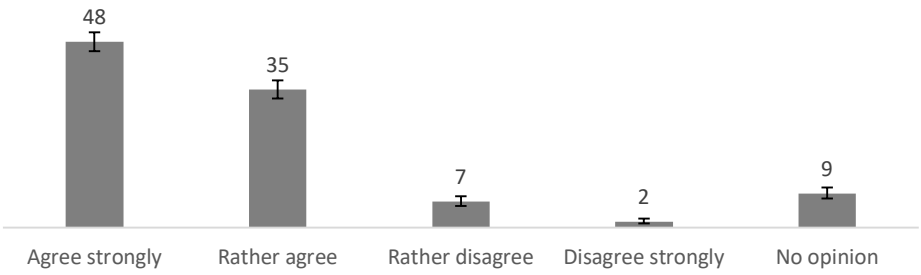
We divide the description of the results into three parts:

1. Misunderstanding of the fiscal trade-offs when questions regarding taxes and spending are asked separately,
2. Experimental evidence on the impact of the question composition on the attitudes obtained,
3. Determinants of the misunderstanding of the fiscal trade-offs.

Misunderstanding of the fiscal trade-offs when questions regarding taxes and spending are asked separately: most citizens think taxes are too high, but at the same time they expect the state to be highly engaged in social and economic matters.

In our survey, over 80% of the respondents agreed that "taxes are too high". Only one in ten citizens disagreed with this statement (figure 1). Opinions about excessively high taxes is mainly independent of the respondents' socio-economic status – age, educational level, income, professional status and the town's size. There were no statistically significant differences within traits, or any such differences were small. The most notable differences appear between the age groups of respondents – the belief that taxes are too high was most frequent among young citizens (see table A3 in the appendix).

Figure 1.
Attitudes toward the statement "Taxes are too high" (%)

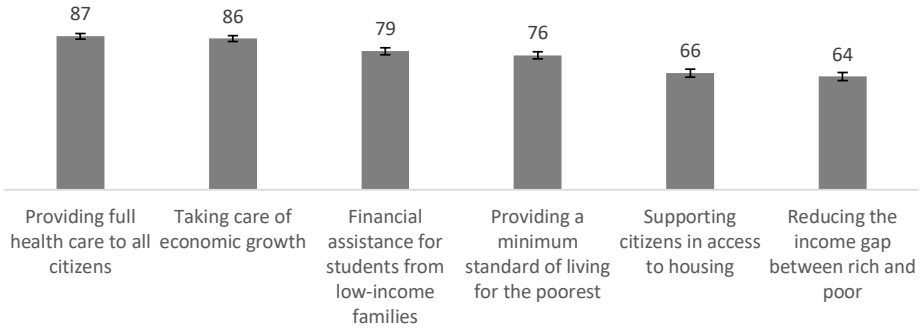


Note: there are 95% confidence intervals presented.
Source: the authors' own calculations based on the conducted survey.

At the same time, at least 60% of respondents said they would like the state to be highly involved in each activity we asked about. In breakdowns, the most significant differences occur in the approach to the role of the state according to the respondents' income. High-income citizens are more opposed to redistribution – they are less likely than low-income citizens to expect the state to actively reduce income inequalities. They are also less supportive of the state ensuring a minimum standard of living, supporting access to housing and providing financial assistance for poor students (see table A4 in the appendix).

The questions about the attitudes toward taxes and preferences over state responsibility are framed quite differently. In particular, in the second question we do not ask respondents precisely about the level of public spending and preferences over its increase or decrease. The reason is the observation that respondents' knowledge of public expenditure is insufficient to properly determine their preferences. As shown by Sawulski et al., (2024), the misperceptions about the allocation of public spending are large and, when informed about the real structure of public spending, citizens tend to express substantially different preferences for spending cuts or increases in certain areas. By asking a general question about the responsibility of the state, we aim to bypass this problem. In this way we obtain an initial signal about the misunderstanding of fiscal trade-offs, which we develop further in the experimental part of the study.

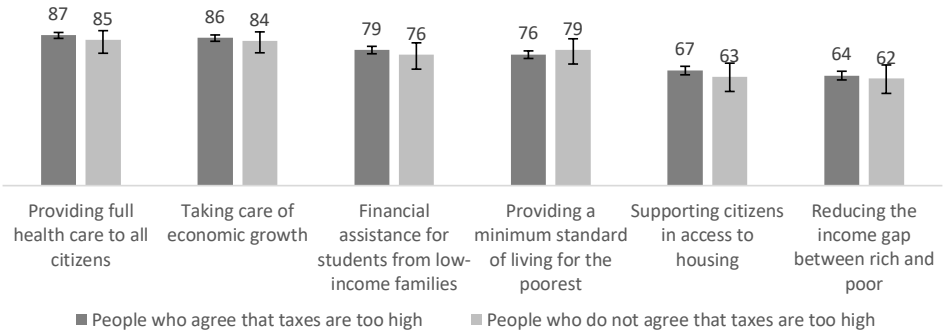
Figure 2.
Share of respondents agreeing that the state should be primarily responsible for specific issues (%)



Note: there were only two answer options for each question: "the government should be largely responsible" or "the government should be responsible to a limited extent, if any". There are 95% confidence intervals presented.
Source: the authors' own calculations based on the conducted survey.

