Learning with Economists in Petro-Rich Economies: Climate Change Policies in Russia

Gerhard Toews* and Anton Suvorov†

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Abstract

We study how to communicate climate policy in fossil-fuel-dependent economies. For international comparability, we build on the survey of Dechezleprêtre et al. (2025) in Russia, adapting it to the local context and adding novel elements: (i) treatments referencing the national Climate Doctrine (presidential decree) and (ii) measures of trust in scientists from different fields. Russians' climate beliefs and knowledge broadly mirror those in other countries, though skepticism is higher in fossil-fuel-rich regions. Physics-based videos raise factual understanding, while economically framed messages reduce policy support, consistent with cost salience and low trust in economists. Political authority cues, by contrast, raise support.

Keywords: Climate Change, Fossil Fuel Dependence, Communication.

JEL Classification: Q54, Q58, D83

*New Economic School and University of Stavanger (email: gerhardtoews@gmail.com)

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"It is difficult to get a man to understand something when his salary depends upon his not understanding it."

— Upton Sinclair *I, Candidate for Governor: And How I Got Licked (1994)*

I INTRODUCTION

The vast majority of climatologists, geophysicists, and economists agree that climate change (CC) is both real and anthropogenic, and global surveys covering a large number of individuals and countries suggest that the majority of participants also agree and support climate change related policy actions (Andre et al., 2024; Dechezleprêtre et al., 2025; Fabre, Douenne and Mattauch, 2025). Unfortunately, there is also consensus that the transition away from fossil fuels will be difficult and protracted, and it remains unclear how best to design and communicate effective mitigation strategies (Smil, 2022; Blanchard, Gollier and Tirole, 2023; van der Ploeg and Venables, 2025).[1] In a recent podcast discussion with Steven D. Levitt,[2] Kate Marvel—a leading climatologist—expressed skepticism about relying solely on economic tools such as carbon taxes to reduce emissions. She notes that "Climate scientists are suspicious of a carbon tax. We know what we don't know. We know we don't understand how people work", emphasizing that while such tools may appear elegant in theory, the complexity of real-world human systems often leads to unexpected or even counterproductive outcomes.

Trust in scientists in general—and about climate change in particular—remains an issue of concern (Oreskes and Conway, 2011; Kahan et al., 2012; Motta, 2018; Druckman and McGrath, 2019). In Russia, as well as in several former Soviet republics, people exhibit particularly low levels of trust in scientists (Cologna et al., 2025). The public, not just in Russia, also tends to be especially distrustful of economists and skeptical of their involvement in the political process (O'Brien, 2013; Gligorić, van Kleef and Rutjens, 2025). As a result, resistance to economic solutions for climate change remains substantial (Maestre-Andrés, Drews and Van Den Bergh, 2019; Douenne and Fabre, 2022), especially when such policies are expected to create both

[1] Blanchard, Gollier and Tirole (2023) emphasize that a sizable and costly transformation required to meet the Paris Agreement targets still lies ahead, and the longer action is deferred, the more costly the transition will be. van der Ploeg and Venables (2025) argue that, at this stage, transformational "big-push" climate policies—combining substantial taxes and subsidies—may be necessary to shift the global economy onto a low-emission path, after which such radical measures could be scaled back.

[2] Freakonomics Podcast, Episode 162: https://freakonomics.com/podcast/will-we-solve-the-climate-problem/

winners and losers. This tension is particularly pronounced in resource-dependent economies, where carbon taxes and regulations may force the closure of coal mines or the abandonment of oil fields, with potentially devastating consequences not only for workers directly employed in extraction but also for surrounding communities (Beatty and Fothergill, 1996; Glyn, 1992; Bennett, Beynon and Hudson, 2000; Beatty, Fothergill and Powell, 2007; Aragón, Rud and Toews, 2018; Rud et al., 2024). Understanding how to create and communicate potential solutions—and identifying which messengers are most effective—is therefore crucial for building public consensus, especially in fossil-fuel-rich communities and resource-dependent economies.

Several case studies have documented that the introduction of carbon taxes has been successful in particular contexts (Andersson, 2019; Stechemesser et al., 2024). This is encouraging, and momentum in the adoption of economic policies targeting emissions has grown (Nascimento et al., 2022). At the same time, fossil-fuel-dependent economies such as Saudi Arabia and Russia, as well as fossil-fuel-rich economies like the United States, continue to lag behind and carbon pricing policies have repeatedly faced skepticism and resistance (Maestre-Andrés, Drews and Van Den Bergh, 2019; Douenne and Fabre, 2022). This raises important questions about how to increase public acceptance of climate policies (Klenert et al., 2018) and how to counter misinformation when necessary (Spampatti et al., 2024).

In this study, we examine different strategies for communicating both the reality of climate change and the necessity of a variety of climate policies, comparing the effectiveness of various message types and messengers. Our central question is straightforward: who should speak about climate change and climate policy in a fossil-fuel-dependent economy such as Russia, and how? Both the identity of the messenger and the mode of delivery matter—and often in counterintuitive ways.[3]

Our study builds on Dechezleprêtre et al. (2025). Their extensive survey experiment—covering 40,000 respondents across 20 countries, from China to the United States—examines climate change beliefs and attitudes. However, it does not include some of the world's major fossil-fuel producers, where hydrocarbons dominate the economy. To ensure international comparability,

[3]For instance, Coibion, Gorodnichenko and Weber (2022) show that a brief, accessible article in *USA Today* had a much smaller effect on inflation expectations than a longer, technical FOMC post-meeting statement. Similarly, the effects of political endorsements are not always intuitive—see Boudreau (2020).

we implement an adapted version of their survey in Russia—one of the largest fossil-fuel producers—with a focus on both the physical basis of climate change and the economic instruments proposed for the transition. Going beyond the original paper, we add three new elements to both the survey and the survey experiment. First, we collect data on where our respondents are based, allowing us to distinguish between individuals from fossil-fuel-rich and fossil-fuel-poor areas and to assess whether regional context is associated with skepticism about the reality and anthropogenic nature of climate change. Second, we ask respondents about their trust in scientists and whether they are willing to update their beliefs when presented with evidence, explicitly distinguishing between economists, climatologists, and geophysicists. Third, we adapt the two treatment videos from Dechezleprêtre et al. (2025) to the Russian context: one explanatory video detailing the causal links between human activity, climate change, and its economic consequences (*physical treatment*); the other presenting economic policy responses and their implications (*economic treatment*). In addition, we introduce *three* further treatments based on Russia's Climate Doctrine (Executive Order signed by Vladimir Putin in 2023)[4] and to which we jointly refer as *presidential treatments*, which in short distinct videos affirm (i) the reality of climate change, (ii) the need to fight it, and (iii) the importance of global cooperation.

We report three main results. First, Russians are neither more nor less skeptical or knowledgeable about climate change than respondents in other countries, nor are they more skeptical or knowledgeable about the economic tools recommended by economists. Yet when focusing on the key question—whether climate change is real and anthropogenic—we find that individuals from fossil-fuel-rich regions are somewhat more skeptical. We detect no other statistically significant relationship between this belief and individual characteristics.

Second, we find that over 90% of respondents are willing to change their opinion if presented with new, *trustworthy* information. At the same time, around 80% of respondents report trusting information about the consequences of climate change when it comes from climatologists or geophysicists. By contrast, fewer than 60% trust information on climate impacts when it is provided by economists—a gap of more than 20 percentage points. This gap may not be unusual in a global context (Gligorić, van Kleef and Rutjens, 2024), but in Russia it appears particularly stark—perhaps reflecting the historical use, and misuse, of the economics profession for

[4] See Climate Doctrine of the Russian Federation [in Russian], http://www.kremlin.ru/acts/bank/49910, accessed 23 August 2025.

political purposes (Gregory, 2003). Once again, we find no robust correlation between trust in economists and individual characteristics, though it is positively associated with income above the national median.

Third, using the knowledge indices developed by Dechezleprêtre et al. (2025), we find that the educational cartoon explaining the physical mechanisms of climate change improves understanding (*physical treatment*). By contrast, the economic cartoon does not affect beliefs regarding the effectiveness of the policy tools presented (*economic treatment*). Instead, it made the potential costs of ambitious climate policies salient and reduced support: respondents exposed to the economic video were less willing to engage in climate action. On the other hand, invoking the presidential decree (*presidential treatment*)—particularly the statement that Russia must reduce emissions: "The goal has been set to limit greenhouse gas emissions by 2030 to 70 percent of the 1990 level, that is, no more than 2,162.4 million tons of CO_2 equivalent"—had a positive effect on respondents' stated willingness to support climate action and fight climate change, while it had no measurable impact on improving people's understanding of the physics of climate change, an area in which political leaders may not be viewed as a trusted source of knowledge. More generally, this result is in line with the literature documenting that people's attitudes, beliefs, and even behaviors respond to party cues (Merkley and Stecula, 2021; Bürgisser, Stadelmann-Steffen and Armingeon, 2024) and to messages from trusted authorities—including religious leaders (Myers et al., 2017; Assouad, 2020; Blair et al., 2021; Vyborny, 2024).

Taken together, these findings suggest that economists—on their own—may be less effective messengers for communicating the need for climate policies in resource-dependent economies. Indeed, their emphasis on the costs of transition, combined with limited ability to convey how economic instruments work, may even be counterproductive. As Blanchard, Gollier and Tirole (2023) emphasize, "Spending vast amounts of money over the next 30 years on fighting climate change is not an appealing prospect. Promising blood, sweat, and tears is a non-starter in climate politics." Our results confirm that emphasizing the costs of the energy transition may indeed be counterproductive when the goal is to build support for climate policies.

This paper relates to and contributes to three strands of the literature. First, it extends the growing cross-country survey literature on climate change beliefs and attitudes, directly build-

ing on Dechezleprêtre et al. (2025), which itself draws on a burgeoning literature on perceptions and awareness of climate change (Whitmarsh and Capstick, 2018) and on climate policy support (Drews and Van den Bergh, 2016). It also complements more recent studies such as Andre et al. (2024), which document rising global support for climate action. Second, the paper connects to research on the costs of transitioning to a green economy—especially for fossil-fuel-dependent individuals, communities, and countries (Beatty and Fothergill, 1996; Glyn, 1992; Bennett, Beynon and Hudson, 2000; Beatty, Fothergill and Powell, 2007; Aragón, Rud and Toews, 2018; Rud et al., 2024)—and to studies on how to communicate climate-related information to such groups when motivated reasoning plays a central role (Bénabou and Tirole, 2016; McIntyre, 2021; Blanchard, Gollier and Tirole, 2023). Third, it contributes to the literature on trust in science more broadly (Oreskes, 2021; Gligorić, van Kleef and Rutjens, 2024; van der Bles et al., 2020; Cologna et al., 2025), and on trust in the context of climate change in particular (Oreskes and Conway, 2011; Motta, 2018).

In Section 2 we describe data collection, cleaning procedures, and validation checks. In Section 3 we document the results of our analysis in three subsections, linking to the three research questions raised. We conclude in Section 4.

II DATA AND METHOD

SOURCE: Using the survey by Dechezleprêtre et al. (2025) as our starting point, we adapted it to suit our research needs by adding several new questions and removing others due to space and political constraints.[5] The survey was implemented with the assistance of Yandex.Vzglyad, a subdivision of Yandex—a major Russian technology company often compared to Google. Yandex.Vzglyad offers services comparable to the services provided by Qualtrics. The survey was conducted in the second week of January 2025. Yandex collects survey data through sub-contractors who are compensated for gathering responses from pre-registered users, selected based on specific characteristics. In total, we collected responses from 2,400 individuals, trying to ensure - albeit not always succeeding - representativeness across gender, age, and degree of urbanization.

[5] In particular, we drop the bottom questions of the three in-depth sections on the individual policies. The adjusted questionnaire, along with the raw data, is submitted with this paper.

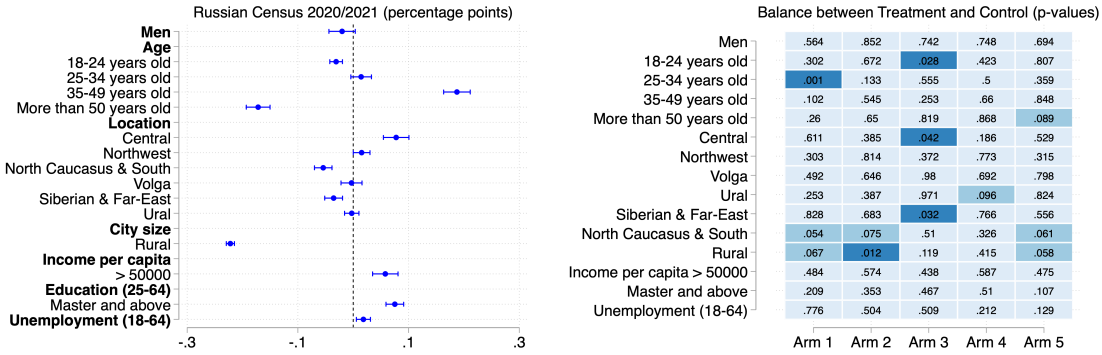

Figure 1: DATA

CLEANING: The main cleaning procedure consisted of three steps, following the approach in Dechezleprêtre et al. (2025). First, we dropped individuals who did not complete the survey. Second, as in the original survey we included an attention-check question, which respondents were required to answer correctly in order to remain in the sample.[6] Third, we retained only those individuals who took at least 15 minutes to complete the survey—bringing up the median duration of responses to 25 minutes, which is close to the 28 minutes Dechezleprêtre et al. (2025) are working with.[7] After applying these filters, we were left with 1,664 respondents, or nearly 70% of the initial 2,400 participants.

TRIANGULATION: To benchmark our results, we compare responses to overlapping questions from the most recent wave of the Life in Transition Survey (LITS IV) from 2022. One question asks whether climate change is real and caused by human activity; another asks whether individuals' lives are affected by climate change. We find that respondents in our sample are 4 percentage points and 8 percentage points more likely to agree with these statements, respectively. With the former difference being not statistically significant. These minor differences may reflect global trends in climate change consensus (as the LITS IV survey preceded ours by three years), but overall, the findings remain broadly consistent. The results are shown in Figure 6 of Appendix B.

REPRESENTATIVENESS: To assess the representativeness of our sample we proceed

[6] In particular, we asked in question 10.4 of our survey: To show that you are paying attention, please select "a little" from the following list:Not at all (1); A little (2); Moderately (3); Strongly (4); Very strongly (5)

[7] We reproduce our results using the two alternative cut-offs employed in Dechezleprêtre et al. (2025)—more than 11.5 minutes and at least 20 minutes, the latter corresponding to the time the authors required to complete the survey. Our main findings remain robust and are documented in Section **??**.

as follows. First, we collect basic demographic statistics from ROSSTAT,[8] the Russian statistical agency, and compare our sample statistics to those reported in the national Census from 2020/2021. The final sample's representativeness is illustrated in Figure 1 (left panel) and aligns with the quality benchmarks reported by Dechezleprêtre et al. (2025) for emerging economies such as China and Ukraine. As expected, in our sample individuals above 50, individuals from rural areas, as well as those without a college education are underrepresented.

FOSSIL-FUEL-RICH REGIONS: We define fossil-fuel–rich regions in two distinct ways. First, as described in the pre-analysis plan, we identify 10 regions (Oblasts) as fossil fuel–rich: Tyumen Oblast, Khanty-Mansi Autonomous Okrug, Yamalo-Nenets Autonomous Okrug, Kemerovo Oblast, Republic of Tatarstan, Irkutsk Oblast, Krasnoyarsk Krai, Sakha Republic, Sakhalin Oblast, and Orenburg Oblast. Alternatively, since 8 out of these 10 regions are located in Siberia or the Russian Far East, covering more than 50% of the population in those regions, we also define Siberia and the Far East as fossil-fuel–rich, given that the majority of fossil fuels—and other natural resources—are extracted there.

SURVEY EXPERIMENT: All individuals were randomly assigned to one of five treatment groups or a control group and were exposed to the respective treatment after we collected basic information on their individual characteristics.[9] Initially, 400 individuals were assigned to each group. However, these numbers declined due to the exclusion of respondents who did not complete the survey, completed it too quickly, or failed the attention check. Figure 1 (right panel) shows the differences in observable characteristics between each treatment group and the control group. The five columns correspond to the five treatment arms, discussed in more detail below, and the rows list the individual characteristics used for comparison. Cells shaded in dark blue indicate statistically significant differences at the 5% level. We observe 5 such cases out of 75 comparisons, close to the 3.75 that would be expected by chance alone. This pattern suggests that the treatment groups are balanced on standard observables.

TREATMENT ARMS: Respondents were randomly assigned to one of five treatment groups (plus a control). The first two treatment videos are adapted from Dechezleprêtre et al. (2025). They are based on the Ukrainian video in Dechezleprêtre et al. (2025) modified to the

[8] Please see Section A in the Appendix for more details.
[9] Treatment videos are submitted with this manuscript.

Russian context with some contextual changes.[10] The remaining three are based on excerpts from *Presidential Decree No. 812 (October 26, 2023)*, *On the Approval of the Climate Doctrine of the Russian Federation*.[11]

1. **Physical Treatment (educational video):** explains the origins of climate change and highlights Russia-specific consequences such as rising temperatures, natural disasters, and agricultural impacts.

2. **Economic Treatment (educational video):** introduces three climate policy instruments—regulation (e.g., banning combustion-engine cars), carbon taxes with redistribution, and green investment—emphasizing both benefits and potential costs (e.g., mine closures, coal-sector job losses).

3. **Presidential Treatment I (short video citing the following and reading it out loud):** *From Presidential Decree of the Russian Federation No. 812 of October 26, 2023, "On the Approval of the Climate Doctrine of the Russian Federation": Climate change is one of the most serious challenges of the 21st century. It goes beyond scientific discussions and represents a complex interdisciplinary problem encompassing the ecological, economic, and social aspects of the sustainable development of the Russian Federation.*

4. **Presidential Treatment II (short video citing the following and reading it out loud):** *By Presidential Decree of the Russian Federation No. 812 of October 26, 2023, "On the Approval of the Climate Doctrine of the Russian Federation", the goal was set to limit greenhouse gas emissions by 2030 to 70 percent of the 1990 level (that is, no more than 2,162.4 million tons of CO-equivalent).*

5. **Presidential Treatment III (short video citing the following and reading it out loud):** *By Presidential Decree of the Russian Federation No. 812 of October 26, 2023, "On the Approval of the Climate Doctrine of the Russian Federation", the need for action both at the national level and within the framework of full-fledged international cooperation involving the Russian Federation on issues related to climate change, including economic collaboration and the development of coordinated approaches to climate policy, is recognized.*

[10] We thank the authors of Dechezleprêtre et al. (2025) for generously sharing the original videos. See Appendix C where we discuss the implemented changes in detail.

[11] Although the decree may be considered "cheap talk", our objective is to test whether its informational content alone influences respondents—similar in spirit to the educational treatments.

III ANALYSIS AND RESULTS

In the first subsection, we document how average responses in our sample compare to those reported by Dechezleprêtre et al. (2025) and we examine how individual characteristics correlate with the response that climate change is real and anthropogenic. In the second subsection, we document that Russians are relatively skeptical of information on climate change consequences presented by economists. In the final subsection, we construct indices following the approach of Dechezleprêtre et al. (2025) and identify how these correlate with the different treatments.

III.A INTERNATIONAL COMPARISON

We focus on (i) questions related to the physics of climate change, its origins, and consequences; (ii) the workings of economic policies, with a focus on regulations, taxes, and public investments; (iii) the expected costs of implementing ambitious policies, individuals' willingness to adopt them, and people's belief that their country should fight climate change; and (iv) support for a variety of climate policies. A key finding of Dechezleprêtre et al. (2025) is that the vast majority of respondents in both developing and developed countries consider climate change to be real and anthropogenic, and believe that their countries should take action. We explore the attitudes and beliefs of Russians in the *not treated group* in comparison to the documented results. For the comparison we follow Dechezleprêtre et al. (2025) in the coding of the answers and re-weight the samples along the dimensions of gender, age, income, region, urbanity, education, and employment. Results change only little, if we do not use weights.

In the top left of Figure 2, we reproduce the results from Figure 7 in Dechezleprêtre et al. (2025), which we transform into a min–max bar and extend by adding Russia. If respondents in Russia fall within the min–max bounds, we mark the dot in green. In some cases, however, Russia lies in the top or bottom decile (defined as the first two or last two observations), in which case the dot is marked red. For example, Russians are more skeptical about the belief that climate change is real and anthropogenic. A majority also believes that China is not the largest polluter, and they are somewhat more skeptical than respondents in other countries about the risks associated with sea level rise. Still, nearly 80% identify sea level rise as a problem. More than half of Russian respondents (54%) consider climate change to be real and anthropogenic, which is statistically indistinguishable from the 57% observed in France.