In figure 3 we show that the expectation of a high role of the state is unrelated to assessing the tax burden. Citizens who believe taxes are too high have similar expectations of the role of the state as those who disagree with this statement. The differences in the expected state involvement in various areas, depending on the opinion on the tax burden, are small and statistically insignificant. However, it should be considered that the population of respondents who disagree that the taxes are too high is relatively small. Therefore, the uncertainty about the survey's result is relatively high (reflected in the confidence intervals in figure 3).

Figure 3.
Share of respondents agreeing that government should be primarily responsible for specific issues (%), by attitudes toward taxes



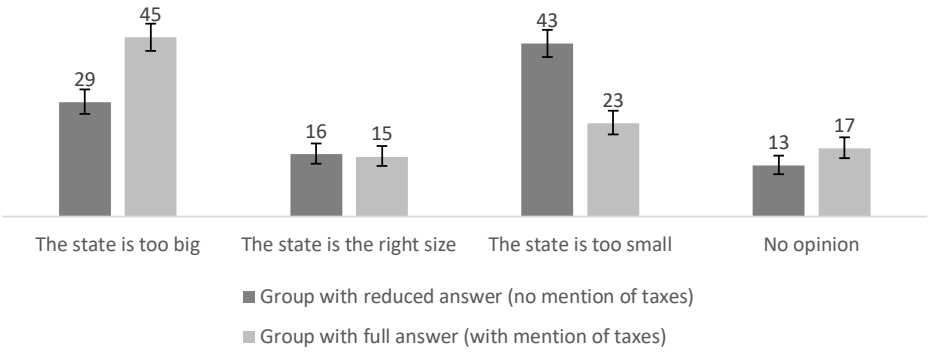
Note: there were only two answer options for each question: "the government should be largely responsible" or "the government should be responsible to a limited extent, if any". There are 95% confidence intervals presented.

Source: the authors' own calculations based on the conducted survey.

Experimental evidence on the impact of the question composition on the attitudes obtained: even a slight mention of taxes substantially changes citizens' views on the desired role of the state.

When the question does not include a reference to taxes, most respondents in our survey say that the state is too small. However, when information about taxes is present, they declare that it is too big (figure 4). The reference to taxes in the extended version of the answer is quite apparent, but even without this mention, one would expect citizens to recognise that a larger role of the state must come with higher taxes. Despite this, the options selected by respondents differ dramatically depending on whether this mention is present or not. The result of the experiment show that citizens fail to understand fiscal trade-offs, unless they are openly expressed. This part of the study confirms the first hypothesis formulated in the theoretical expectations (section 3).

Figure 4.
Attitudes toward the role of the state (%)



Note: the difference between the full and the reduced answer is that the full answer included bolded parts (while the short one – did not):

a) "The state is too big – it finances too many services and benefits **and collects too high taxes**",

b) "The state is too small – it should involve resources to a greater extent in solving the problems of the country and its citizens, **even if it means raising taxes**".

There are 95% confidence intervals presented.

Source: the authors' own calculations based on the conducted survey.

Using regression framework, we document that the version of the question is a significant determinant of the answer received, with a relatively large average marginal effect (table 2). We use control variables, of which we find age, educational level, self-assessed economic knowledge, having children and per capita family income as statistically significant (with p-value<0.1 as a minimum threshold). While fitting the functional form of the regression, we also tested variables such as gender, employment status, place of residence and individual income and found them to be statistically insignificant.

The regression results confirm the existence of a misunderstanding also regardless of the impact of the respondents' characteristics on their statement. Mentioning taxes in the question about attitudes toward the role of the state increased the probability of the answer "the state is too big" on average by 16 percentage points. In addition, people with the highest income, those having children and those assessing their economic knowledge as large had a higher probability of claiming that taxes are too high. Educational level is also correlated with the answer – the higher it is, the higher the probability of such an answer. Concerning age, people between 35 and 54 years old are the least likely to claim that the state is too big.

Table 2.
The determinants of the attitudes toward the role of the state – logistic regression analysis results

Variable	Average marginal effect
Dependent variable: 1 – claiming that the state is too big, 0 – claiming that the state is too small/is the right size/no opinion. Base: reduced answer, with no mention of taxes.	
Full answer, mentioning taxes	0.164***
Age (base: 18–24)	
25–34	-0.033
35–44	-0.131**
45–54	-0.117**
55+	-0.038
Educational level (base: basic vocational or lower)	
Secondary	0.067**
Tertiary	0.133***
Self-assessed economic knowledge (base: little)	
Medium	0.035
Big	0.125***
Having children (base: no)	
Yes	0.061**
Per capita family income (base: low)	
Medium	-0.022
High	0.072*
Very high	0.140***

Note: P-values: *** p<0.01, ** p<0.05, * p<0.1. There were 1,438 valid observations, reduced from 1,800 due to some respondents not answering the question about income.

Source: the authors' own calculations based on the conducted survey.

Determinants of the misunderstanding of fiscal trade-offs if they are not provided explicitly: the misunderstanding of fiscal trade-offs among respondents is related to their gender, educational level and individual income.

As a misunderstanding, we consider a change in the probability of claiming that the state involvement is too high as an effect of the treatment used, i.e. mentioning taxes. We use regression models with interactions (described in section 3) and find three significant determinants of the misunderstanding: gender, educational level and individual income of respondents (table 3). Other socio-economic characteristics, like age, employment status, place of residence, self-assessed economic knowledge, having children and per capita family income, turned out to be insignificant. This undermines the second hypothesis formulated in theoretical expectations (section 3), where we expected economic knowledge to be a significant factor influencing the results obtained (alongside the level of education, which turned out to be true, as

expected). However, we note that the measure of economic knowledge we used is based on the respondents' own assessment, which gives some uncertainty as to its precision.

Surprisingly, both the largest marginal effect and the lowest p-values were identified for the gender-related difference in the treatment effect. Controlling for other variables, men were, on average, 7 percentage points more likely to claim that taxes are too high when answering the question with a mention of taxes. This treatment effect was, on average, 19 percentage points higher for women – thus the change in probability for woman is significantly higher, equalling 26 percentage points.

It is worth noting that gender was not found to be a significant determinant of the answer on the desired role of the state, but was a determinant of the treatment effect. The graphic illustration of this puzzle is presented in figure 5. In the group with the full answer (mentioning taxes) the structure of the answers is strikingly similar – 44–45% of both men and women think that the state is too big and 23–24% answer that it is too small. Therefore, even when the total population is taken into account (with the group with the reduced answer), the gender does not seem to be a significant determinant of attitudes. However, when the interactions between the groups is considered, then it is quite clear than the treatment has a larger impact on women than men.

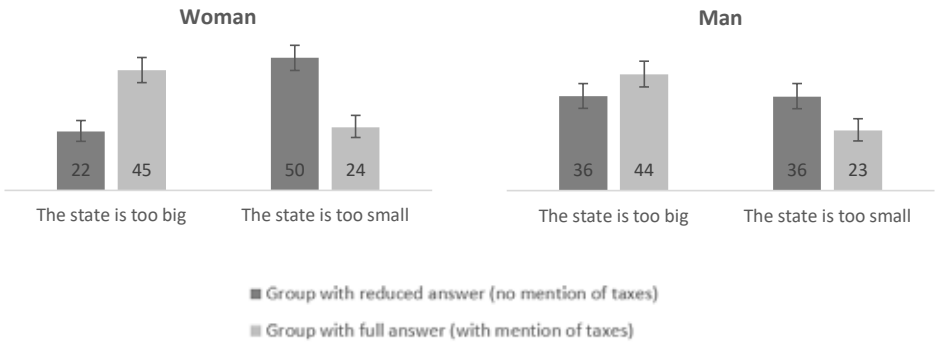
Table 3.
The determinants of the treatment effects – logistic regressions analysis results

Model	Average marginal effect
Dependent variable: 1 – claiming that the state is too big, 0 – claiming that the state is too small/is the right size/no opinion.	
Model with interactions for gender (base: man)	
Treatment effect for a man	0.070***
Difference in treatment effect for a woman	0.192***
Model with interactions for educational level (base: basic vocational or lower)	
Treatment effect for a basic vocational or lower	0.232***
Difference in treatment effect for secondary	-0.065
Difference in treatment effect for tertiary	-0.140**
Model with interactions for individual income quartile (base: 1st quartile)	
Treatment effect for 1st quartile	0.230***
Difference in treatment effect for 2nd quartile	-0.014
Difference in treatment effect for 3rd quartile	-0.127*
Difference in treatment effect for 4th quartile	-0.150**

Note: P-values: *** p<0.01, ** p<0.05, * p<0.1. There were 1,438 valid observations, reduced from 1,800 due to some respondents not answering the question about income. The complete regressions results are presented in Tables A5–A7 in the appendix.

Source: the authors' own calculations based on the conducted survey.

Figure 5.
Attitudes toward the role of the state by gender (%)



Note: the difference between the full and reduced answer is that the full answer included bolded parts (and the short one – did not):

a) "The state is too big – it finances too many services and benefits **and collects too high taxes**",

b) "The state is too small – it should involve resources to a greater extent in solving the problems of the country and its citizens, **even if it means raising taxes**".

There are 95% confidence intervals presented.

Source: the authors' own calculations based on the conducted survey.