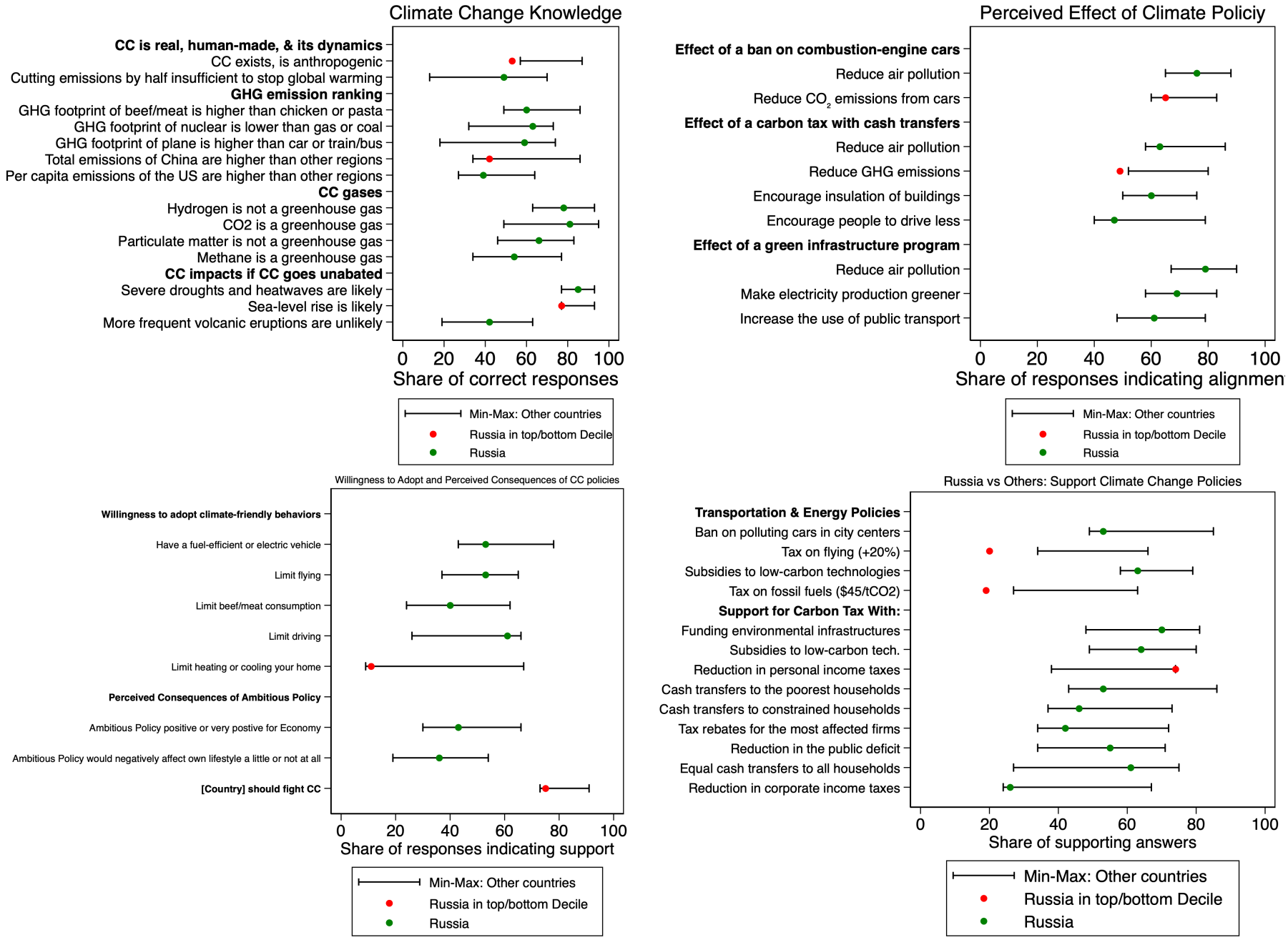

Figure 2: RUSSIAN RESPONSES IN COMPARISON TO THE REST OF THE WORLD - CONTROL GROUP

In the top right of Figure 2, we compare Russia to the top 2, top 4, and top 3 indicators in Tables A13, A14, and A15 in Dechezleprêtre et al. (2025), respectively. Once again, Russians are overall comparable in their understanding of the effects of climate policies, although they appear more skeptical about the carbon-reducing effects of regulations—possibly because they believe that most electricity in Russia is generated using fossil fuels. Similarly, they are more skeptical about the effectiveness of a carbon tax.

In the bottom left of Figure 2, we compare views on personal willingness to act (compared to the results documented in the top 5 questions of Figure 9 in Dechezleprêtre et al. (2025)), support for ambitious climate policies (both at the lower half of Figure A4 in the original paper), and whether the country should fight climate change (Figure 1 of the original paper). Russians appear slightly less willing to reduce heating—understandable in a country where cutting heat may be technically infeasible or even unsafe given the climate. They are also somewhat less likely than respondents in other countries to agree that Russia should fight climate change: 74% agree, with only the United States lower at 73%.

Finally, in the bottom right of Figure 2, we compare our results for a subset of the questions in Figure 10 in Dechezleprêtre et al. (2025).[12] Here we observe that Russians are slightly less likely to support taxes on flying and on fossil fuels, but are somewhat more supportive of a carbon tax when it is combined with a reduction in income taxes.

In sum, we find that Russians do not differ fundamentally from the rest of the world overall. More formally, under the null hypothesis, assuming independence, an entity has a 20% chance (top or bottom decile) of being extreme on each characteristic. With 44 characteristics, we would expect 8–9 such cases by chance to end up in the top or bottom decile. We observe 10 and, thus, we conclude that Russia does not appear to be significantly different from the rest of the world on these dimensions.

Finally, we included 4 additional questions that were not part of the original survey and therefore cannot be compared. First, in line with the questions on the consequences of *ambitious policies* (bottom left of Figure 2), we added two more: (1) What would be the consequences

[12] We could not include all the questions from the original survey as discussed in the data section II.

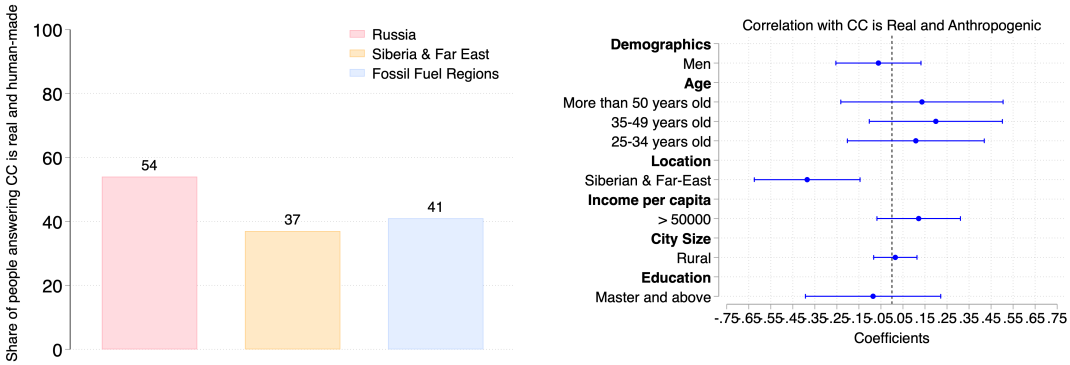

Figure 3: CORRELATION WITH PERSONAL CHARACTERISTICS - CONTROL GROUP

of an ambitious climate policy for the economy and employment in your *region*?, and (2) To what extent do you think an ambitious climate policy would negatively affect the lifestyle of the *average Russian*?. We find that 36% of respondents answered that the effect will be very or moderately negative when answering the second question and 39% agreed with the second question. Thus, the results are in line with the answers to the questions reported here (second section in the bottom left graph of Figure 2), and confirmed by formal statistical tests.

Lastly, we got inspired by Fabre, Douenne and Mattauch (2025) and included two more questions designed to explore Russian's willingness to fight climate change.[13] In essence, we asked some variations of the more general formulation for which we show the results in the bottom left of Figure 2: "To what extent do you agree that Russia should fight climate change?", to which 73% somewhat or completely agree. One of the newly added questions asked whether respondents would agree that Russia should fight global climate change, *with or without compensation* , to which an overwhelming 92% agreed. In the other newly added question, we also find that nearly half (48%) agree that Russian diplomats should defend the interests of the planet, *regardless of whether those interests align with Russia's*, which is above the 30% documented in Fabre, Douenne and Mattauch (2025). The exact wording of these questions and the possible answers are provided in section D.E of the Appendix.

Focusing on our main variable of interest—the belief that climate change is real and anthropogenic—we document correlations with individual characteristics in Figure 3. Overall, we do not find statistically significant correlations with any characteristic except one: location. Specifically, individuals in Siberia and the Far East are more likely to be skeptical about climate

[13] Initially, recommended to us by the authors.

change, as shown on the right side of Figure 3. In terms of proportions, only 37% of respondents in Siberia and the Far East believe that climate change is real and anthropogenic — significantly below the national average. The results for respondents in fossil-fuel–producing regions are broadly similar to those for Siberia; however, these differences are not statistically significant different from the national average due to the small number of individuals surveyed in those regions.

III.B TRUST IN ECONOMISTS

Despite the overwhelming body of evidence on the existence and anthropogenic nature of climate change, one-fourth to one-fifth of respondents remain skeptical (see the first indicator in the top-left panel of Figure 2). There are many reasons for this. The popularity of books such as Why Trust Science? by Oreskes (2021), along with an active literature examining distrust in scientific knowledge (Gauchat, O'Brien and Mirosa, 2017; Gauchat, 2023), its origins (Kahan et al., 2012; Motta, 2018; Gligorić, van Kleef and Rutjens, 2024), its effect on the formation of beliefs (Druckman and McGrath, 2019) and potential strategies to address it (Farrell, McConnell and Brulle, 2019; Cruz and Lombrozo, 2025; Gligorić, van Kleef and Rutjens, 2025), suggests that humanity is still in search for an answer.

Behavioral economics points to cognitive biases as one source of distrust. For instance, the availability heuristic (Tversky and Kahneman, 1974) and confirmation bias (Wason, 1960) lead people to favor information that is readily accessible and consistent with prior beliefs or personal experience.[14] In a geographically vast and climatically diverse country like Russia, the heterogeneity of climate impacts makes skepticism toward national or global averages particularly likely. Another factor may be the scientific process itself, since science evolves and revises conclusions in light of new evidence. What scientists view as a strength of the method may appear to the public as inconsistency or indecisiveness, thereby undermining trust (Oreskes, 2021), albeit some studies suggest that communicators of facts and science should be transparent about the limits of human knowledge since it did not seem to affect trust significantly (van der Bles et al., 2020).