6. Conclusion and discussion

In this study, we use a survey experiment among 1,800 citizens in Poland to test the citizens' attitudes toward the role of the state. We show that most citizens think taxes are too high, but at the same time they expect the state to be highly engaged in social and economic matters. The expectation of the high role of the state is unrelated to the assessment of the tax burden. We document that even the slightest mention of taxes in the questionnaire may change citizens' view on the desired role of the state. We also find gender, educational level and individual income as significant determinants of the misunderstanding of fiscal trade-offs among respondents (if the trade-offs are not provided explicitly).

We positively verify the first hypothesis expressed in section 3: theoretical expectations. Our experimental treatment documents that the version of the question is a crucial determinant of the answer regarding the desired role of the state – if it openly presents trade-offs, the answers are significantly different than when no trade-offs are included. This confirms previous observations in the literature, so the case of one of the CEE countries turned out not to be an exception in this matter.

However, we do not find sufficient evidence for a fully positive verification of the second hypothesis. We expected that a high level of education and a good economic knowledge reduce the scale of misunderstanding of fiscal trade-offs among citizens. This turned out to be true for educational level (the higher the level of

education, the lower the misunderstanding), but we do not find such a support for self-assessed economic knowledge, which appeared to be insignificant in our regression models. The reason may lie in the self-report measure we used, therefore we recommend caution in the interpretation of the results. Further research is certainly necessary here.

What is particularly interesting, we find strong support for the identification of gender as a determinant of misunderstanding among citizens. Put simply, we find misunderstanding among women much more common than among men – the effects of experimental treatment are much greater for women than men. Women favour more state involvement than men when there is no mention of taxes in the question, but their attitude evens out when the mention of taxes is added. This conclusion may shed some new light on the literature on the gender differences in attitudes towards the role of the state. There is evidence that women in advanced economies are more supportive than men for the redistribution and provision of welfare state services (Andersen, 1997; Blekesaune and Quadango, 2003; Mair et al., 2016; Muuri, 2010). Researchers try to explain this phenomenon by the gender differences in the parenthood experience (Burlacu and Luhiste, 2021), the extent of unpaid care and domestic work (Goossen, 2020) or the perceptions of pay equity resulting from relational skills in different occupations (Hwang et al., 2023). We argue that different gender attitudes towards the role of the state may result from differences in susceptibility to the presentation of trade-offs. In fact, the attitudes among women and men may be quite similar if respondents are given full information. However, our results need further confirmation, especially replication suing samples in other countries.

In addition, we also relate to some of the well-known recommendations from other research studies. We confirm that, without an open presentation of fiscal trade-offs, the citizens' understanding of the relationship between taxes and public spending is low. This relates to a broad literature that emphasises the impact of a civic education on the quality of democracy, including citizens' understanding of how the state functions (Galtson, 2007; Hahn, 2010; Kaiser and Menkhoff, 2020; Neundorf et al., 2016; Remmele and Seeber, 2012).We also support the attention that some of the researchers put on the design of the questionnaires and its impact on the answers received (Bishop, 1990; Bonica, 2015; Rasinski, 1989). In particular, this refers to the emphasis on the importance of including in surveys the trade-off between various options faced by the government (Bremer and Bürgisser, 2022; Busemeyer and Garritzmann, 2017; Häusermann et al., 2019). The observation that citizens fail to appreciate the relationship between taxes and public spending means that asking respondents questions without showing them the trade-offs may distort their true priorities.

A limitation of our study is that we only ask respondents some general questions about preferences for the role of the state, potentially losing some nuances. First, what we prove by our experiment is that citizens misunderstand the trade-offs if they are not provided explicitly, while when they are informed, they express significantly different views. We do not know the extent to which the difference is simply a reaction to how the questions are formulated, and the extent to which it shows a fundamental misunderstanding of the trade-offs. Second, we ignore

preferences for public deficit and debt as an explanation for inconsistent attitudes. As shown in recent research by Bremer and Bürgisser (2022), citizens care less about government debt than commonly assumed, often choosing to increase the deficit when faced with the option of spending cuts or taxes hikes. Third, we do not differentiate preferences for taxes by their types. In particular, we do not ask respondents about preferences for taxing individuals or households with different income levels. As proven by Barnes (2015), as well as Bremer and Bürgisser (2022, 2024), the demand for lower taxes often occurs at the same time as a preference for greater progression. Being aware of these shortcomings, in this study we consciously benefit from a simple questionnaire. At the same time, this opens up the field for further research, taking into account these nuances.

Literature

Andersen, K. (1997). Gender and public opinion. In: B. Norrander, C. Wilcox (Eds), *Understanding public opinion*, CQ Press.

Baekgaard, M., Serritzlew, S., Blom-Hansen, J. (2016). Causes of Fiscal Illusion: Lack of Information or Lack of Attention? *Public Budgeting & Finance*, *36*(2), 26–44. https://doi.org/10.1111/pbaf.12091

Baihaqqy, M. R. I., Sari, M. (2020). The Correlation between Education Level and Understanding of Financial Literacy and Its Effect on Investment Decisions in Capital Markets. *Journal of Education and E-Learning Research*, *7*(3), 306–313. https://doi.org/10.20448/journal.509.2020.73.306.313

Bansak, K., Bechtel, M. M., Margalit, Y. (2021). Why Austerity? The Mass Politics of a Contested Policy. *American Political Science Review*, *115*(2), 486–505. https://doi.org/10.1017/S0003055420001136

Barnes, L. (2015). The size and shape of government: preferences over redistributive tax policy. *Socio-Economic Review*, *13*(1), 55–78. https://doi.org/10.1093/ser/mwu007

Barnes, L., Blumenau, J., Lauderdale, B. E. (2022). Measuring Attitudes toward Public Spending Using a Multivariate Tax Summary Experiment. *American Journal of Political Science*, *66*(1), 205–221. https://doi.org/10.1111/ajps.12643

Barnes, L., de Romémont, J., Lauderdale, B. E. (2024). Public Preferences Over Changes to the Composition of Government Tax Revenue. *British Journal of Political Science* [online version]. https://doi.org/10.1017/S0007123424000127

Beramendi, P., Rehm, P. (2016). Who Gives, Who Gains? Progressivity and Preferences. *Comparative Political Studies*, *49*(4), 529–563. https://doi.org/10.1177/0010414015617

Berens, S., Gelepithis, M. (2019). Welfare state structure, inequality, and public attitudes towards progressive taxation. *Socio-Economic Review*, *17*(4), 823–850. https://doi.org/10.1093/ser/mwx063

Bishop, G. F. (1990). Issue involvement and response effects in public opinion surveys. *Public Opinion Quarterly*, *54*(2), 209–218. https://doi.org/10.1086/269198

Blekesaune, M., Quadango, J. (2003). Public Attitudes toward Welfare State Policies: A Comparative Analysis of 24 Nations. *European Sociological Review*, *19*(5), 415–427. https://doi.org/10.1093/esr/19.5.415

Bonica, A. (2015). Measuring Public Spending Preferences Using an Interactive Budgeting Questionnaire. *Research & Politics*, *2*(2), 1–9. https://doi.org/10.1177/20531680155864

Boudreau, Ch., MacKenzie, S. A. (2018). Wanting What Is Fair: How Party Cues and Information about Income Inequality Affect Public Support for Taxes. *The Journal of Politics*, *80*(2). https://doi.org/10.1086/694784

Bremer, B., Bürgisser, B. (2022). Do citizens care about government debt? Evidence from survey experiments on budgetary priorities. *European Journal of Political Research*, *62*(1), 239–263. https://doi.org/10.1111/1475-6765.12505

Bremer, B., Bürgisser, B. (2023). Public opinion on welfare state recalibration in times of austerity: evidence from survey experiments. *Political Science Research and Methods*, *11*, 34–52. https://doi.org/10.1017/psrm.2021.78

Bremer, B., Bürgisser, B. (2024). Lower taxes at all costs? Evidence from a survey experiment in four European countries. *Journal of European Public Policy*, [online version]. https://doi.org/10.1080/13501763.2024.2333856

Bremer, B., Busemeyer, M. R. (2022). Fiscal policy preferences, trade-offs, and support for social investment. *Journal of Public Policy*, *42*, 684–704. https://doi.org/10.1017/S0143814X22000095

Burlacu, D., Luhiste, M. (2021). Parenthood and social policy preferences: A gender and time sensitive examination. *European Journal of Political Research*, *60*(2), 255–274. https://doi.org/10.1111/1475-6765.12400

Busemeyer, M. R., Garritzmann, J. L. (2017). Public opinion on policy and budgetary trade-offs in European welfare states: Evidence from a new comparative survey. *Journal of European Public Policy*, *24*(6), 871–889. https://dx.doi.org/10.1080/13501763.2017.1298658

Cansunar, A. (2021). Who Is High Income, Anyway? Social Comparison, Subjective Group Identification, and Preferences over Progressive Taxation. *The Journal of Politics*, *83*(4). https://doi.org/10.1086/711627

Citrin, J. (1979). Do people want something for nothing: Public opinion on taxes and government spending. *National Tax Journal*, *32*, 113–129. https://doi.org/10.1086/NTJ41863164

Davidson, S. (2018). Populism and Fiscal Illusion. *The Australian Economic Review*, *51*(3), 418–425. https://doi.org/10.1111/1467-8462.12296

Edlund, J., Sevä, I. J. (2012). Exploring the 'Something for Nothing' Syndrome: Confused Citizens or Free Riders? Evidence from Sweden. *Scandinavian Political Studies*, *36*(4), 293–319. https://doi.org/10.1111/j.1467-9477.2012.00300.x

Fernández-Albertos, J., Kuo, A. (2018). Income Perception, Information, and Progressive Taxation: Evidence from a Survey Experiment. *Political Science Research and Methods*, *6*(1), 83–110. https://doi.org/10.1017/psrm.2015.73