[14] Similar mechanisms have been documented in the formation of inflation expectations, which are disproportionately influenced by salient local price changes (e.g., D'Acunto and Weber 2024).

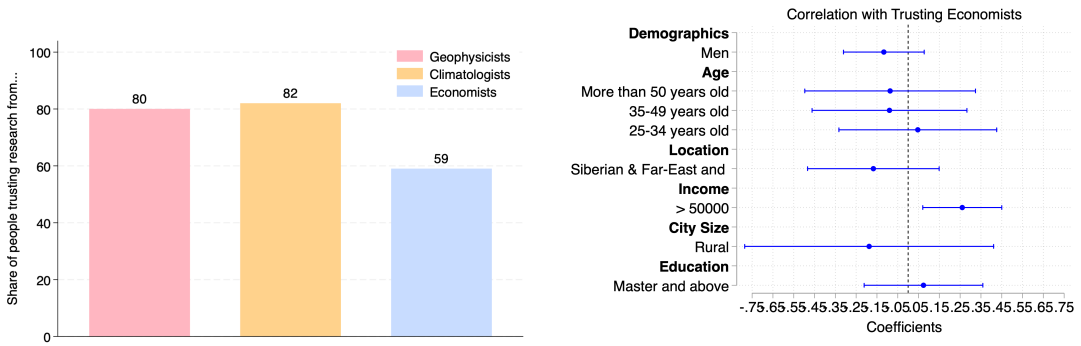

Figure 4: TRUST IN SCIENTIFIC RESULTS ON CC CONSEQUENCES - CONTROL GROUP

Potentially more relevant in our context is the politicization of science—both in general (Burgin, 2012; Scott, 2020) and in the domain of climate change in particular (Oreskes and Conway, 2011; Kahan et al., 2012)—which has contributed to the public being poorly informed about the extent of the scientific consensus on climate change (Deryugina and Shurchkov, 2016). In Russia, such politicization has a long history, stretching back more than a century (Gregory, 2003), and it has significantly eroded the standing of the economic profession, albeit economists are also distrusted in other regions of the world (O'Brien, 2013; Gligorić, van Kleef and Rutjens, 2024). Figure 4 (left panel) illustrates this: while 80-82% of respondents report trusting information on climate change consequences provided by geophysicists and climatologists, only 59% say the same for economists.[15] Before being asked about trust in specific professions, participants were asked whether they would be willing to update their prior beliefs when presented with trustworthy scientific evidence to which over 90% agreed. Yet, trust in economists remains comparatively low—even though economists clearly have a critical role in assessing the economic costs of climate change in the short and in the long run (Stern, 2008; Burke, Hsiang and Miguel, 2015; Bilal and Känzig, 2024; Otrachshenko and Popova, 2024; Desbordes and Eberhardt, 2024).

Even in the absence of politicization, economics faces an inherent challenge: most economic policies involve trade-offs under scarcity. Unlike geophysicists or climatologists—who typically describe the universal negative impacts of climate change—economists advocate policy solutions that create winners and losers. Reducing emissions may lead to job losses in fossil

[15] As is standard, the order of professions was randomized in the survey, yielding six different combinations. Moreover, in our context, the order does not appear to have significant effects on the results, which are broadly identical across the different combinations.

fuel sectors while creating new opportunities in renewable energy. As a result, economists may be perceived as biased or disconnected from people's realities, since these policy choices have often dramatic long-term consequences (Rud et al., 2024; Aragón, Rud and Toews, 2018).

Finally, we also examine the relationship between trust in economists and individual characteristics. We find little evidence that any specific trait strongly predicts distrust. The only exception is that individuals with above-median monthly incomes appear to be somewhat more likely to trust economists' assessments (Figure 4, right panel).

III.C SURVEY EXPERIMENT

Following Dechezleprêtre et al. (2025), we construct 11 indices covering distinct attitude and belief domains. Each index consists of questions which we first convert into a z-score—subtracting the mean of the control group and dividing by the control group's standard deviation. These standardized scores are then averaged across conceptually related outcomes to form an index and divide it by its own standard deviation. Most questions within the indices map one-to-one to Figure 2 and we list the exact items in every index in Appendix D. Respondents are randomly assigned to: (i) the *physics treatment* or (ii) an *economics treatment* (both adapted from Dechezleprêtre et al. (2025); **top two bars, using warm colors for the confidence intervals**); (iii) *presidential treatments* using excerpts from Russia's Climate Doctrine (**bottom three bars using cold colors for the confidence intervals**); or (iv) control (no video). We summarize results in Panels A–E of Figure 5 and we report the effects for the complete sample (left column) and the college-educated subsample (right column).

- **PANEL A — Physics of CC.** Belief that CC is real and anthropogenic; chemical origins of CC. *Sources:* Fig. 2 (top–left); Appendix D.A.
- **PANEL B — Origin and & Consequences of CC.** Beliefs about emission-reducing actions; perceived consequences of CC. *Sources:* Fig. 2 (top–left); Appendix D.A.
- **PANEL C — Economic Policies.** Understanding that climate policy reduces emissions/pollution and incentivizes greener behavior. *Sources:* Fig. 2 (top–right); Appendix D.B.

- **PANEL D — Costs of CC Policies & Personal Actions.** Perceived costliness of ambitious climate policy; willingness to adopt climate-friendly behaviors. *Sources:* Fig. 2 (bottom–left); Appendix D.C and D.D.

- **PANEL E — Support & Fight CC** Willingness to fight climate change and overall support for climate policies. *Sources:* Fig. 2 (bottom–left and bottom–right); Appendix D.E and D.F.

PANEL A: We document responses to questions on whether CC is real and anthropogenic and on its chemical origins. The *physics treatment* yields sizable gains: both knowledge indices rise by about 0.25σ (where σ denotes the standard deviation) in the complete sample and among college-educated respondents—slightly larger than documented by Dechezleprêtre et al. (2025) in Fig.17A. Other treatments show no statistically significant effects.

PANEL B: We build two indices capturing the beliefs about emission-reducing actions and perceived consequences of climate change.[16] We find small, and statistically insignificant effects in the full sample, and slightly larger and marginally significant effects for college-educated respondents. Magnitudes are broadly similar to Dechezleprêtre et al. (2025) in Fig. 17A, with their reported statistical significance plausibly reflecting greater sample size.

PANEL C: We construct three indices capturing the core functions of climate policies, containing the regulation of combustion engines, carbon taxes with transfers, and green public investment. The economics video yields small, imprecise effects on mechanism understanding and even a weak negative association for the evaluation of green infrastructure program effects. Here, our results differ from those documented by Dechezleprêtre et al. (2025) in Fig. 17B, who find modest positive responses on understanding the effects of climate policies.[17]

PANEL D: We construct indices for the perceived costs of ambitious climate policies (with a lower index reflecting higher costs) and for respondents' willingness to adopt climate-friendly behaviors. For the former, we add two related questions that are specific to our survey, as

[16] To the latter, we add wildfires as a consequence of climate change, as this is a particularly severe issue in Russia. Excluding this question does not have have an effect on the main results.

[17] Note that Dechezleprêtre et al. (2025) focus on the effect on questions related to global and local pollution, while we included all questions related to the effect of climate policies. The results are not significantly affected by this choice.

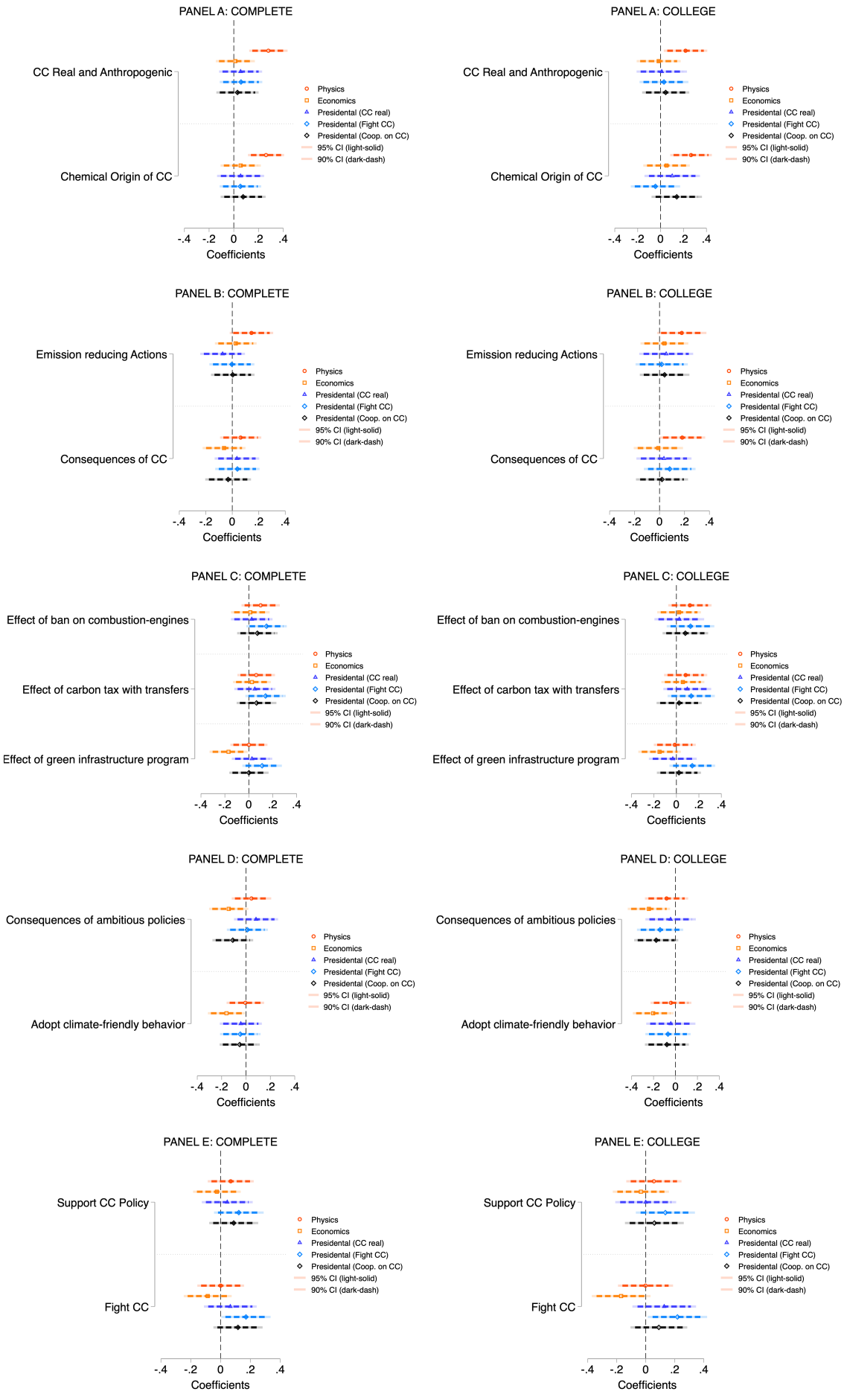

Figure 5: MAIN RESULTS FROM SURVEY EXPERIMENT

discussed in Section III.A. The economics treatment appears to increase the perceived costs of ambitious climate policies by making their economic consequences more salient (about minus 0.20σ in the full sample, and slightly larger among college-educated respondents) and similarly reduces intentions to adjust personal behavior to lower emissions. The reduction in personal behavioral adjustment is consistent with heightened cost salience and/or substitution toward state action. Respondents may simply consider personal action unnecessary if the government engages in ambitious climate policies. Our results differ from those reported by Dechezleprêtre et al. (2025) in Figure 16, who find a near-zero effect of the economics video on willingness to act.