Galtson, W. A. (2007). Civic Knowledge, Civic Education, and Civic Engagement: A Summary of Recent Research. *International Journal of Public Administration*, *30*. https://doi.org/10.1080/01900690701215888

Gemmel, N., Morrissey, O., Pinar, A. (2003). Tax perceptions and the demand for public expenditure: evidence from UK micro-data. *European Journal of Political Economy*, *19*, 793–816. https://doi.org/10.1016/S0176-2680(03)00037-5

Goossen, M. (2020). The gender gap in welfare state attitudes in Europe: The role of unpaid labour and family policy. *Journal of European Social Policy*, *30*(4), 452–466. https://doi.org/10.1177/0958928719899337

Hahn, C. L. (2010). Comparative civic education research: What we know and what we need to know. *Citizenship Teaching & Learning*, *6*(1), 5–23. https://doi.org/10.1386/ctl.6.1.5_1

Häusermann, S., Kurer, T., Traber, D. (2019). The politics of trade-offs: Studying the dynamics of welfare state reform with conjoint experiments. *Comparative Political Studies*, *52*(7), 1059–1095. https://doi.org/10.1177/0010414018797943

Hansen, J. M. (1998). Individuals, Institutions, and Public Preferences over Public Finance. *The American Political Science Review*, *92*(3), 513–531. https://doi.org/10.2307/2585478

Hayo, B., Neumeier, F. (2017). Public Preferences for Government Spending Priorities: Survey Evidence from Germany, *German Economic Review*, *20*(4), e1–e37. https://doi.org/10.1111/geer.12149

Hübscher, E., Sattler, T., Truchlewski, Z. (2023). Three worlds of austerity: voter congruence over fiscal trade-offs in Germany, Spain and the UK. *Socio-Economic Review*, *21*(2), 959–983. https://doi.org/10.1093/ser/mwac025

Hwang, I. H., Lim, H., Lee, Ch. S. (2023). Exploring the gender gap in welfare attitudes: relational skills and perceptions of pay equity. *Socio-Economic Review*, *21*(3), 1291–1342. https://doi.org/10.1093/ser/mwac057

Hwang, H., Park, H. I. (2023). The relationships of financial literacy with both financial behavior and financial well-being: Meta--analyses based on the selective literature review. *Journal of Consumer Affairs*, *57*(1), 222–244. https://doi.org/10.1111/joca.12497

Kaiser, T., Menkhoff, L. (2020). Financial education in schools: A meta-analysis of experimental studies. *Economics of Education Review*, *78*. https://doi.org/10.1016/j.econedurev.2019.101930

Kuziemko, I., Norton, M. I., Saez, E., Stantcheva, S. (2015). How Elastic Are Preferences for Redistribution? Evidence from Randomized Survey Experiments. *American Economic Review*, *105*(4), 1478–1508. http://dx.doi.org/10.1257/aer.20130360

Mair, C. A., Chen, F., Liu, G., Brauer, J. R. (2016). Who in the World Cares? Gender Gaps in Attitudes Support for Older Adults in 20 Nations. *Social Forces*, *95*(1), 411–438. https://doi.org/10.1093/sf/sow049

Mitchell, O. S., Lusardi, A. (2015). Financial literacy and economic outcomes: Evidence and policy implications. *The journal of retirement*, *3*(1), 107–114. https://doi.org/10.3905/jor.2015.3.1.107

Muuri, A. (2010). The Impact of the Use of the Social Welfare Services or Social Security Benefits on Attitudes to Social Welfare Policies. *International Journal of Social Welfare*, *19*, 182–193. https://doi.org/10.1111/j.1468-2397.2009.00641.x

Naumann, E. (2018). Tax Constraints, Social Policy Preferences, and Support for Redistribution. *Societies*, *8*(3), 46. https://doi.org/10.3390/soc8030046

Neundorf, A., Niemi, R. G., Smets, K. (2016). The Compensation Effect of Civic Education on Political Engagement: How Civics Classes Make Up for Missing Parental Socialization. *Political Behavior*, *38*, 921–949. https://doi.org/10.1007/s11109-016-9341-0

Rasinski, K. A. (1989). The effect of question wording on public support for government spending. *Public Opinion Quarterly*, *53*(3), 388–394. https://doi.org/10.1086/269158

Remmele, B., Seeber, G. (2012). Integrative Economic Education to Combine Citizenship Education and Financial Literacy. *Citizenship, Social and Economics Education*, *11*(3), 189–201. https://doi.org/10.2304/csee.2012.11.3.189

Sawulski, J., Szewczyk, N., Kiełczewska, A. (2024). Information effects in public spending preferences: Evidence from survey experiment in Poland. *European Journal of Political Economy*, *85*. https://doi.org/10.1016/j.ejpoleco.2024.102558

Sears, D. O., Citrin, J. (1982). *Tax Revolt – Something for Nothing in California*. Harvard University Press. https://doi.org/10.2307/2149432

Tuxhorn, K. L., D'Attoma, J., Steinmo, S. (2021). Do Citizens Want Something for Nothing? Mass Attitudes and the Federal Budget. *Politics & Policy*, *49*(3), 566–593. https://doi.org/10.1111/polp.12406