PANEL E: Finally, we construct indices to evaluate support for climate policies and people's willingness to fight climate change. To the latter, we add two related questions that are specific to our survey, as discussed in section III.A. The economics treatment lowers willingness to fight climate change—consistent with increased cost salience and limited learning about the effectiveness of policies. Effects are imprecise in the full sample but reach the 10% significance level among college-educated respondents, with a magnitude of around minus 0.20σ. By contrast, the *presidential treatments*, in particular the treatment arm emphasizing the national climate objective, raise the fight climate change index by 0.20σ in both samples. This result is consistent with elite/authority messenger effects (Merkley and Stecula, 2021; Bürgisser, Stadelmann-Steffen and Armingeon, 2024; Myers et al., 2017; Vyborny, 2024; Blair et al., 2021; Assouad, 2020). Note that the *presidential treatments* did not have any detectable effect on comprehension of the physics of climate change, suggesting authority cues are context dependent. The public may not consider political leaders a trusting source of knowledge when it comes to the physics of climate change. Finally, the climate change policy support index shows a similar pattern in responses as the willingness to fight climate change index, but none of the treatment effects are statistically significant, in contrast to the small (up to 0.1σ) positive effects documented in Dechezleprêtre et al. (2025), Fig. 16.

IV CONCLUSION

We addressed three research questions and provided answers. First, participants in Russia do not appear to differ substantially from those in other countries in terms of climate change knowledge, beliefs, and attitudes along the documented dimensions. However, we do find that

individuals from resource-rich regions are more skeptical regarding climate change being real and anthropogenic. Second, Russians trust economists significantly less than geophysicists and climatologists when it comes to information about the consequences of climate change. Third, when communicating the physical aspects of climate change, respondents reacted as expected, increasing understanding. By contrast, communicating the features and consequences of climate change policies seems to have made the costs of climate change policies more salient, without convincing people that such policies can be effective. Interestingly, simply referencing excerpts from a presidential decree endorsing climate action increased respondents' stated willingness to fight climate change. Thus, the central takeaway from our study is that, in petro-rich economies, economists are unlikely to be sufficiently persuasive when communicating climate policy on their own and may need the support of climatologists and/or political authorities to effectively shape public support for climate action.

At least two issues merit further exploration. First, it is unclear whether our survey results are specific to less democratic contexts, where presidential decrees carry prescriptive weight, or whether a similar approach could also work in more democratic settings, where such decrees may instead serve as coordination devices for public goods provision. Second, our design cannot disentangle whether the negative response to economic messaging reflects low trust in the messenger (the economist) or resistance to the message itself, which highlights the costs of climate policies. Future survey experiments could address both issues.

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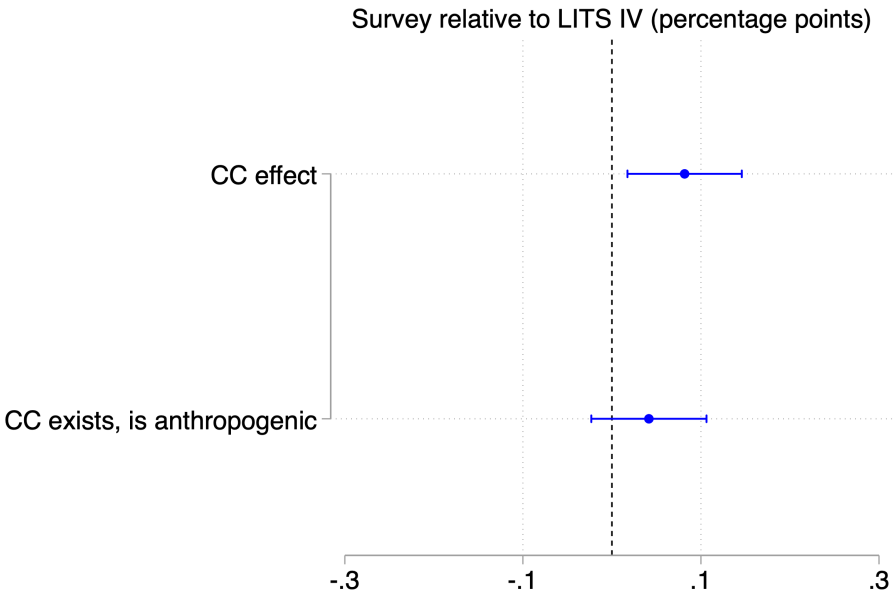

Figure 6: LITS Survey

ONLINE APPENDIX

A REPRESENTATIVENESS

We collected information from the 2020/2021 Russian Census using public data from ROSSTAT. According to the Census:

- The share of men among individuals aged 18 and above is 0.454.
- The age distribution is as follows: ages 18–24 represent 0.091, ages 25–34 represent 0.169, ages 35–49 represent 0.294, and ages 50+ represent 0.447.
- The regional distribution of the population is: Central region 0.283, Northwestern region 0.096, Southern and North Caucasian regions 0.178, Volga region 0.196, Far East and Siberia 0.164, and Ural region 0.082.
- The share of individuals living in rural areas is 0.246.
- Among individuals aged 24–64, the share holding a Master's degree or higher is 0.038, while the share with at least a Bachelor's degree is 0.324. We follow Dechezleprêtre et al. (2025) and document the Master and above education when checking for representativeness.
- The share of individuals who are economically active but unemployed is 0.048.

Finally, using income per capita data from a survey at ROSSTAT, we calculate that 0.704 of individuals live in households with less than 50,000 rubles per month per capita income, while 0.296 live in households above this threshold.

B TRIANGULATION WITH LITS IV

As shown in Figure 6, we compare the unweighted results of Lits IV with the results we got in our survey.

C TREATMENT VIDEOS

The original educational video on the documentation, causes, and consequences of climate change for Ukraine can be found here. We keep the first and last 15 seconds of the video identical, stating that climate change is happening, indicating its chemical origin, and concluding with the message that emissions can be reduced. However, we modify various segments in the middle of the video. In particular, we replace or add the following information:

- The average temperature in the Russian capital in September 2024 reached 15.5 degrees Celsius, surpassing the historical average of 12.2 degrees Celsius by more than three degrees (source).
- The average minimum temperature in December in Moscow has been rising steadily since 1960, reaching -5°C in 2020 compared to -10°C in 1960. *Source: Based on personal analysis of Moscow's temperature dynamics.*
- Stavropol, Krasnodar, Samara, and Tatarstan experienced severe droughts in 2010, which led to global consequences for agricultural product prices (source).
- The average annual number of deaths attributable to air pollution in Russia is approximately 65,000. *Source: Our World in Data.*
- Deforestation caused by wildfires is particularly severe in central and eastern Siberia, especially in Yakutia, Krasnoyarsk Krai, and Irkutsk Oblast. *Source:* Kirpotin et al. (2021).
- Yamal-Nenets Autonomous Okrug, Yakutia (Sakha Republic), and Krasnoyarsk Krai are experiencing significant thawing of permafrost (source).

Since Russia is both geographically larger and, in many ways, more affected by climate change—through phenomena such as permafrost thaw and extreme wildfires—than Ukraine, and because we provide more detailed information about these effects in the Russian version, the final video is longer.

The original educational **video** on three economic policy tools to address climate change can be found here. Again, since this video is more abstract (hypothetical policies which are applied to two different countries) and because it is more important for our study, this video is kept nearly identical in content and length. We essentially just change two important things.

- We use the nominal exchange rate between the Ukrainian hryvnia and the Russian ruble in 2024 to convert 3 hryvnias into 7 rubles. We further find that per capita oil consumption is approximately 4–5 times higher in Russia than in Ukraine (source), while the share of the adult population in Ukraine (source) and Russia (source) is nearly identical. This implies that, under identical taxes but 4-5 times higher quantities consumed, the redistributable amount per adult in Russia would be 4–5 times higher in ruble terms—approximately 40,000 rubles per year (rounded down to create a conservative estimate).
- The original video includes estimates of the number of jobs lost due to the phasing out of fossil-fuel-related sectors and jobs created through investments in green energy. We found it difficult to construct credible estimates for Russia, but we conducted the following exercise: we multiplied the estimate of 350,000 green energy-related jobs (used in the Ukrainian version of the video) by 3.5, reflecting the ratio of Russia's population to Ukraine's. This results in approximately 1,225,000 potential green jobs in Russia. On the other hand, our own estimate—as well as available estimates of direct employment in upstream and downstream fossil fuel sectors—suggests around 1,416,000 jobs (source) are currently tied to fossil fuels in Russia. Given the uncertainty surrounding both numbers, and our desire to avoid sounding dramatic, we adopt a conservative tone in the video. We refer to both the job loss and the job creation potential as involving "hundreds of thousands of jobs." In our opinion, this also appropriately reflects the uncertainty inherent in these estimates.

D QUESTIONS AND CONSTRUCTION OF INDICES

D.A The physics of CC

CC Real and Anthropogenic:

1. In your opinion, is climate change real?
    - **Yes**, No
2. If **Yes**: What part of climate change do you think is due to human activity?
    - None, A little, Some, **A lot**, **Most**

Chemical Origin of CC:

1. Which of the following elements contribute to climate change? (Multiple answers are possible)
    - **CO2**, Hydrogen, **Methane**, Particulate matter

Emission reducing Actions:

1. If a family of 4 travels 700 km from Saint Petersburg to Moscow, which mode of transportation emits the most greenhouse gases? Please rank the items from 1 (most) to 3 (least).
    - **Correct Order**: Plane, Car (running on diesel or gasoline), Train.
2. Which dish emits the most greenhouse gases? We consider that each dish weighs half a kilo. Please rank the items from 1 (most) to 3 (least):
    - **Correct Order**: Beef, Chicken Wings, One serving of pasta.
3. Which source of electric energy emits the most greenhouse gases to provide power for a house? Please rank the items from 1 (most) to 3 (least):
    - **Correct Order**: Coal-fired power station, Gas-fired power plant, Nuclear power plant.

Consequences of CC: If nothing is done to limit climate change, how likely do you think it is that climate change will lead to the following events?

1. Severe droughts and heatwaves
    - Very unlikely OR Somewhat unlikely
    - **Somewhat likely** OR **Very likely**
2. Rising sea levels
    - Very unlikely OR Somewhat unlikely
    - **Somewhat likely** OR **Very likely**
3. More frequent volcanic eruption unlikely
    - **Very unlikely** OR **Somewhat unlikely**
    - Somewhat likely OR Very likely
4. More frequent wildfires
    - Very unlikely OR Somewhat unlikely
    - **Somewhat likely** OR **Very likely**

D.B Effect of Climate Change Policies

1. Ban on Combustion Engines: Do you agree or disagree with the following statements? A ban on combustion engine cars would...
    - ...reduce CO2 emissions from cars:
        - Strongly disagree, Somewhat disagree, Neither agree nor disagree, **Somewhat agree**, **Strongly agree**
    - ...reduce air pollution:
        - Strongly disagree, Somewhat disagree, Neither agree nor disagree, **Somewhat agree**, **Strongly agree**
2. Carbon Tax: Do you agree or disagree with the following statements? A carbon tax with cash transfers would...
    - ...encourage people to drive less:
        - Strongly disagree, Somewhat disagree, Neither agree nor disagree, **Somewhat agree**, **Strongly agree**
    - ...encourage people and companies to insulate buildings:
        - Strongly disagree, Somewhat disagree, Neither agree nor disagree, **Somewhat agree**, **Strongly agree**
    - ...reduce the use of fossil fuels and greenhouse gas emissions:
        - Strongly disagree, Somewhat disagree, Neither agree nor disagree, **Somewhat agree**, **Strongly agree**
    - ...reduce air pollution:
        - Strongly disagree, Somewhat disagree, Neither agree nor disagree, **Somewhat agree**, **Strongly agree**
3. Public Investment:Do you agree or disagree with the following statements? A green infrastructure program would...
    - ...make electricity production greener:
        - Strongly disagree, Somewhat disagree, Neither agree nor disagree, **Somewhat agree**, **Strongly agree**
    - ...increase the use of public transport:
        - Strongly disagree, Somewhat disagree, Neither agree nor disagree, **Somewhat agree**, **Strongly agree**
    - ...reduce air pollution:
        - Strongly disagree, Somewhat disagree, Neither agree nor disagree, **Somewhat agree**, **Strongly agree**

D.C Perceived Costs of CC Policies

If we decide to stop climate change through ambitious policies, ...

1. ... what would be the consequences for the economy and employment in Russia?
    - **Very positive**, **Somewhat positive**, Neither positive nor negative, Somewhat negative, Very negative.
2. ...what would be the consequences for the economy and employment in your region?
    - **Very positive**, **Somewhat positive**, Neither positive nor negative, Somewhat negative, Very negative.

3. ...to what extent do you think this would negatively affect your way of life?
    - **Not at all**, **Just a bit**, moderately, quite a bit, Very strongly.
4. ...to what extent do you think this would negatively affect the lifestyle of the average Russian?
    - **Not at all**, **Just a bit**, moderately, quite a bit, Very strongly.

D.D Adopt Behavior

Here are possible behaviors that experts say would help reduce greenhouse gas emissions. To what extent would you be willing to adopt the following behaviors?

1. Limit flying
    - Not at all, A little, Moderately, **A lot**, **A great deal**.
2. Limit driving
    - Not at all, A little, Moderately, **A lot**, **A great deal**.
3. Have an electric vehicle
    - Not at all, A little, Moderately, **A lot**, **A great deal**.
4. Limit beef consumption
    - Not at all, A little, Moderately, **A lot**, **A great deal**.
5. Limit heating or cooling your home
    - Not at all, A little, Moderately, **A lot**, **A great deal**.

D.E Fight CC

1. Do you agree or disagree with the following statement: *"Russia should take action to combat climate change."*
    - **Completely agree**
    - **Agree to some degree**
    - Neither agree nor disagree
    - Disagree to some extent
    - Completely disagree
2. In international climate negotiations, whose interests should Russian diplomats defend: Russia's interests or the global interests of the planet?
    - Russia should not fight global climate change because it would lose out from such measures
    - **Russia should fight global climate change, but it should receive compensation for doing so**
    - **Every country, including Russia, should fight global climate change, especially since Russia is relatively well-resourced and financially capable (compared to the global average)**
    - Other
3. Choose the statement you agree with the most:

- Russia's interests, even if it harms the rest of the world
- Russia's interests, but only if it does not harm the rest of the world
- Doesn't matter or undecided
- **The global interests of the planet, but only if they align with Russia's interests**
- **The global interests of the planet, even if they conflict with Russia's interests**

D.F Support CC Policies

Do you support or oppose the following climate policy measures?

1. Regulate use of combustion engines in cars in city centers
    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.
2. Taxes on flights (+20%)
    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.
3. National fossil fuel tax ($45/tCO2)
    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.
4. Subsidies for fossil fuel poor technologies
    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.

    Governments can use revenues from a carbon emissions tax in different ways. Would you support or oppose introducing a carbon emissions tax that would increase gasoline prices by 7 rubles per liter if the government used these revenues to finance. . .
5. ...Cash transfers to families that have no alternative to using fossil fuels.
    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.
6. ...Cash transfers to the poorest families.
    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.
7. ...Equal cash transfers to all families.
    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.
8. ...Reduction of personal income taxes.
    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.
9. ...Reduction of corporate profit taxes.
    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.
10. ...Tax rebates for the most affected firms.

- **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.

11. ...Financing of environmental infrastructure projects (public transport, bicycle lanes, etc.).

    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.

12. ...Subsidizing low-carbon technologies, including renewable energy sources.

    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.

13. ...Reduction of the government deficit.

    - **Completely support**, **Somewhat support**, Neither support nor reject, Somewhat reject, Completely reject.

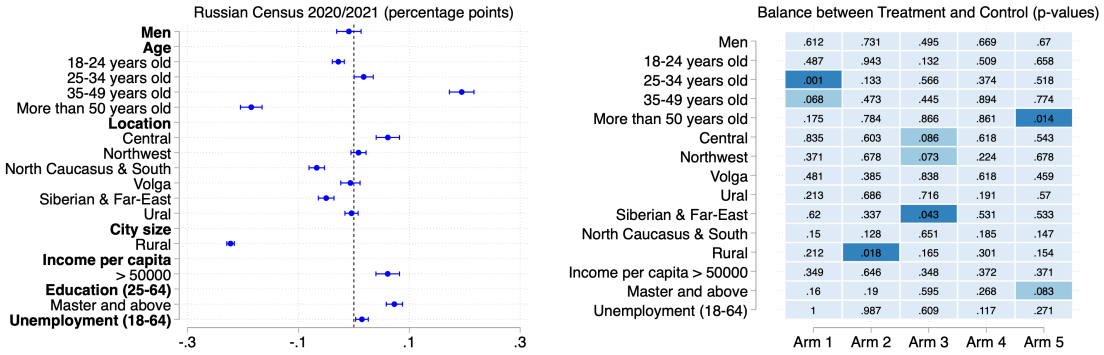

Figure 7: DATA (sample with > 11.5 minutes)

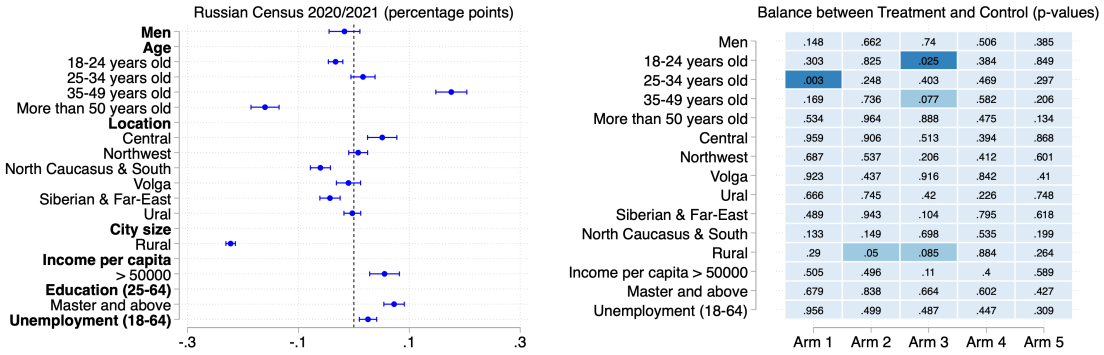

Figure 8: DATA (sample with > 20 minutes)

E MAIN RESULTS (at least 20 minutes or over 11.5 minutes)

In this section, we reproduce the main results in Figure 7 - Figure 16 after restricting the sample to respondents who spent at least 11.5 minutes or 20 minutes on the survey—the cutoffs used in Dechezleprêtre et al. (2025). Overall, our findings remain unchanged, although some estimates become more or less precise depending on the sample restriction and the specific question examined.