Welch, S. (1985). The "more for less" paradox: public attitudes on taxing and spending. *Public Opinion Quarterly*, *49*(3), 310–316. https://doi.org/10.1086/268929

Winter, S., Mouritzen, P. E. (2003). Why People Want Something for Nothing: The Role of Asymmetrical Illusions. *European Journal of Political Research*, *39*(1), 109–146. https://doi.org/10.1111/1475-6765.00572

Statistical appendix

Table A1.
Samples distribution

	Sample size		Share in the sample (%)		Share after weighting (%)	
	Control group	Treatment group	Control group	Treatment group	Control group	Treatment group
			Sex			
Woman	468	466	52	52	53	52
Man	434	435	48	48	47	48
			Age			
18–24	84	92	9	10	8	9
25–34	170	161	19	18	17	16
35–44	188	200	21	22	20	21
45–54	143	149	16	17	16	16
55+	317	299	35	33	40	38
			Level of education			
Basic vocational or lower	297	298	33	33	39	39
Secondary	325	323	36	36	33	34
Tertiary	280	280	31	31	28	27
			Size of a place of residence			
Rural area	358	356	40	40	40	39
City up to 20k inhabitants	118	118	13	13	13	13
City of 20–100k inhabitants	175	175	19	19	19	20
City of 100–500k inhabitants	146	146	16	16	16	16
City over 500k inhabitants	105	106	12	12	12	12
			Voivodeship (administrative region)			
Dolnośląskie	62	64	7	7	7	7
Kujawsko-pomorskie	48	48	5	5	5	5
Lubelskie	55	58	6	6	6	6
Lubuskie	23	23	3	3	2	3
Łódzkie	64	59	7	7	7	6
Małopolskie	76	69	8	8	8	8
Mazowieckie	127	135	14	15	14	14
Opolskie	27	25	3	3	3	3
Podkarpackie	52	50	6	6	6	6
Podlaskie	28	26	3	3	3	3

	Sample size		Share in the sample (%)		Share after weighting (%)	
	Control group	Treatment group	Control group	Treatment group	Control group	Treatment group
Voivodeship (administrative region)						
Pomorskie	55	50	6	6	7	6
Śląskie	99	115	11	13	12	14
Świętokrzyskie	34	29	4	3	3	3
Warmińsko-mazurskie	35	37	4	4	4	4
Wielkopolskie	82	75	9	9	10	9
Zachodniopomorskie	35	38	4	4	4	4

Source: the authors' work based on the conducted survey.

Table A2.
Sample descriptive statistics for variables not included in the sample selection and weighting

	Share in the sample (%)		Share after weighting (%)	
	Control group	Intervention group	Control group	Intervention group
Main professional and educational status				
Contract work	48	50	46	48
Self-employment	8	8	7	7
Running your own agricultural business	2	2	2	2
Maternity/parental leave	3	3	3	3
Unemployment	9	10	9	9
Professional inactivity	4	4	4	3
Education (school/studies)	4	4	4	4
Pension	23	21	25	24
Number of people in the household				
1	12	8	12	9
2	26	28	27	28
3	24	26	23	25
4	24	22	23	21
5 or more	15	17	16	17
Average individual income (monthly, net)				
Up to PLN 1000	7	7	7	7
From PLN 1001 to PLN 2000	16	17	17	18
From PLN 2001 to PLN 3000	24	26	25	26

	Share in the sample (%)		Share after weighting (%)	
	Control group	Intervention group	Control group	Intervention group
Average individual income (monthly, net)				
From PLN 3,001 to PLN 4,000	19	18	18	17
From PLN 4,001 to PLN 5,000	9	10	9	9
From PLN 5,001 to PLN 6,000	5	5	6	5
From PLN 6,001 to PLN 8,000	3	4	3	3
Over PLN 8,000	3	4	3	4
Refused to answer	12	10	12	10
Average household income (monthly, net) per person				
Up to PLN 1000	17	19	17	19
PLN 1000–2000	30	32	31	31
PLN 2000–3000	19	20	19	20
Over PLN 3,000	12	12	11	12
Refused to answer	23	18	22	18

Note: We calculated household income per person as total household income divided by the number of people.
Source: the authors' work based on the conducted survey.

Table A3.
Percentage of people saying that taxes are too high, by socio-economic characteristics

	Coefficient	95% lower bound	95% upper bound
Age			
18–24	90	84	94
25–34	86	80	90
35–44	83	78	86
45–54	79	73	83
55+	82	79	85
Educational level			
Basic vocational or lower	82	79	85
Secondary	87	85	90
Tertiary	79	75	82
The net individual income quartile			
1	81	77	85
2	84	80	87
3	84	79	88
4	83	79	87

	Coefficient	95% lower bound	95% upper bound
Main labour market status			
Employee	85	82	87
Self-employment	85	78	90
Pension	80	76	84
Other	81	77	85
Rural area	83	80	86
Size of the place of residence			
City up to 20k inhabitants	82	76	86
City of 20–100k inhabitants	84	79	87
City of 100–500k inhabitants	85	80	89
City over 500k inhabitants	81	74	86

Source: the authors' own calculations based on the conducted survey.

Table A4.

Percentage of respondents who expect the state to be primarily responsible for specific issues – depending on the answer to the question of whether taxes are too high

	People who agree that taxes are too high			People who do not agree that taxes are too high		
	Coefficient	95% lower bound	95% upper bound	Coefficient	95% lower bound	95% upper bound
Providing full healthcare to all citizens	87	85	89	85	77	90
Taking care of economic growth	64	61	66	84	77	89
Financial assistance for students from low-income families	76	74	78	76	68	83
Providing a minimum standard of living for the poorest	67	64	69	79	71	85
Supporting citizens in access to housing	79	77	81	63	55	71
Reducing the income gap between rich and poor	86	84	87	62	54	70

Source: the authors' own calculations based on the conducted survey.

Table A5.

The determinants of attitudes toward the role of the state – logistic regression analysis results, model with interactions for gender

Variable	Average marginal effect
Dependent variable: 1 – claiming that the state is too big, 0 – claiming that the state is too small/is the right size/no opinion.	
Gender (base: man)	
Woman	-0.145***
The version of the question (base: reduced answer, no mention of taxes) and interactions with gender	
Full answer, with mention of taxes – treatment effect for men	0.070***
Full answer, with mention of taxes x women	0.192***
Age (base: 18–24)	
25–34	-0.032
35–44	-0.130**
45–54	-0.115**
55+	-0.033
Educational level (base: basic vocational or lower)	
Secondary	0.068**
Tertiary	0.132***
Self-assessed economic knowledge (base: little)	
Medium	0.030
Big	0.109***
Having children (base: no)	
Yes	0.060**
Per capita family income (base: low)	
Medium	-0.027
High	0.067*
Very high	0.132***

Note: P-values: *** p<0.01, ** p<0.05, * p<0.1. There were 1,438 valid observations, reduced from 1,800 due to some respondents not answering the question about income.

Source: the authors' own calculations based on the conducted survey.

Table A6.

The determinants of attitudes toward the role of the state – logistic regression analysis results, model with interactions for educational level

Variable	Average marginal effect
Dependent variable: 1 – claiming that the state is too big, 0 – claiming that the state is too small/is the right size/no opinion.	
Educational level (base: basic vocational or lower)	
Secondary	0.107**
Tertiary	0.211***
The version of the question (base: reduced answer, no mention of taxes) and interactions with educational level	
Full answer, with mention of taxes – treatment effect for basic vocational or lower	0.232***
Full answer, with mention of taxes x Secondary	-0.065
Full answer, with mention of taxes x Tertiary	-0.140**
Age (base: 18–24)	
25–34	-0.036
35–44	-0.132**
45–54	-0.117**
55+	-0.040
Self-assessed economic knowledge (base: little)	
Medium	0.037
Big	0.123***
Having children (base: no)	
Yes	0.062**
Per capita family income (base: low)	
Medium	-0.023
High	0.070*
Very high	0.135***

Note: P-values: *** p<0.01, ** p<0.05, * p<0.1. There were 1,438 valid observations, reduced from 1,800 due to some respondents not answering the question about income.

Source: the authors' own calculations based on the conducted survey.

Table A7.

The determinants of attitudes toward the role of the state – logistic regression analysis results, model with interactions for individual income quartile

Variable	Average marginal effect
Dependent variable: 1 – claiming that the state is too big, 0 – claiming that the state is too small/is the right size/no opinion.	
Individual income quartile (base: 1st quartile)	
2nd quartile	0.00493
3rd quartile	0.0546
4th quartile	0.0510
The version of the question (base: reduced answer, no mention of taxes) and interactions with individual income	
Full answer, with mention of taxes – treatment effect for 1st quartile	0.230***
The version of the question (base: reduced answer, no mention of taxes) and interactions with individual income	
Full answer, with mention of taxes x 2nd quartile	-0.014
Full answer, with mention of taxes x 3rd quartile	-0.127*
Full answer, with mention of taxes x 4th quartile	-0.150**
Age (base: 18–24)	
25–34	-0.0342
35–44	-0.135***
45–54	-0.117**
55+	-0.0423
Educational level (base: basic vocational or lower)	
Secondary	0.0671**
Tertiary	0.131***
Self-assessed economic knowledge (base: little)	
Medium	0.0369
Big	0.126***
Having children (base: no)	
Yes	0.0701**
Per capita family income (base: low)	
Medium	-0.0119
High	0.0902*
Very high	0.163***

Note: P-values: *** p<0.01, ** p<0.05, * p<0.1. There were 1,438 valid observations, reduced from 1,800 due to some respondents not answering the question about income.

Source: the authors' own calculations based on the conducted survey.