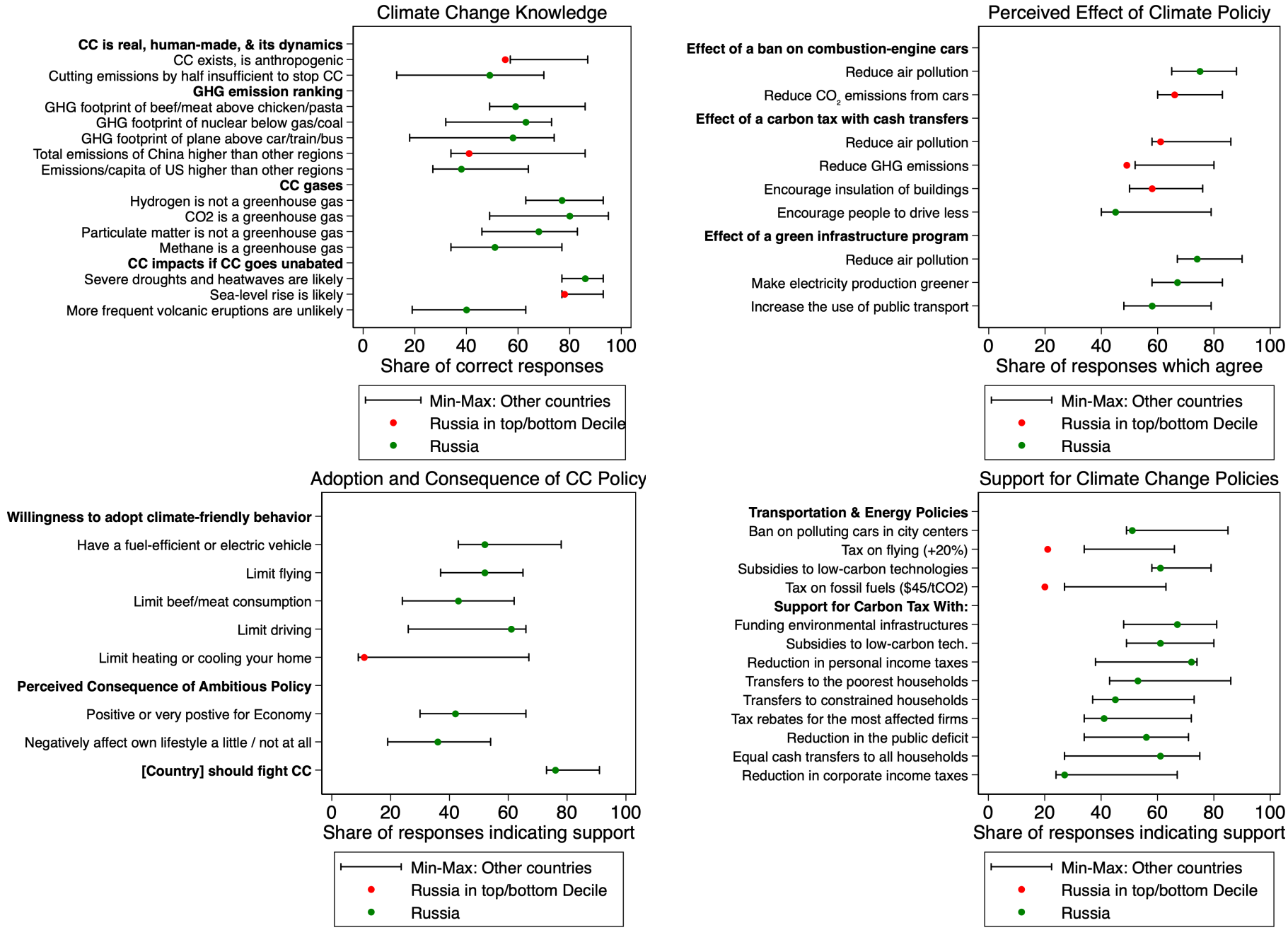

Figure 9: RUSSIAN RESPONSES IN COMPARISON TO THE REST OF THE WORLD - CONTROL GROUP (sample with > 11.5 minutes)

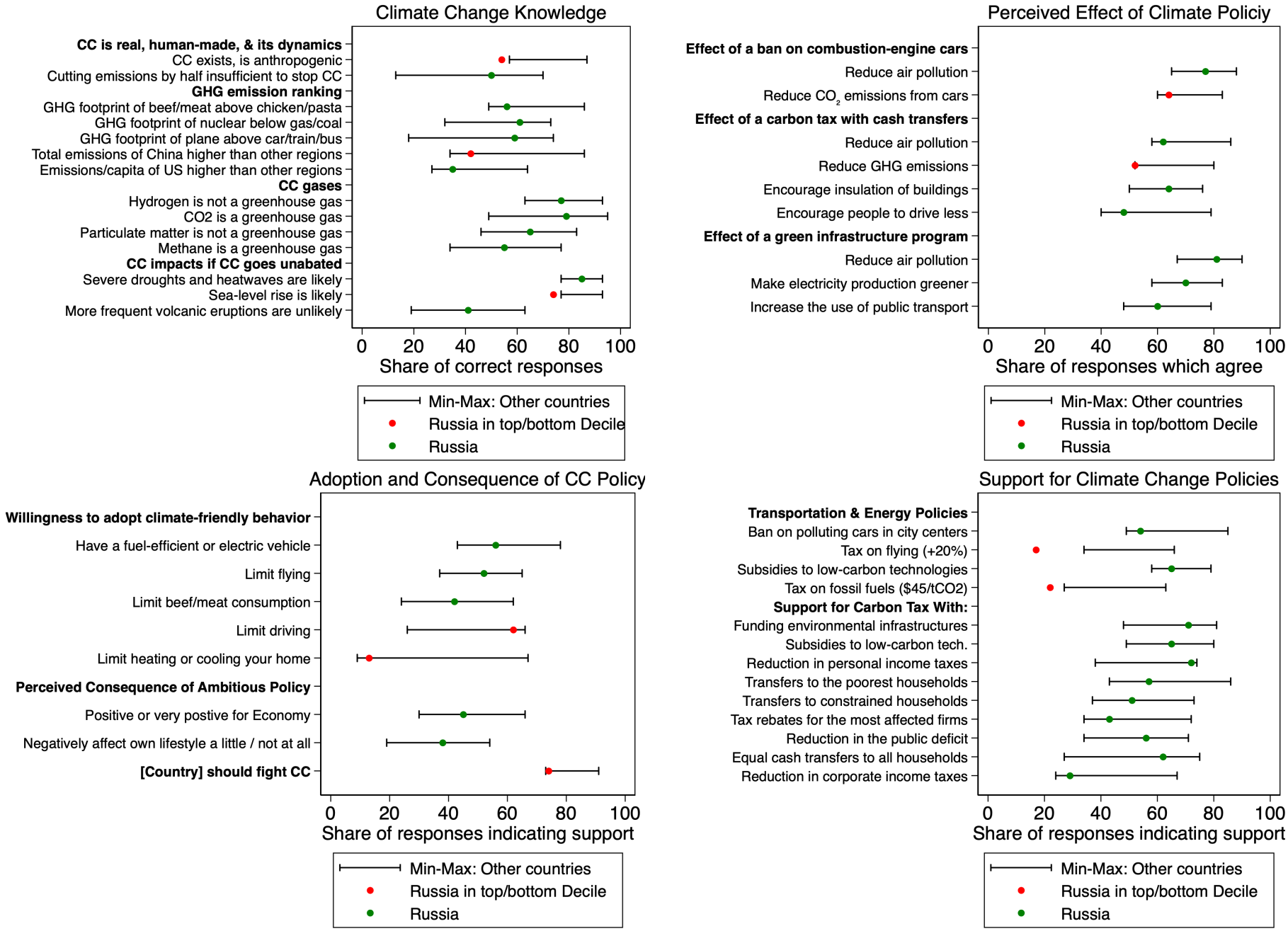

Figure 10: RUSSIAN RESPONSES IN COMPARISON TO THE REST OF THE WORLD - CONTROL GROUP (sample with > 20 minutes)

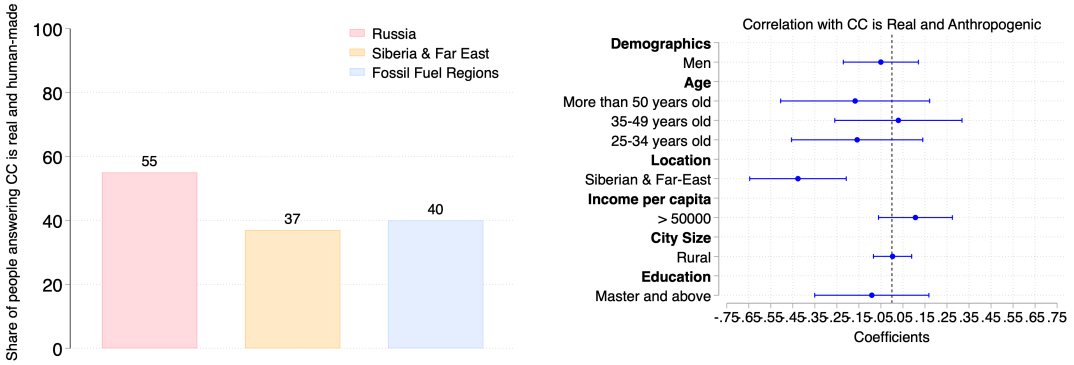

Figure 11: CORRELATION WITH PERSONAL CHARACTERISTICS - CONTROL GROUP (sample with > 11.5 minutes)

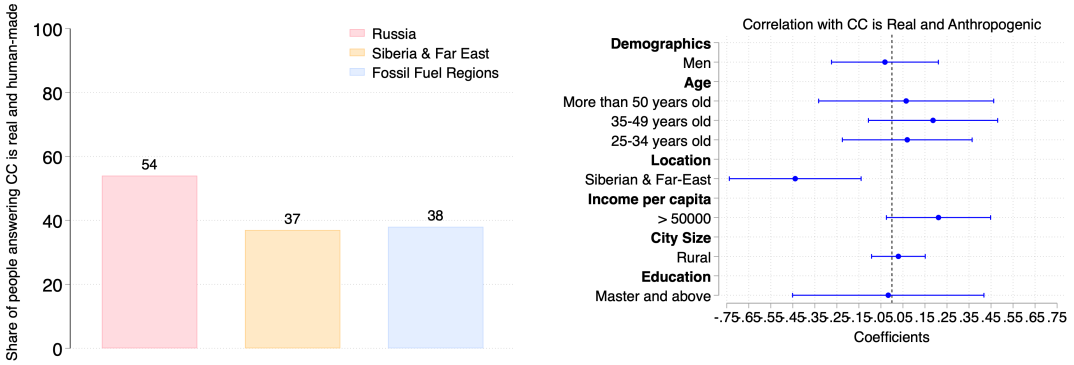

Figure 12: CORRELATION WITH PERSONAL CHARACTERISTICS - CONTROL GROUP (sample with > 20 minutes)

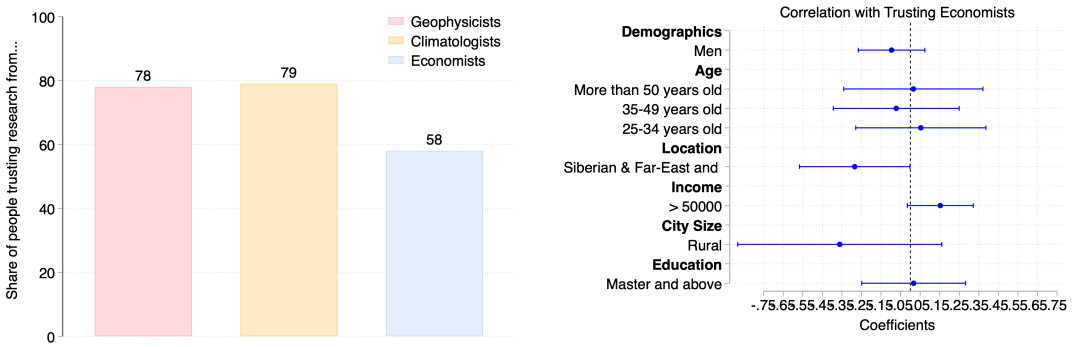

Figure 13: TRUST IN SCIENTIFIC RESULTS ON CC CONSEQUENCES - CONTROL GROUP (sample with > 11.5 minutes)

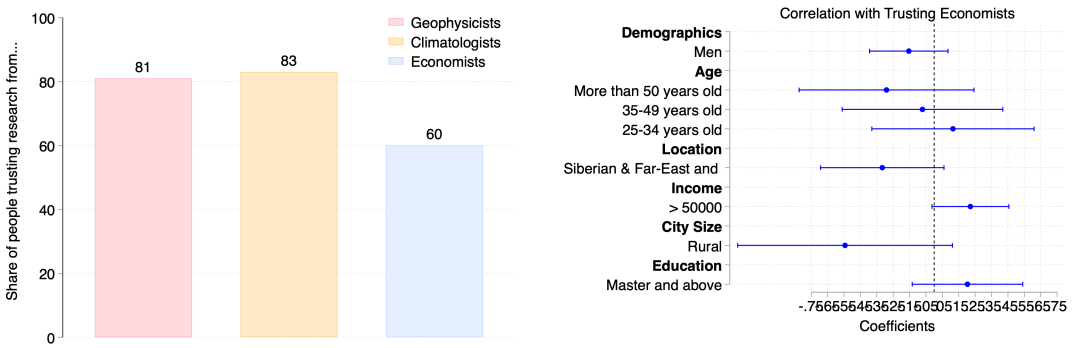

Figure 14: TRUST IN SCIENTIFIC RESULTS ON CC CONSEQUENCES - CONTROL GROUP (sample with > 20 minutes)

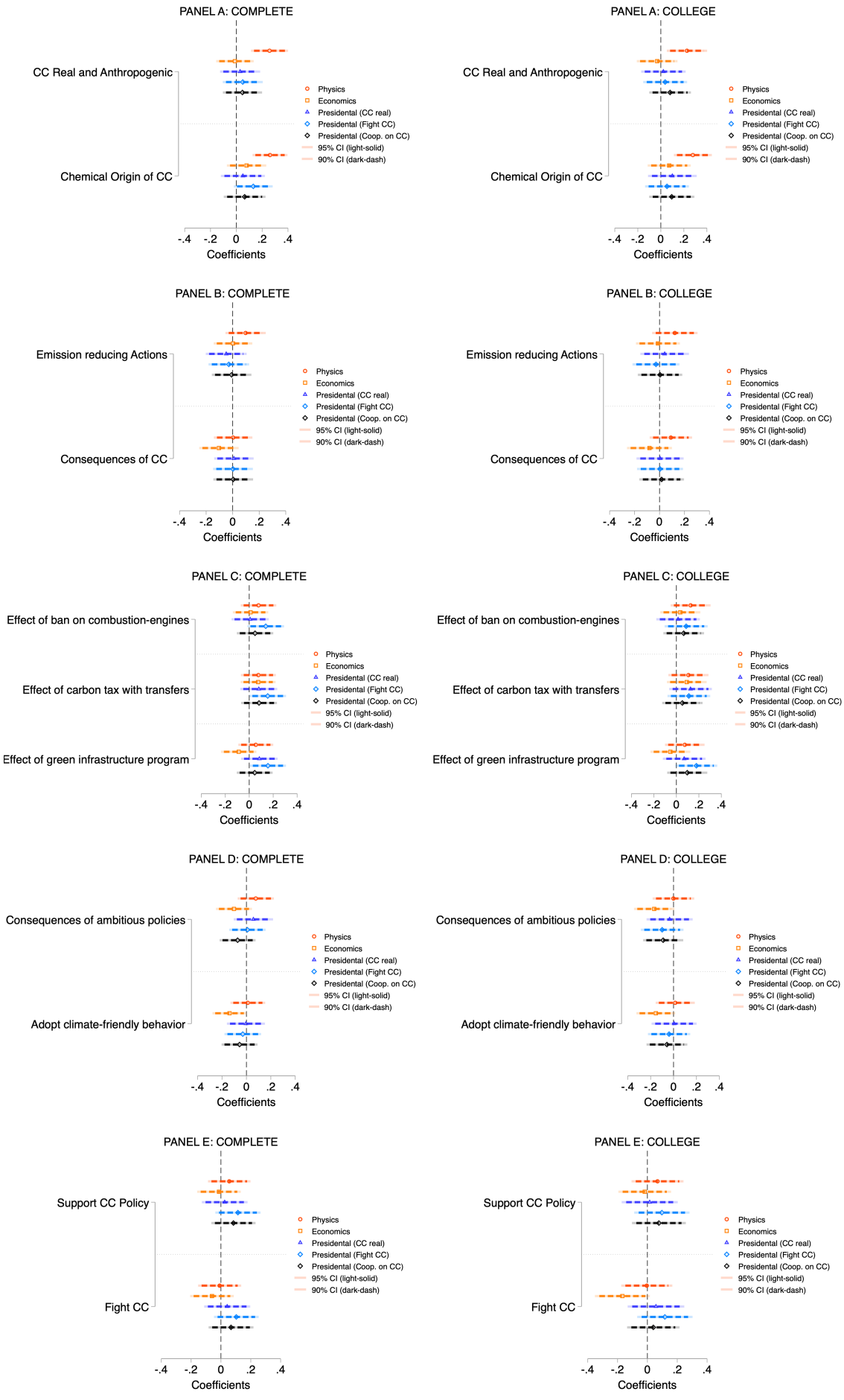

Figure 15: MAIN RESULTS FROM SURVEY EXPERIMENT (sample with > 11.5 minutes)

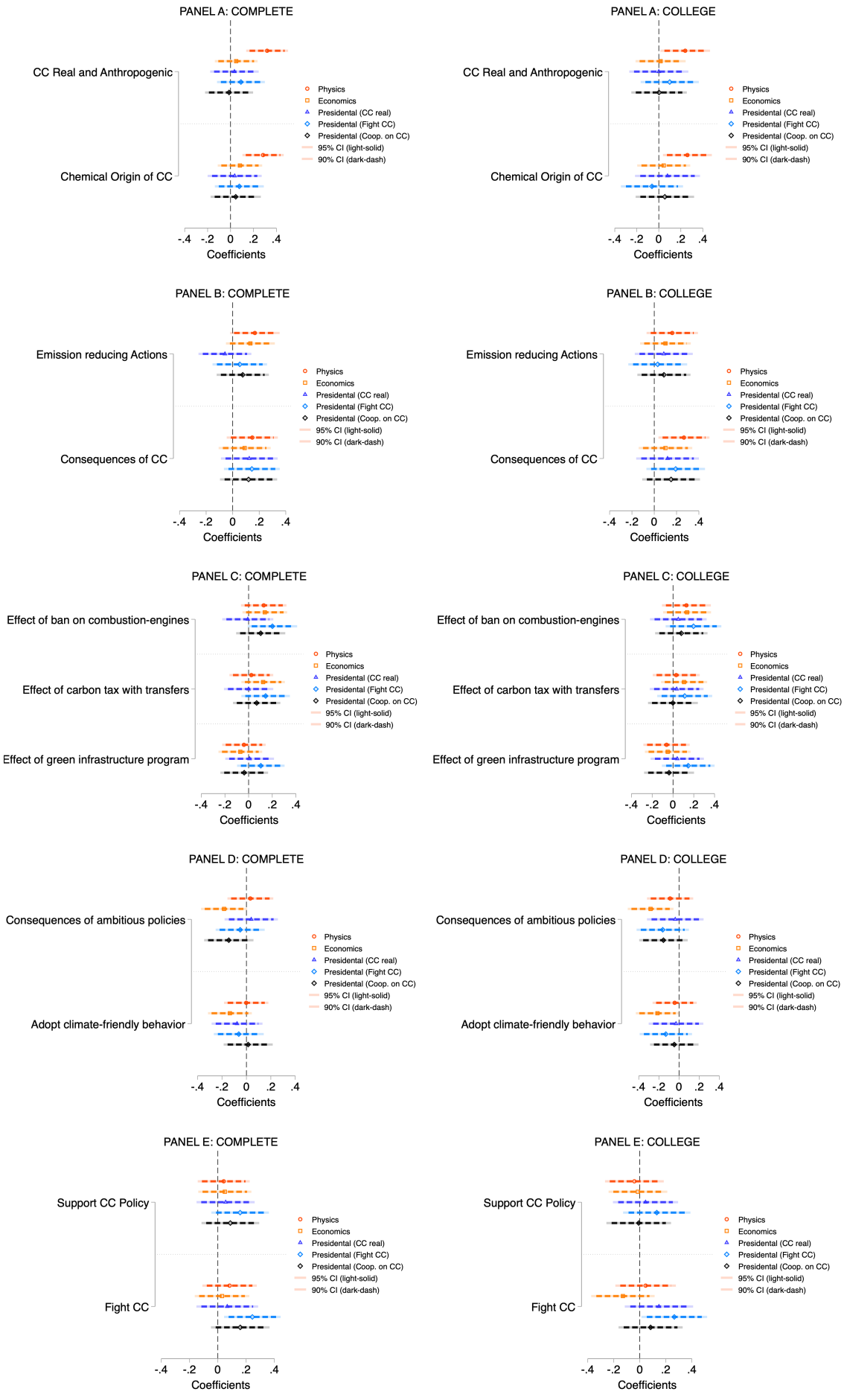

Figure 16: MAIN RESULTS FROM SURVEY EXPERIMENT (sample with > 20 minutes)